

CURRICULUM VITAE**Liron Pantanowitz, MD PhD MHA
Chair & Maud Menten Professor of Pathology
Department of Pathology, University of Pittsburgh/UPMC**

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EDUCATION AND TRAINING**UNDERGRADUATE**

- Jan 1987 - Dec 1991. University of the Witwatersrand, South Africa. Bachelor of Science (BSc). Biological Sciences.

GRADUATE

- Jan 1991 - Dec 1991. University of the Witwatersrand, South Africa. Bachelor of Science Honors (BSc Hons). Zoology.
- Jan 1992 - Dec 1996. University of the Witwatersrand, South Africa. Bachelor of Medicine and Surgery (MBBCh). Medical.

POSTGRADUATE

- Jan 1997- Dec 1997. Baragwanath Hospital, South Africa. Internship. Internal Medicine, Surgery, Obstetrics & Gynecology. Program Director: Kenneth R.L. Huddle, MBBCh.
- Jan 1998 - June 1998. Johannesburg & Baragwanath Hospitals, South Africa. Medical Officer. Otorhinolaryngology. Program Director: W.A. McIntosh, MBBCh.
- July 1998 - Dec 1998. Baragwanath Hospital, South Africa. Medical Officer. Infectious Diseases. Program Director: Alan Karstaedt, MBBCh.
- Jan 1999 - May 1999. School of Pathology, South African Institute for Medical Research (SAIMR) & University of the Witwatersrand, South Africa. Registrar. Anatomical Pathology. Program Director: Kumarasen Cooper, MBBCh PhD.

- July 1999 - June 2003. Beth Israel Deaconess Medical Center, Harvard Medical School, Boston, MA. Anatomical & Clinical Pathology Residency. Program Directors: Donald A. Antonioli, MD & Laura C. Collins, MD.
- July 2003 - June 2004. Beth Israel Deaconess Medical Center, Harvard Medical School, Boston, MA. Hematopathology Fellowship. Program Director: German Pihan, MD.
- July 2004 - June 2005. Baystate Medical Center, Tufts University, Springfield, MA. Cytopathology Fellowship. Program Director: Robert A. Goulart, MD.

APPOINTMENTS and POSITIONS

ACADEMIC

- Jan 1991 - Dec 1991. University of the Witwatersrand, South Africa. Instructor in Zoology.
- July 2001 - June 2002. Harvard Medical School, Boston, MA. Instructor in Hematologic Pathophysiology.
- July 2002 - June 2004. Harvard Medical School, Boston, MA. Instructor in Immunology, Microbiology & Infectious Disease.
- July 2005 – June 2010. Tufts University School of Medicine, Springfield, MA. Assistant Professor of Pathology.
- Sept 2006 – June 2010. University of Massachusetts, Amherst. Assistant Professor of Biology.
- July 2010 – October 2010. University of Pittsburgh School of Medicine, Pittsburgh. Visiting Associate Professor.
- November 2010 – October 2015. University of Pittsburgh School of Medicine, Pittsburgh. Associate Professor of Pathology.
- November 2010 – October 2015. University of Pittsburgh School of Medicine, Pittsburgh. Associate Professor Bioinformatics (secondary appointment).
- October 2015 – June 2020. University of Pittsburgh School of Medicine, Pittsburgh. Professor of Pathology.
- October 2015 – June 2020. University of Pittsburgh School of Medicine, Pittsburgh. Professor of Bioinformatics (secondary appointment).
- July 2020 – June 2023. University of Michigan, Ann Arbor. A. James French Professor of Pathology.
- July 2023 – present. University of Pittsburgh, Pittsburgh. Maud Menten Professor of Pathology.
- July 2023 – present. University of Pittsburgh, Pittsburgh. Professor of Clinical & Translational Science.

NON-ACADEMIC

- July 2005 - June 2006. Baystate Mary Lane Hospital, Ware, MA. Pathology Laboratory Director.
- July 2005 – June 2010. Baystate Medical Center & Franklin Medical Center, MA. Staff Pathologist.

- July 2005 – June 2010. Baystate Health, Springfield, MA. Director of Pathology Informatics.
- July 2010 – February 2014. University of Pittsburgh Medical Center, Pittsburgh, PA. Director of FNA Clinic.
- July 2010 - University of Pittsburgh Medical Center, Pittsburgh, PA. Associate Director of Pathology Informatics.
- February 2014 – June 2020. University of Pittsburgh Medical Center, Pittsburgh, PA. Director of Cytopathology.
- July 2011 – June 2020. University of Pittsburgh Medical Center, Pittsburgh, PA. Director Pathology Informatics Fellowship.
- July 2015 – June 2020. University of Pittsburgh Medical Center, Pittsburgh, PA. Director of Pathology Informatics.
- May 2018 – June 2020. University of Pittsburgh Medical Center, Pittsburgh, PA. Vice Chair for Pathology Informatics.
- July 2020 – June 2023. University of Michigan, Ann Arbor, MI. Director of Anatomic Pathology.
- July 2023 – present. University of Pittsburgh School of Medicine & University of Pittsburgh Medical Center (UPMC), Pittsburgh, PA. Chair of Pathology.

Clinical Appointments

- July 2005 – June 2010. Baystate Medical Center & Franklin Medical Center, MA. Staff Pathologist.
- July 2010 – June 2020. UPMC Presbyterian-Shadyside, Pittsburgh, PA. Staff Pathologist.
- July 2020 – present. University of Michigan, Ann Arbor, MI. Staff Pathologist.

Industry

- 2017 – present. Owner and Founder, PathPro Consulting, LLC, Pittsburgh, PA
- 2019 – present. Legal subject matter expert (SME), Expert Institute
- 2019 – present. Co-owner and Director, LeanAP Innovators, LLC, Sterling Heights, MI
- 2022 – present. Co-owner and Chief Medical Officer, Placenta AI, LLC, Sewickley, PA

CERTIFICATION AND LICENSURE
SPECIALTY CERTIFICATION:

- CAP Certified Laboratory Accreditation Inspector 2000
- American Board of Pathology – Anatomic and Clinical Pathology #RC-13-069 2004-2023
- Health Professions Council of South Africa (HPCSA) – Anatomical Pathologist 2006
- American Board of Pathology – Cytopathology #S-05-085 2005
- American Board of Pathology – Clinical Informatics 2014-2023
- Certified CellSearch® circulating tumor cell (CTC) interpretation. Janssen, LLC 2014
- Certified by College of American Pathologists (CAP) for Ultrasound-Guided FNA 2016 & 2020
- Institute for Healthcare Improvement (IHI) Basic Certificate in Quality & Safety 2019
- Henry Ford Production System Lean for healthcare leaders: Silver certification, Henry Ford Hospital, Department of Pathology 2022
- Disruptive Lean Six Sigma: Yellow belt certification, Career Learning 2022
- Executive Presence and Influence: Persuasive Leadership Development, Wharton Institute, University of Pennsylvania 2022
- Leadership Academy: University of Michigan 2022

MEDICAL or OTHER PROFESSIONAL LICENSURE:

- South African Medical and Dental Council (SAMDC), Medical License Nov 1996 – present.
- United Kingdom General Medical Council (GMC) June 1997 – May 1998.
- State of Massachusetts, Medical License Sept 2003 – Nov 2011
- State of Pennsylvania, Medical License Dec 2009 – Dec 2020
- DEA Registration Mar 2003 – Mar 2022.
- State of Michigan, Controlled Substance (CS-3) License Oct 2019 – Oct 2022
- State of Michigan, Drug Control License Oct 2019 – Oct 2022
- State of Michigan, Medical License Oct 2019 – Oct 2022

MEMBERSHIP in PROFESSIONAL and SCIENTIFIC SOCIETIES

- Biological Toxins Interest Group (BTIG) of South Africa 1997-2000.
- New York Academy of Science (NYAS) 1999-2000.
- South African Inherited Diseases Association (SAIDA) 1996-2003.
- Australasian College of Tropical Medicine (ACTM) 1997-2001.
- South African Sexually Transmitted Diseases Society (SASTDS) 1999-2003.
- American Association of Blood Banks (AABB) 2001-2003.
- Infectious Diseases Society of southern Africa (IDSSA) 1996-2004.
- New England Pathology Residency Society (NEPRS) 1999-2001.
- American Association of Clinical Chemistry (AACC) 2001-2004.
- Society for Applied Immunohistochemistry (SAIH) 2004-2005.
- American Society of Hematology (ASH) 2004-2005.
- American Medical Association (AMA) 2000-2006.
- Massachusetts Medical Society (MMS) 2000-2006.
- American Society of Clinical Pathology (ASCP) 2000-2005, 2008-2009.
- Healthcare Information & Management Systems Society (HIMSS) 2008-2009.
- New England Society of Pathology (NESP) 2004-Present.
- Massachusetts Society of Pathologists (MSP) 2001-Present.
- United States and Canadian Academy of Pathology (USCAP) 1999-Present.
- College of American Pathologists (CAP) 1999-Present.
- Association for Pathology Informatics (API) 2001-Present.
- American Society of Cytopathology (ASC) 2002-Present.
- Society for the Internet in Medicine (SIM) 2006-Present.
- International AIDS Society (IAS) 2006-Present.
- Papanicolaou Society of Cytopathology (PSOC) 2006-Present.
- International Academy of Cytology (IAC) 2006-Present.
- Cytopathology Foundation 2009-Present.
- National Geographic Society 2009-Present.
- Academy of Clinical Laboratory Physicians and Scientists (ACLPS) 2009-Present.
- Binford-Dammin Society of Infectious Disease Pathologists 2010.
- Member, Pittsburgh Society of Pathology. 2010-2020

- Member, American Telemedicine Association (ATA). 2011-2018
- Member, International Academy of Digital Pathology (IADP). 2011-2020
- Member, International Society Bone & Soft Tissue Pathology (ISBSTP). 2011-2020
- Member, Digital Pathology Association (DPA). 2012-present
- Member, Allegheny County Medical Society. 2014-2020
- Member, Society for Imaging Informatics in Medicine (SIIM). 2014-2023
- Member, Association of Medical Directors of Information Systems (AMDIS). 2014-2018
- Member, Pennsylvania Medical Society. 2014-2020
- Member, Castleman Disease Collaborative Network. 2016-2019
- Member, European Society of Digital and Integrative Pathology (ESDIP). 2017-present
- Member, American Medical Informatics Association (AMIA). 2017-2020
- Member, Association of Directors of Anatomic and Surgical Pathology (ADASP). 2018-present
- Member, Golden Key International Honor Society, Ohio University. 2019-present
- Member, Michigan Society of Pathologists. 2020-present
- Member, University of Michigan Pathology Alumni Society (UMPAS). 2020-present
- Member, Arthur Purdy Stout Society. 2021-present
- Member, Society of Physician Entrepreneurs. 2022-present
- Member, American Pathology Foundation (APF). 2023-present

HONORS

National

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|---|-------------|
| Zoological Society of South Africa Research Award | 1991 |
| Council of Natal Jewry Scholarship | 1992 - 1996 |
| National Chemical Products (NCP) Scholarship | 1995 |
| Federation of African Medical Students' Association Award
for Exceptional Undergraduate Medical Research | 1996 |
| College of American Pathologists Informatics Award | 2002 |
| 1 st Prize Winner of the Papanicolaou Society of Cytopathology
Research Award at the USCAP Annual Meeting | 2005 |
| Nominated for Resident-Physician Award at the American Society
of Cytopathology (ASC) 55th Annual Scientific Meeting | 2007 |

Awarded “Best Electronic Poster – Pathology Informatics” at the Advancing Practice, Instruction & Innovation through Informatics (APIII) Meeting	2008
Nominated for Resident-Physician Award at the American Society of Cytopathology (ASC) 56th Annual Scientific Meeting	2008
Advancing Practice, Instruction & Innovation through Informatics (APIII) best pathology informatics poster	2009
Awarded Best Presentation for a Scientific Session in Educational Imaging at the Association for Pathology Informatics Meeting	2010
Geno Saccomanno, MD New Frontiers in Cytology Award at the American Society of Cytopathology Meeting	2011
Awarded Best Poster for Pathology Informatics Education at the Association for Pathology Informatics Conference	2011
2 nd Place Winner for the Dermatopathology Trainee World Cup at the 15 th Joint Meeting of the International Society of Dermatopathology (ISDP)	2012
Winner of the Top 5 Medical Imaging IT Projects of 2012 by the <i>SIIM and Radiology Business Journal</i>	2012
Awarded Best Presentation for Applied Informatics and Clinical Workflow AT the Association for Pathology Informatics Meeting	2012
Awarded Best Clinical Poster at the Digital Pathology Association (DPA), Pathology Visions Meeting	2013
Awarded 2 nd Prize by the Pulmonary Pathology Society at the United States & Canadian Academy of Pathology’s 102 nd Annual	2013
Awarded Best Poster by the Association of Pathology Informatics at the United States & Canadian Academy of Pathology (USCAP) 103 rd Annual Meeting	2014
Best Platform Short Abstract Winner at the Association	2014

for Pathology Informatics (API) Summit	
Awarded Best Laboratory Informatics ePoster at the Association for Pathology Informatics (API) Summit	2014
Best Education Practice Poster Finalist at the American Society of Clinical Pathology (ASCP) Annual Meeting	2014
Awarded Most Popular Article in <i>Journal of Pathology Informatics</i> (JPI)	2014
The Pathologist Top 100 Power List	2015
Geno Saccomanno, MD New Frontiers in Cytology Award at the American Society of Cytopathology	2016
College of American Pathologists (CAP) President's Honor Award	2017
SIIM Innovation Challenge Project Semi-Finalist at the Annual Meeting of the Society for Imaging Informatics in Medicine (SIIM)	2017
Association for Pathology Informatics Distinguished Service Award	2018
The Pathologist Top 100 Power List	2018
Award for Best Poster at the DPA Pathology Visions Meeting	2018
The Pathologist Trailblazer Award	2019
Award for Best Poster at the DPA Pathology Visions Annual Meeting	2019
Award for Best Cytotechnologist Scientific Presentation at the American Society of Cytopathology (ASC) 67 th Annual Scientific Meeting	2019
Association for Pathology Informatics Lifetime Achievement Award https://www.pathologyinformatics.org/liron-pantanowitz	2019
Best Doctors in America	2019-2020
Award for University of Witwatersrand's Faculty of Health Sciences research day best student oral presentation in clinical sciences & therapeutics for health	2020
Top reviewer. Cancer Cytopathology.	2022
Top cited paper for 2022. Performance of an artificial intelligence algorithm for reporting urine cytopathology. Cancer Cytopathology.	2022

Regional

Top Doctor in Pittsburgh Magazine	2016
Pittsburgh Business Times Best Doctor	2017
Top Doctor in Pittsburgh Magazine	2018
Top Doctor in Pittsburgh Magazine	2020

Institutional

University of the Witwatersrand Award for Best Zoology Honors Student	1991
University of the Witwatersrand Undergraduate Medical Research Award	1996
Intern of the Year Award at Baragwanath Hospital, South Africa	1997
Baystate Medical Education and Research Foundation Academic Excellence Awards	2005
Baystate Medical Education and Research Foundation Academic Excellence Awards	2006
Instructor of the Year Award, Baystate Pathology	2009
Outstanding Faculty Research Mentor at the University of Pittsburgh Medical Center, Department of Pathology	2012
Outstanding Faculty Research Mentor, University of Pittsburgh Medical Center, Department of Pathology	2014
Award Pathology Image Science as Art, Hillman Cancer Center, Pittsburgh, PA	2015

PUBLICATIONS

Peer-Reviewed Journals and Publications

1. Burgin R, **Pantanowitz L**: The mifepristone (RU-486) controversy. *The Leech* 64:33, 1995.
2. **Pantanowitz L**: Treating family members. *South African Medical Journal* 86: 386, 1996. PM8693391
3. **Pantanowitz L**, Connell L: Attitudes and perceptions of medical and allied medical students towards HIV/AIDS. *South African Journal of Epidemiology and Infection* 11: 99-103, 1996.
4. **Pantanowitz L**: Performing a lumbar puncture. *Journal of the South African Medical Student Association* 1: 2-6, 1995.
5. **Pantanowitz L**, Müller GJ, Schrire L, Van Rensburg AJ: Venomous arthropods of South Africa. *The Leech* 65: 2-6, 1996.
6. Butcher W, **Pantanowitz L**: The intraosseous route. *The Leech* 65: 16, 1996.
7. **Pantanowitz L**, Guidozi F: Management of snake and spider bite in pregnancy. *Obstet Gynecol Surv* 51(10): 615-620, 1996. PM8888039
8. **Pantanowitz L**: Setting up a drip. *Journal of the South African Medical Student Association* 2: 14-20, 1996.
9. **Pantanowitz L**, Obers V, Guidozi F, Pantanowitz D: Techniques and principles of biopsy. *Journal of the South African Medical Student Association* 2: 2-10, 1996.
10. **Pantanowitz L**: Snakebite in South Africa: pathology and treatment. *Journal of the South African Medical Student Association* 3: 1-9, 1997.
11. Croucamp W, **Pantanowitz L**: Necrotizing araneism in South Africa. *Diseases of the Skin* 11: 18-25, 1997.
12. **Pantanowitz L**, Rabinowitz B: Antivenom in cytotoxic snakebites. *South African Journal of Surgery* 35: 229-231, 1997. PM9540403
13. **Pantanowitz L**: Snakebite in children. *South African Medical Journal* 87: 77, 1997. PM9063328
14. **Pantanowitz L**: Tourniquets for snakebite. *East African Medical Journal* 74: 434, 1997.
15. **Pantanowitz L**: Treating bites and stings. *Transvaal Pharmaceutical Society Medifile* 11: 25-29, 1997.
16. Obers V, **Pantanowitz L**, Pantanowitz D: Biopsy II (fine needle biopsy). *Student British Medical Journal* 4 suppl: 2, 1997.
17. Guidozi F, **Pantanowitz L**, Obers V: Biopsy I (exfoliative cytology). *Student British Medical Journal* 4 suppl: 3, 1997.
18. **Pantanowitz L**, Pantanowitz D, Obers V: Biopsy III (core biopsy). *Student British Medical Journal* 4 suppl: 4, 1997.
19. **Pantanowitz L**: Routine antibiotics for snakebites. *East African Medical Journal* 75: 60, 1998. PM9604540
20. **Pantanowitz L**, Hodgkinson J, Zeelie R, Jones N: Gonococcal endocarditis following a threatened abortion - case report. *J Reprod Med* 43(12): 1043-1045, 1998. PM9883408
21. **Pantanowitz L**: Snakebite: management controversies. *S Afr Fam Pract* 19(1): 24-25, 1998.
22. **Pantanowitz L**, Naude TW, Leisewitz A: Noxious toads and frogs of South Africa. *S Afr Med J* 88(11): 1408-1414, 1998. PM9861946
23. **Pantanowitz L**, Scott L, Southern J, Schrire L: Development of antivenoms in South Africa. *S Afr J Sci* 94: 464-469, 1998.
24. **Pantanowitz L**: Controversies in the management of snakebite. *Diseases of the Skin* 12: 40-50, 1998.
25. **Pantanowitz L**: Common on call problems. *The Leech* 67: 1-13, 1998.
26. **Pantanowitz L**, Mansab Z: The sore throat - have we forgotten how to manage it? *The Leech* 67: 14-21, 1998.
27. **Pantanowitz L**: Toad toxicity. *PedMed Paediatric Journal of Medicine* May/June: 14-16, 1998.

28. **Pantanowitz L**, Papathonasopoulos MA, Cutler E, Southern J: Snakebite - antivenom for the veterinary patient. *Veterinary Medicine* Oct/Nov: 13-15, 1998.
29. **Pantanowitz L**, Müller GJ: Venomous marine animals of South Africa. *Diseases of the Skin* 11: 10-16, 1997. (Cited as a significant paper published in Jellyfish Sting Newsletter. 19, July 1998).
30. **Pantanowitz L**, Gavalakis C, Sonnendecker H, Karstaedt AS: Infections of the bone marrow in human immunodeficiency virus (HIV) infection. *South African Journal of Epidemiology and Infection* 13: 118-128, 1998.
31. **Pantanowitz L**, Berk M: Auto-amputation of the tongue associated with flupenthixol induced extrapyramidal symptoms. *Int Clin Psychopharmacol* 14(2): 129-131, 1999. PM10220129
32. **Pantanowitz L**, Grayson W, Sallis M, McIntosh W: Skin cancer presenting as midline lethal granuloma. *Diseases of the Skin* 13: 2-15, 1999.
33. **Pantanowitz L**, Abu-Jawdeh G, Joseph J: Adrenoleukodystrophy. *Fertility & Sterility* 74: 162, 2000.
34. **Pantanowitz L**, Schwartz R, Balogh K: Images in Pathology. The placenta in sickle cell disease. *Arch Pathol Lab Med* 124(10): 1565, 2000. PM11035602
35. **Pantanowitz L**, Muc R, Spanger M, Sonnendecker H, McIntosh WA: Intravascular papillary endothelial hyperplasia (Masson's tumor) manifesting as a lateral neck mass. *Ear Nose Throat J* 79(10): 806-815, 2000. PM11055102
36. **Pantanowitz L**, Karstaedt AS: HIV-associated haemophagocytic syndrome: case report. *East Afr Med J* 77(8): 459-460, 2000. PM12862075
37. **Pantanowitz L**, Omar T, Sonnendecker H, Karstaedt AS: Bone marrow cryptococcal infection in the acquired immunodeficiency syndrome. *J Infect* 41(1): 92-94, 2000. PM11041711
38. Karstaedt AS, **Pantanowitz L**: Occupational exposure of interns to blood in an area of high HIV seroprevalence. *S Afr Med J* 91: 57-61, 2001. PM11236300
39. **Pantanowitz L**: Fat infiltration in the heart. *Heart* 85(3): 253, 2001. PM11179257/PMC1729648
40. Karstaedt AS, **Pantanowitz L**, Omar T, Sonnendecker HEM, Patel M: The utility of bone-marrow examination in HIV-infected adults in South Africa. *QJM* 94(2): 101-105, 2001. PM11181986
41. **Pantanowitz L**, Saldinger PF, Kadin ME: Pathologic Quiz Case: Hepatic mass in a patient with renal cell carcinoma (reactive lymphoid hyperplasia). *Arch Pathol Lab Med* 125(4): 577-578, 2001. PM11260645
42. Freedman SJ, **Pantanowitz L**, Joseph JT, Wu J, Wong ET, Dezube BJ: Unusual locations for lymphomas: Pineal lymphoma. *J Clin Oncol* 19(11): 2960-2963, 2001. PM11387370
43. **Pantanowitz L**, Harton A, Fraser J: Breast carcinoma with osteoclast-like giant cells. *Breast J* 7(3): 199, 2001. PM11469937
44. **Pantanowitz L**, De Girolami PC: Acid-fast serpentine cords of Mycobacterium tuberculosis. *Arch Pathol Lab Med* 125(9): 1261, 2001. PM11520292
45. **Pantanowitz L**, Tranovich V, Ballesteros E: Flaming plasma cells. *Arch Pathol Lab Med* 125(10): 1394-1395, 2001. PM11570930
46. **Pantanowitz L**, Botero M: Giant mesenteric cyst. A case report and review of the literature. *Internet Journal of Pathology* 2001 Volume 1N (icaap.org).
47. **Pantanowitz L**, Harton A, Beckwith B: Cutaneous gangrene in a renal dialysis patient (calciophylaxis). *Postgrad Med J* 77(913): 735,741-742, 2001. PM11677290/PMC1742168
48. **Pantanowitz L**, Jamieson T, Beavon I: Pathobiology of sacrococcygeal teratomas. *S Afr J Surg* 39(2): 56-62, 2001. PM14601451
49. **Pantanowitz L**, Ballesteros E, De Girolami P: Laboratory diagnosis of Babesia. *Lab Med* 32(4): 184-187, 2001.
50. **Pantanowitz L**, Cannon ME: Extracellular Babesia microti parasites. *Transfusion* 41(4): 440, 2001. PM11316891
51. **Pantanowitz L**, Telford SR III, Cannon ME: The impact of babesiosis on transfusion medicine. *Transfus Med Rev* 16(2): 131-143, 2002. PM11941575
52. **Pantanowitz L**, Telford S, Cannon ME: Tick-borne diseases in transfusion medicine. *Transfus Med* 12(2): 85-106, 2002. PM11982962
53. **Pantanowitz L**: Ticks and transfusions. *Laboratory Medicine* 33: 495, 2002.

54. **Pantanowitz L**, Connolly JL: Pathology of the breast associated with HIV/AIDS. *Breast J* 8(4): 234-243, 2002. PM12100117
55. Chan V, **Pantanowitz L**, Vrachliotis TG, Rabkin DJ: CT demonstration of a rapidly growing transitional cell carcinoma of the ureter and renal pelvis. *Abdom Imaging* 27(2): 222-223, 2002. PM11847585
56. **Pantanowitz L**, Lyle SL, Tahan SR: Fibroadenoma of the eyelid. *Am J Dermatopathol* 24(3): 225-229, 2002. PM12140439
57. Evans D, **Pantanowitz L**, Dezube BJ, Aboulafia DM: Breast enlargement in 13 men seropositive for human immunodeficiency virus. *Clin Infect Dis* 35(9): 1113-1119, 2002. PM12384846
58. **Pantanowitz L**, Fraser JL: Ligneous change of the female genital tract. *Fertility Sterility* 78(5): 1123-1124, 2002. PM12414004
59. **Pantanowitz L**, Aufranc S, Monahan-Earley R, Dvorak A, Telford SR: Morphologic hallmarks of Babesia. *Transfusion* 42(11):1389, 2002. PM12421208
60. **Pantanowitz L**, Horowitz GL, Upalakalin JN, Beckwith B: Artfactual hyperbilirubinemia due to paraprotein interference. *Arch Pathol Lab Med* 127(1): 55-59, 2003. PM12521367
61. **Pantanowitz L**, García-Caballero T, Dezube BJ. Growth hormone receptor-expressing carcinoid tumors following recombinant human growth hormone therapy for human immunodeficiency virus related lipodystrophy. *Clin Infect Dis* 36(3): 370-372, 2003. PM12539081
62. Sproat LO, **Pantanowitz L**, Lu C, Dezube BJ: Human immunodeficiency virus-associated hemophagocytosis with iron-deficiency anemia and massive splenomegaly. *Clin Infect Dis* 37: E170-E173, 2003. PM14614691
63. Alam M, **Pantanowitz L**, Harton AH, Arndt KA, Dover JS. A prospective trial of candida colonization after laser resurfacing of the face: correlation between culture positivity and symptoms of pruritis. *Dermatol Surg* 29(3): 255-260, 2003. PM12614419
64. **Pantanowitz L**, Freedman SJ, Dezube BJ, Joseph J: November 2002: a 72-year-old woman with a pineal gland mass. *Brain Pathol* 13(2): 235-239, 2003. PM12744478
65. **Pantanowitz L**, Upton MP: Benign axillary lymph node inclusions. *Breast J* 9(1): 56-57, 2003. PM12558676
66. **Pantanowitz L**, Tschen J, Balogh K: The juxtaoral organ of Chievitz. *Int J Surg Pathol* 11(1): 37, 2003. PM12598918
67. **Pantanowitz L**, Evans D, Gross P, Dezube BJ: HIV-related gynecomastia. *Breast J* 9(2): 131-132, 2003. PM12603389
68. **Pantanowitz L**, Balogh K: Gastric anthrax. *Arch Pathol Lab Med* 127(6): 761, 2003. PM12741910
69. **Pantanowitz L**, Balogh K: Breast implant capsule with synovial metaplasia. *Breast J* 9(5): 428, 2003. PM12968969
70. **Pantanowitz L**, Tahan SR: Black thyroid. *Ear Nose Throat J* 82(9): 676-677, 2003. PM14569701
71. Busch JM, **Pantanowitz L**, Kornguth PJ: Cancer mimicked on sonography: lipomastia in an HIV-positive man undergoing antiretroviral therapy. *AJR Am J Roentgenol* 181(1): 187-189, 2003. PM12818856
72. **Pantanowitz L**, Kruskall ML, Uhl L: Cryoprecipitate. Patterns of use. *Am J Clin Pathol* 119(6): 874-881, 2003. PM12817436 (Quoted in America's Blood Centers (ABC) newsletter #23, 2003:8).
73. **Pantanowitz L**, Pomfret EA, Pomposelli JJ, Lewis WD, Gordon FD, Jenkins RL, Khettry U: Pathologic analysis of right lobe graft failure in adult-to-adult live donor liver transplantation. *Int J Surg Pathol* 1(4):283-294, 2003. PM14605823
74. **Pantanowitz L**, Upton MP, Wang HH, Nasser I: Cytomorphology of verrucous carcinoma of the cervix. A case report. *Acta Cytol* 47(6): 1050-1054, 2003. PM14674078
75. **Pantanowitz L**, Williams J, Xu X, Tahan SR: Tender subcutaneous nodules in a patient with AIDS. *Arch Dermatol* 139(12): 1647-1652, 2003. PM14676090
76. **Pantanowitz L**, Balogh K: Significance of the juxtaoral organ (of Chievitz). *Head Neck* 25(5): 400-405, 2003. PM12692878
77. **Pantanowitz L**: Mechanisms of thrombocytopenia in tick-borne diseases. *Internet Journal of Infectious Diseases* 2(2): 1-6, 2003.
78. **Pantanowitz L**, Gelrud A, Nasser I: Black esophagus. *Ear Nose Throat J* 82(9): 450-451, 2003. PM14569701
79. **Pantanowitz L**, Miller K, Ford JC, Beckwith B: The scratch test. *Arch Pathol Lab Med* 128(5): 598, 2004. PM15086289

80. Dezube BJ, **Pantanowitz L**, Abouafia DM: Management of AIDS-related Kaposi's sarcoma: advances in target discovery and treatment. *AIDS Read* 14(5): 236-253, 2004. PM15199854
81. **Pantanowitz L**, Tschen JA: Organ of Chievitz. *Ear Nose Throat J* 83(4): 230, 2004. PM15147090
82. **Pantanowitz L**, Gelrud A, Nasser I: Crohn's disease of the esophagus. *Ear Nose Throat J* 83(6): 420-423, 2004. PM15266880
83. Dezube BJ, **Pantanowitz L**: Advances in the management of AIDS-related malignancies. *Clinical Care Options/HIV* 2004.
84. **Pantanowitz L**, Balogh K: Charcot-Leyden crystals: pathology and diagnostic utility. *Ear Nose Throat J* 83(7): 489-490, 2004. PM15372922
85. Dezube BJ, Abouafia DM, **Pantanowitz L**: Plasma cell disorders in HIV-infected patients: from benign gammopathy to multiple myeloma. *AIDS Read* 14(7): 372-379, 2004. PM15282866
86. **Pantanowitz L**, Dezube BJ: Advances in the pathobiology and treatment of Kaposi sarcoma. *Curr Opin Oncol* 16(5): 443-449, 2004. PM15314513
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 69. Assaad M, Goulart R, Desilets D, Hornish M, **Pantanowitz L** (**poster presentation**): Diagnostic utility of bile duct curettage specimens in bile duct cytology, 8th Annual Research Week, Baystate Medical Center, Tufts University, Medford, MA, 2007.
 70. Assaad M, **Pantanowitz L**, Otis CN (**poster presentation**): Diagnostic accuracy of image-guided percutaneous fine needle aspiration biopsy of the mediastinum, 8th Annual Research Week, Baystate Medical Center, Tufts University, Medford, MA, 2007.
 71. Greene E, Cross J, **Pantanowitz L**, Lindenhauer P: Retrospective analysis of heparin-induced thrombocytopenia (HIT) pre and post initiation of a HIT alert system in a large tertiary hospital, American Society of Health-System Pharmacists (ASHP) Meeting, Las Vegas, NV, 2007.
 72. Castillo JJ, **Pantanowitz L** (**poster presentation**): HIV-associated NK/T-cell lymphomas: a review of 93 cases, American Society of Hematology (ASH) 48th Annual Meeting, Atlanta, GA, *Blood*, 118, 11, 1013A, abstract #3457, 2007.
 73. Pinco J, Goulart RA, Otis CN, Garb J, **Pantanowitz L** (**poster presentation**): Impact of digital image manipulation in cytopathology, American Society of Cytopathology (ASC) 55th Annual Scientific Meeting (**Nominated for the Resident-Physician Award**), Houston, TX, *Cancer Cytopathol*, 111, S5, 430, 2007.
 74. **Pantanowitz L**, Otis CN, Goulart RA (**poster presentation**): Cytologic findings of psammocarcinoma in peritoneal washings, American Society of Cytopathology (ASC) 55th Annual Scientific Meeting, Houston, TX, *Cancer Cytopathol*, 111, S5, 405, 2007
 75. **Pantanowitz L**, Hornish MA, Goulart RA (**poster presentation**): Outcome of clinically based large-scale screening for chlamydia trachomatis infection using the ThinPrep® Pap test collection vial, American Society of Cytopathology (ASC) 55th Annual Scientific Meeting, Houston, TX, *Cancer Cytopathol*, 111, S5, 383-384, 2007.
 76. Goulart RA, Hornish M, Panetti C, **Pantanowitz L** (**poster presentation**): HPV DNA test results for cytotechnologist ASC-US downgraded to NILM following cytopathologist review: a potential laboratory

- quality indicator, American Society Cytopathology (ASC) 56th Annual Scientific Meeting, Orlando, FL, *Cancer Cytopathol*, 114, 428, 2008.
77. **Pantanowitz L**, Dezube BJ, Marconi S, Moses AV, Früh K: Pathology of rituximab-induced Kaposi sarcoma flare, International Workshop on Kaposi's Sarcoma Associated Herpesvirus (KSHV) and Related Agents, University of Birmingham, UK, 2008.
 78. **Pantanowitz L**, Mansouri M, Marconi S, Bartee E, Moses AV, Früh K: HHV8-associated K5/MIR2 expression in vivo correlates with reduced coexpression of CD31, MHC-1, and β -Catenin in Kaposi's sarcoma, International Workshop on Kaposi's Sarcoma Associated Herpesvirus (KSHV) and Related Agents, University of Birmingham, UK, 2008.
 79. Bohac GC, Dezube BJ, Cooley TP, Aboulafia D, **Pantanowitz L (poster presentation)**: HIV-associated prostate cancer, American Society of Clinical Oncology (ASCO) Annual Meeting, Chicago, IL, *J Clin Oncol*, 26, 16089, 2008.
 80. Castillo J, Dezube BJ, **Pantanowitz L (poster presentation)**: Plasmablastic lymphoma in HIV: A review of 131 cases, American Society of Clinical Oncology (ASCO) Annual Meeting, Chicago, IL, *J Clin Oncol*, 26, 19519, 2008.
 81. Assaad M, Otis CN, Marconi S, **Pantanowitz L (poster presentation)**: Diagnostic utility of mammaglobin in lesions of the uterine cervix, United States and Canadian Academy of Pathology (USCAP) 97th Annual Meeting, Denver, CO, *Modern Pathology*, 21, s1, 196A, abstract #895, 2008.
 82. Caponetti G, Otis CN, Mert I, Marconi S, Schuster V, Ziegler M, Tefs K, Hecht JL, Tug M, **Pantanowitz L (poster presentation)**: Ligneous inflammation of the female genital tract: morphologic, immunophenotypic, and molecular characterization, United States and Canadian Academy of Pathology (USCAP) 97th Annual Meeting, Denver, CO, *Modern Pathology*, 21, s1, 198A, abstract #907, 2008.
 83. O'Donnell P, Moses A, Marconi S, **Pantanowitz L (poster presentation)**: Heme oxygenase-1 (HO-1) in Kaposi sarcoma, American Society of Dermatopathology (ASDP) 45th annual meeting, San Francisco, CA, 2008.
 84. O'Donnell P, **Pantanowitz L**, Grayson W (**poster presentation**): Unique histopathologic variants of cutaneous Kaposi sarcoma, American Society of Dermatopathology (ASDP) 45th annual meeting, San Francisco, CA, 2008.
 85. **Pantanowitz L**, Früh K, Aboulafia D, Marconi S, Dezube BJ (**poster presentation**): Pathology of rituximab-induced Kaposi sarcoma flare: role of B-cell depletion, 11th International Conference on Malignancies in AIDS and Other Acquired Immunodeficiencies (ICMAOI), National Library of Medicine, National Institutes of Health, Bethesda, MD, 2008.
 86. Chapman C, Aboulafia D, Dezube BJ, **Pantanowitz L (poster presentation)**: Colon adenocarcinoma in HIV infected patients, 11th International Conference on Malignancies in AIDS and Other Acquired Immunodeficiencies (ICMAOI), National Library of Medicine, National Institutes of Health, Bethesda, MD, 2008.
 87. Gaughan EM, Dezube BJ, Bower M, Aboulafia D, **Pantanowitz L (poster presentation)**: HIV-associated bladder cancer: diagnosis and management, 11th International Conference on Malignancies in AIDS and Other Acquired Immunodeficiencies (ICMAOI), National Library of Medicine, National Institutes of Health, Bethesda, MD, 2008.
 88. **Pantanowitz L**, Ellithorpe A, Otis CN (**e-poster presentation**): The effect of antivirus software on the laboratory information system, Advancing Pathology Informatics, Imaging, and the Internet (APIII) meeting, Pittsburgh, PA, *Arch Pathol Lab Med*, 133, 1162-1163, 2008.
 89. **Pantanowitz L**, Caponetti G, Hunt J, Ellithorpe A, Briancesco A, Passidakis P, Otis C (**e-poster presentation**): Systematic evaluation of flatbed scanners for digital gross imaging (**Awarded "Best Electronic Poster - Pathology Informatics"**), Advancing Pathology Informatics, Imaging, and the Internet (APIII) meeting, Pittsburgh, PA, *Arch Pathol Lab Med*, 133, 1163-1164, 2008.
 90. **Pantanowitz L**, Ellithorpe A, Otis CN, Crisi GM, Friedberg RC, Marquis P (**e-poster presentation**): Decentralized computer-assisted image analysis for ER, PR and HER-2/neu immunohistochemical analysis, Advancing Pathology Informatics, Imaging, and the Internet (APIII) meeting, Pittsburgh, PA *Arch Pathol Lab Med*, 133, 1163, 2008.

91. **Pantanowitz L**, Ellithorpe A, Murley-Kells K, Rauch CA, Poirier G, Lareau W (**e-poster presentation**): Application of AutoHotkey to enhance data entry into the laboratory information system, Advancing Pathology Informatics, Imaging, and the Internet (APIII) meeting, Pittsburgh, PA, *Arch Pathol Lab Med*, 133, 1163, 2008.
92. Panetti C, Hornish M, Goulart RA, **Pantanowitz L (poster presentation)**: The effect of uterine cervical polyps on cervical cytology, American Society Cytopathology (ASC) 56th Annual Scientific Meeting, Orlando, FL, *Cancer Cytopathol*, 114, 397, 2008
93. Henninger B, Hornish M, **Pantanowitz L**, Goulart RA (**poster presentation**): A novel computer program for assessment of graduated diagnostic competency of cytopathology fellows (**Nominated for the Resident-Physician Award**), American Society Cytopathology (ASC) 56th Annual Scientific Meeting, Orlando, FL, *Cancer Cytopathol*, 114, 402-403, 2008. Nominated for the Resident-Physician Award.
94. Castillo JJ, Dezube BJ, **Pantanowitz L**: Plasmablastic lymphoma in HIV: A review of 131 cases. *Proceedings of the American Society of Clinical Oncology (ASCO)*, Chicago, IL, 2008.
95. Habib C, Cao QJ, Otis CN, **Pantanowitz L (poster presentation)**: Characterization of bone tissue in the ovary, United States and Canadian Academy of Pathology (USCAP) 98th Annual Meeting, Boston, MA, *Modern Pathology*, 22, s1, 216A, abstract #985, 2009.
96. D'Jean G, Bower M, Cooley T, Neil N, **Pantanowitz L**, Buskin S, Stem J, Henry D, Greco E, Dezube BJ, Stebbing J, Aboulafia D (**poster presentation**): HIV-associated lung cancer (HIV-LC): a multi-institutional analysis of 77 cases, 47th Annual meeting of the Infectious Diseases Society of America (IDSA), Philadelphia, PA, 2009.
97. **Pantanowitz L**, Crisi GM, Otis CN, Goulart RA (**poster presentation**): Protean manifestations of amyloidosis of the breast within core and mammotome biopsy specimens, Annual Meeting of the College of American Pathologists (CAP), Washington, DC, *Arch Pathol Lab Med*, 133, 1634, 2009.
98. **Pantanowitz L**, Lareau W, LaBranche W: Stepwise approach to establishing multiple outreach LIS-EMR interfaces, Advancing Practice, Instruction & Innovation through Informatics (APIII), Pittsburgh, PA, *Arch Pathol Lab Med*, 134, 947, 2009.
99. **Pantanowitz L**, Levy R, Andrzejewski C, Cloutier D, Stebbins J, Cronin S, Provencher J, Donelan E: Use of an EMR for transfusion and apheresis medicine services (**Awarded Best Electronic Poster**), Advancing Practice, Instruction & Innovation through Informatics (APIII), Pittsburgh, PA, *Arch Pathol Lab Med*, 134, 947-948, 2009.
100. **Pantanowitz L**, Ellithorpe A, Lareau W: Interface problems caused by complex surgical pathology reports, Advancing Practice, Instruction & Innovation through Informatics (APIII), Pittsburgh, PA, *Arch Pathol Lab Med*, 134, 946, 2009.
101. **Pantanowitz L**, Hornish M, Goulart RA: Leveraging the LIS to monitor cytopathology screening and performance indicators, Advancing Practice, Instruction & Innovation through Informatics (APIII), Pittsburgh, PA, *Arch Pathol Lab Med*, 134, 947, 2009.
102. Michelow P, Dezube BJ, **Pantanowitz L (paper presentation)**: The value of fine needle aspiration in HIV-positive patients, PathTech Congress, Durban, South Africa, 2009.
103. Setia N, Lareau W, **Pantanowitz L (oral presentation)**: Utilization of an electronic alerting system for critical and corrected laboratory results, Annual Meeting of the Academy of Clinical Physicians and Scientists (ACLPS), Redondo Beach, CA, *Am J Clin Pathol*, 132, 451-452, 2009.
104. Cole J, **Pantanowitz L**, Aboulafia DM (**poster presentation**): Chronic lymphocytic leukemia (CLL) coexistent with HIV: an increasing association? American Society of Clinical Oncology (ASCO) Annual Meeting, Orlando, FL, *J Clin Oncol*, 27, 15S, 7078, 2009.
105. Castillo J, Milani C, **Pantanowitz L (poster presentation)**: HIV-associated anaplastic large cell lymphoma, American Society of Clinical Oncology (ASCO) Annual Meeting, Orlando, FL, *J Clin Oncol*, 27, 15S, e19563, 2009.
106. **Pantanowitz L**, Sen S, Crisi GM, Makari-Judson G, Garb J, Skiest D (**poster presentation**): Spectrum of breast disease encountered in HIV positive patients at a community teaching hospital, San Antonio 32nd annual Breast Cancer Symposium, San Antonio, TX, 2009.

107. Kuperman M, Florence R, Visintainer P, **Pantanowitz L**, Otis CN (**poster presentation**): Diagnostic utility of adding GLUT-1 to an immunocytochemical panel for malignant mesothelioma, American Society of Cytopathology (ASC) 57th Annual Scientific Meeting, Denver, CO, *Cancer Cytopathol*, 117, 361-362, 2009.
108. Michelow P, Dezube BJ, **Pantanowitz L** (**poster presentation**): Results from a series of fine needle aspirations in South African HIV+ patients, American Society of Cytopathology (ASC) 57th Annual Scientific Meeting, Denver, CO, *Cancer Cytopathol*, 117, 395, 2009.
109. Setia N, Goulart RA, Otis CN, Modem R, Leiman G, **Pantanowitz L** (**poster presentation**): Cytomorphology of cervicovaginal melanoma: ThinPrep versus conventional Papanicolaou tests, American Society of Cytopathology (ASC) 57th Annual Scientific Meeting, Denver, CO, *Cancer Cytopathol*, 117, 391-392, 2009.
110. **Pantanowitz L**, Goulart RA (**poster presentation**): Added value of cytomorphology in pulmonary specimens submitted for the detection of Pneumocystis, American Society of Cytopathology (ASC) 57th Annual Scientific Meeting, Denver, CO, *Cancer Cytopathol*, 117, 403, 2009.
111. Henninger B, Goulart RA, Otis CN, **Pantanowitz L** (**poster presentation**): Melamed-Wolinska intracytoplasmic urothelial cell bodies: evaluation with red blood cell markers Glycophorin-C and GLUT-1, American Society of Cytopathology (ASC) 57th Annual Scientific Meeting, Denver, CO, *Cancer Cytopathol*, 117, 373-374, 2009.
112. Henninger B, Hornish MA, **Pantanowitz L**, Goulart RA (**platform presentation**): Morphologic Pap test findings in HPV negative women age 30 years and older: what information will be lost with HPV only primary screening, American Society of Cytopathology (ASC) 57th Annual Scientific Meeting, Denver, CO, *Cancer Cytopathol*, 117, 357-358, 2009.
113. Mehrota S, Gang D, Otis CN, **Pantanowitz L** (**poster presentation**): Pseudomembranous appendicitis: involvement of the appendix in pseudomembranous colitis, American Society Clinical Pathology (ASCP) Annual Meeting, Chicago, IL, 2009.
114. **Pantanowitz L**, Bozek D, Seipel J, Nichols JH: Reducing patient identification errors related to glucose point of care testing (**Honorable mention for best E-Poster in Bioinformatics**), Advancing Practice, Instruction & Innovation through Informatics (APIII), Pittsburgh, PA, *Arch Pathol Lab Med*, 134, 946, 2010.
115. **Pantanowitz L**, Gentes J, Kudler NR: Utilization of laboratory data in the electronic medical record (EMR), Advancing Practice, Instruction & Innovation through Informatics (APIII), Pittsburgh, PA, *Arch Pathol Lab Med*, 134, 946-947, 2010.
116. Sharma G, Parwani AV, **Pantanowitz L** (**e-poster presentation**): Lessons learned from telepathology problems and technical failures, Pathology Informatics Meeting, Boston, MA, *J Pathol Inform*, 1, 18, 2010.
117. Michelow P, Dezube BJ, **Pantanowitz L** (**poster presentation**): Fine needle aspiration (FNA) of human immunodeficiency virus (HIV)-related breast lesions, 17th International Congress of Cytology (ICC), Edinburgh, UK, *Act Cytologica*, 54, 3S, 497, 2010.
118. Sharma G, Hagenkord JM, Harper TH, **Pantanowitz L**, Parwani AV (**e-poster presentation**): Evaluation of the utility of a virtual rotation in pathology informatics (**Awarded honorable mention in web based informatics**), Pathology Informatics Meeting, Boston, MA, *J Pathol Inform*, 1, 18, 2010.
119. Prieto-Granda C, Setia N, Otis CN, **Pantanowitz L** (**poster presentation**): Extramedullary hematopoiesis in lymph nodes following neoadjuvant therapy for breast carcinoma, American Society for Clinical Pathology (ASCP) Annual Meeting, San Francisco, CA, 2010.
120. Dangott B, **Pantanowitz L**, Parwani AV (**poster presentation**): Implementation of subspecialty whole slide image teaching sets for pathology residency education, Pathology Visions Meeting, San Diego, CA, 2010.
121. Mello-Thoms C, **Pantanowitz L**, Parwani A, Ho J, Sharma G, Crowley R: Analysis of digital slide exploration of expert pathologists, Pathology Informatics Meeting, Boston, MA, *J Pathol Inform*, 1, 18, 2010.
122. Sharma G, Saleh AA, Parwani AV, **Pantanowitz L**: A preliminary analysis of the Pathology Informatics literature, Pathology Informatics Meeting, Boston, MA, *J Pathol Inform*, 1, 18, 2010.
123. Sharma G, Dangott BJ, Piccoli A, Wiehagen LT, Kelly SM, Stewart WR, Yousem SA, **Pantanowitz L**, Parwani AV: Reduction in slide label mis-identifications due to implementation of 2 dimensional bar coding in the anatomic pathology laboratory at a tertiary care hospital, Pathology Informatics Meeting, Boston, MA, *J Pathol Inform*, 1, 18, 2010.

124. **Pantanowitz L**, McHugh J, Nauman K, Piccoli A, Lauro GR, Parwani AV (**e-poster presentation**): Review of informatics-related calls in an academic pathology department, Pathology Informatics Meeting, Boston, MA, *J Pathol Inform*, 1, 18, 2010.
125. Sharma G, Chenevert J, Dangott BJ, Muse A, Duboy JD, **Pantanowitz L**, Barnes L, Parwani AV: Development of a head and neck pathology digital slide teaching set for trainee education (**Awarded best presentation for a scientific session in educational imaging**), Pathology Informatics Meeting, Boston, MA, *J Pathol Inform* 1: 18, 2010.
126. Sharma G, Hagenkord JM, Harper TH, **Pantanowitz L**, Parwani AV (**e-poster presentation**): Evaluation of the utility of a virtual rotation in pathology informatics, UPMC GME Leadership Conference, Pittsburgh, PA, 2011.
127. Kamat S, Monaco SE, Khalbuss W, **Pantanowitz L**, Parwani AV (**poster presentation**): Utility of molecular testing in fine needle aspiration and needle core biopsy diagnosis of renal mass lesions, United States and Canadian Academy of Pathology (USCAP) 100th Annual Meeting in San Antonio, TX, 2011.
128. Sharma G, Piccoli A, Kelly SM, Wiehagen LT, **Pantanowitz L**, Parwani AV (**poster presentation**): Reduction of anatomical pathology slide mislabel rate due to implementation of barcoding at two tertiary care hospitals, United States and Canadian Academy of Pathology (USCAP) 100th Annual Meeting, San Antonio, TX, 2011.
129. Dangott B, Sharma G, Harper T, MacPherson T, **Pantanowitz L**, Parwani A (**poster presentation**): Development of a web based testing interface for pathology trainees using digital slide sets, United States and Canadian Academy of Pathology (USCAP) 100th Annual Meeting, San Antonio, TX, 2011.
130. Yildiz-Aktas I, Parwani AV, Monaco SE, Khalbuss W, **Pantanowitz L** (**poster presentation**): Experience with testicular touch preparation cytology in the evaluation of male infertility, United States and Canadian Academy of Pathology (USCAP) 100th Annual Meeting, San Antonio, TX, 2011.
131. Monaco SE, **Pantanowitz L**, MacPherson T, French R, Khalbuss WE: Implementing and developing a dynamic curriculum for cytopathology fellows addressing core competencies using teleconferencing and measures of success, 10th UPMC Annual GME Leadership Conference: A Decade of Innovation, Pittsburgh, PA, 2011.
132. Sharma G, Chenevert J, Dangott BJ, Muse A, Duboy JD, **Pantanowitz L**, Barnes L, Parwani AV: Development of a head and neck pathology digital slide teaching set for trainee education, UPMC Annual GME Leadership Conference: A Decade of Innovation, Pittsburgh, PA, 2011
133. Syed M, Sharma G, Edwards L, Siddiqui R, **Pantanowitz L**, Parwani A (**e-poster presentation**): Virtual surgical pathology rotation: development of an extensive surgical pathology whole slide imaging archive for pathology education (**Awarded best poster for pathology informatics education**), Pathology Informatics 2011 Conference, Pittsburgh, PA, *J Pathol Inform*, 2, 43, S44-S45, 2011.
134. Cable W, Yousem SA, McHugh J, Lesniak A, Tseytlin E, Duboy J, Ahmed I, Burdelski G, Maglicco D, Lauro GR, **Pantanowitz L**, Parwani AV, Michalopoulos GK (**e-poster presentation**): Development of a web-based digital pathology consultation portal (DPCP) for providing second opinion consultation services, Pathology Informatics 2011 conference, Pittsburgh, PA, *J Pathol Inform*, 2, 43, S29-S30, 2011.
135. Sharma G, Sharma G, Shah A, Monaco S, Khalbuss W, Parwani A, Ahmed I, **Pantanowitz L** (**e-poster presentation**): Evaluation of web based streaming as a tool in telecytology (**Honorable mention for an informatics study in laboratory applications**), Pathology Informatics 2011 conference, Pittsburgh, PA, *J Pathol Inform*, 2, 43, S40-S41, 2011.
136. Amin M, Sharma G, Anderson R, Kolowitz BJ, Parwani AV, Shrestha RB, **Pantanowitz L** (**platform presentation**): Integration of digital gross pathology images for enterprise-wide access, Pathology Informatics 2011 conference, Pittsburgh, PA, *J Pathol Inform*, 2, 43, S8-S9, 2011.
137. Roy S, Smith M, Fusca F, Burdelski G, Maglicco D, **Pantanowitz L**, Parwani A (**e-poster presentation**): PathRez - A web-based, searchable pathology image and virtual slide database, Pathology Informatics 2011 conference, Pittsburgh, PA, *J Pathol Inform*, 2, 43, S43, 2011.
138. Smith M, Parwani AV, Piccoli A, Losos FJ, **Pantanowitz L** (**e-poster presentation**): Lessons learned from laboratory information system downtime events, Pathology Informatics 2011 conference, Pittsburgh, PA, *J Pathol Inform*, 2, 43, S42-S43, 2011.

139. Khalbuss WE, Jia FF, Monaco SE, Surti U, Cieply K, **Pantanowitz L (platform presentation)**: Utility of fluorescence in situ hybridization in bone and soft tissue cytopathology, 36th European Congress of Cytology, Istanbul, Turkey, *Cytopathology*, 22, S1, 45, 2011.
140. Sharma G, Sendek ME, Nauman K, Parwani AV, **Pantanowitz L (poster presentation)**: Laboratory information system change control process: 5 year experience with an electronic system, College of American Pathologists (CAP) Annual Meeting, Grapevine, TX, *Arch Path Lab Med*, 135, 1164, 2011.
141. Sharma G, Radu O, Vu JR, Ho J, **Pantanowitz L**, Parwani AV, Singh R (**poster presentation**): Development of a dermatopathology digital slide teaching set for trainee education, College of American Pathologists (CAP) Annual Meeting, Grapevine, TX, *Arch Path Lab Med*, 135, 1227, 2011.
142. Sharma G, Kelly SM, Wiehagen LT, Palekar A, **Pantanowitz L**, Parwani AV (**poster presentation**): Implementation of whole slide imaging for multi-site review of performance improvement program (PIP) slides, College of American Pathologists (CAP) Annual Meeting, Grapevine, TX, *Arch Path Lab Med*, 135, 1227-1228, 2011.
143. Vomaske JE, Clepper L, Douglas J, **Pantanowitz L**, Frueh K, Moses AV (**oral & poster presentation**): KSHV infection of endothelial cells manipulates CXCR7-mediated signaling implications for Kaposi's sarcoma progression and intervention, 14th International workshop on Kaposi's sarcoma associated-herpesvirus (KSHV) and related agents, Helsinki, Finland, 2011.
144. Kamat S, Parwani AV, Monaco SE, Khalbuss W, Piccoli T, Kelly S, Wiehagen L, **Pantanowitz L (poster presentation)**: Use of a laboratory information system (LIS) driven tool for cytopathologist pre-signout quality assurance, United States and Canadian Academy of Pathology (USCAP) 100th Annual Meeting, San Antonio, TX, 2011.
145. Vomaske J, Clepper L, Douglas J, **Pantanowitz L**, Fruh K, Moses AV: KSHV infection of endothelial cells manipulates CXCR7-mediated signaling: implications for Kaposi's sarcoma progression and intervention, 13th International Conference on Malignancies in AIDS and Other Acquired Immunodeficiencies (ICMAOI), National Institutes of Health, Bethesda, MD, 2011.
146. Jia FF, Khalbuss WE, Monaco SE, Surti U, Cieply K, **Pantanowitz L**: Utility of fluorescence in situ hybridization in bone and soft tissue cytopathology: 7 year experience at an academic medical center, American Society Cytopathology (ASC) 59th annual scientific meeting, Baltimore, MD, 11/2011, *Cytojournal*, 8, 16, 2011.
147. **Pantanowitz L**, Bista RK, Khalbuss WE, Dhir R, Brand RE, Monaco SE, Liu Y: Nanoscale nuclear architecture for urine cytology using spatial-domain low-coherence quantitative phase microscopy, American Society Cytopathology (ASC) 59th annual scientific meeting, Baltimore, MD, *Cytojournal*, 8, 16, 2011.
148. Arya P, **Pantanowitz L**, Khalbuss WE, Monaco SE: Cytomorphological and immunohistochemical assessment of metastatic breast carcinoma with apocrine features in fluid cytology, American Society Cytopathology (ASC) 59th annual scientific meeting, Baltimore, MD, *Cytojournal*, 8, 16, 2011.
149. Constantine J, Khalbuss WE, Monaco SE, **Pantanowitz L**: Cytomorphologic features of metastatic sarcomas in effusions, American Society Cytopathology (ASC) 59th annual scientific meeting, Baltimore, MD, *Cytojournal*, 8, 16, 2011.
150. **Pantanowitz L**, Sinard JH, Fatheree LA, Henricks WH, Carter AB, Contis L, Beckwith BA, Evans AJ, Otis CN, Parwani AV: Validating whole slide imaging for diagnostic purposes in pathology: recommendations of the College of American Pathologists (CAP) pathology and laboratory quality center: American Society Clinical Pathology (ASCP) Annual Meeting/WASPaLM XXVI World Congress, Las Vegas, NV, 2011.
151. Sharma G, Sharma G, Shah A, Duboy J, Parwani AV, Khalbuss WE, Monaco SE, Palekar A, Singh R, **Pantanowitz L (platform presentation)**: Evaluation of different display modalities for whole slide images in pathology, Pathology Informatics 2011 conference, Pittsburgh, PA, *J Pathol Inform*, 2, 43, S4-S5, 2011.
152. Radu O, Khalbuss W, Ho J, Parwani A, Duboy J, **Pantanowitz L (platform presentation)**: Whole slide imaging (WSI) performance in challenging dermatopathology cases (**2nd place winner for the dermatopathology trainee world cup**), 15th Joint Meeting of the International Society of Dermatopathology (ISDP), San Diego, CA, *American J Dermatopathology*, 34, 5, e55, 2012.
153. Park S, Parwani A, Macpherson TA, **Pantanowitz L (oral presentation)**: Use of a Wiki as an effective teaching tool in pathology residency education: Experience from the genomics, research, and informative in pathology (GRIP) course, UPMC 11th annual GME leadership conference, Pittsburgh, PA, 2012.

154. Monaco S, **Pantanowitz L**, Contis L, DeFrances M, Amin M, Bender A, Macpherson T, Khalbuss W: Multi-media marketing to promote teaching programs: how to better publicize your program in today's world, UPMC 11th annual GME leadership conference, Pittsburgh, PA, 2012.
155. **Pantanowitz L**, Parwani AV, Tseytlin E, Mello-Thoms CR: Analysis of slide exploration strategy of cytologists when reading virtual slides, Society of Photographic Instrumentation Engineer (SPIE) Medical Imaging meeting, San Diego, CA, 2012.
156. Karunamurthy A, **Pantanowitz L**, Lepe JG, Reyes-Múgica M: Lethal outcomes in Klippel-Trénaunay-Weber syndrome (KTWS), College of American Pathologists CAP '12 annual meeting, San Diego, CA, *Arch Path Lab Med*, 136, 9, 1126-1127, 2012.
157. Park S, Parwani A, Macpherson T, **Pantanowitz L**: Use of a wiki as an effective teaching tool in pathology residency education: experience from the genomics, research, and informatics in pathology (GRIP) course, College of American Pathologists CAP '12 annual meeting, San Diego, CA, *Arch Path Lab Med*, 136, 9, 1030, 2012.
158. Gilbert C, Khalbuss W, Monaco S, Rao U, Palekar A, **Pantanowitz L**: The cytomorphology of myoepithelial tumors of soft tissue, College of American Pathologists CAP '12 annual meeting, San Diego, CA, *Arch Path Lab Med*, 136, 9, 1088-1089, 2012.
159. Ferreira PA, Nichols L, Parwani AV, **Pantanowitz L**, Harper, T, Nine J, MacPherson T, Williams KE: Virtual rotation in forensic pathology, College of American Pathologists CAP '12 annual meeting, San Diego, CA, *Arch Path Lab Med*, 136, 9, 1029, 2012.
160. Radkay L, **Pantanowitz L**, Maranchie J, Parwani A: A case of collision tumor of metastatic breast carcinoma within a renal angiomyolipoma, College of American Pathologists CAP '12 annual meeting, San Diego, CA, *Arch Path Lab Med*, 136, 9, 1035, 2012.
161. Gonzalo RL, Lesniak A, Cable W, McHugh J, **Pantanowitz L**, Parwani AV: Digital pathology consultations - a new era in digital imaging, challenges, and practical applications (**Winner of the Top 5 Medical Imaging IT Projects of 2012 by the SIIM and Radiology Business Journal**), Society for Imaging Informatics in Medicine (SIIM) annual meeting, Orlando, FL, 2012.
162. Gilbert C, Lassige KM, Matsko J, Mauser N, Austin RM, Parwani AV, Zhao C, Piccoli A, **Pantanowitz L**: Co-reporting of HPV and Pap cytology results: informatics experience at a large academic women's hospital, United States and Canadian Academy of Pathology (USCAP) 101st Annual Meeting, Vancouver, BC, Canada, *Modern Pathology*, 25, S2, 391A, 2012.
163. Karunamurthy A, Cai G, Dacic S, Khalbuss WE, **Pantanowitz L**, Monaco SE: Diagnostic utility of endobronchial ultrasound-guided fine-needle aspiration (EBUS-FNA): a review of 593 cases, United States and Canadian Academy of Pathology (USCAP) 101st Annual Meeting, Vancouver, BC, Canada, *Modern Pathology*, 25, S2, 94A, 2012.
164. Ocque R, Khalbuss WE, Monaco SE, Michelow P, **Pantanowitz L**: Cytopathology of extra-cranial meningiomas: study involving 11 ectopic and metastatic meningiomas, United States and Canadian Academy of Pathology (USCAP) 101st Annual Meeting, Vancouver, BC, Canada, *Modern Pathology*, 25, S2, 101A, 2012.
165. Monaco SE, **Pantanowitz L**, Khalbuss WE, Ozolek J, Simmons J, Nikiforov YE: Molecular genetic findings in pediatric thyroid fine needle aspirations: experience from a large academic medical center, United States and Canadian Academy of Pathology (USCAP) 101st Annual Meeting. Vancouver, BC, Canada, *Modern Pathology*, 25, S2, 99A, 2012.
166. Roy S, Parwani AV, Dhir R, Yousem SA, Kelly SM, **Pantanowitz L**: Evaluation of communicating frozen section diagnoses with surgeons, United States and Canadian Academy of Pathology (USCAP) 101st Annual Meeting, Vancouver, BC, Canada, *Modern Pathology*, 25, S2, 505A, 2012.
167. Roy S, Smith M, Fusca FA, Burdelski GM, Maglicco D, **Pantanowitz L**, Parwani AV: PathRez - a concept based relational database model for archival and retrieval of static images and virtual slides, United States and Canadian Academy of Pathology (USCAP) 101st Annual Meeting, Vancouver, BC, Canada, *Modern Pathology*, 25, S2, 393A, 2012.
168. Collins R, Parwani AV, Khalbuss WE, Duboy J, **Pantanowitz L**: Effect of pen marking on glass slides for whole slide image scanning, Pathology Informatics 2012 meeting, Chicago, IL, *J Pathol Inform*, 3, 37, S3, 2012.

169. Cucoranu I, Park S, Parwani AV, McHugh G, Cable W, **Pantanowitz L**: Impact of Internet connectivity on international telepathology consultation service, Pathology Informatics 2012 meeting, Chicago, IL, *J Pathol Inform*, 3, 37, S27, 2012.
170. Cucoranu I, Parwani AV, Weinstein R, Ho J, **Pantanowitz L**: Evaluation of 655 patent applications related to digital pathology, Pathology Informatics 2012 meeting, Chicago, IL, *J Pathol Inform*, 3, 37, S14-S15, 2012.
171. Cucoranu I, Piccoli A, Anderson R, Yousem SA, **Pantanowitz L**, Parwani AV, Hartman DJ: QR codes (2D Barcodes) in anatomical pathology reports: proof of concept, Pathology Informatics 2012 meeting, Chicago, IL, *J Pathol Inform*, 3, 37, S27, 2012.
172. Karunamurthy A, Parwani AV, Piccoli A, **Pantanowitz L**: Evaluation of laboratory information system automated systemized nomenclature of medicine (SNOMED) coding, Pathology Informatics 2012 meeting, Chicago, IL, *J Pathol Inform*, 3, 37, S6, 2012.
173. Sinard JH, Henricks WH, Carter AB, Contis L, Beckwith BA, Evans AJ, Otis CN, Fatheree LA, Lal A, Parwani AV, **Pantanowitz L**: Recommendations for validating whole slide imaging for diagnostic purposes in pathology: College of American Pathologists pathology and laboratory quality center, Pathology Informatics 2012 meeting, Chicago, IL, *J Pathol Inform*, 3, 37, S22, 2012.
174. **Pantanowitz L**, Yousem SA, Piccoli A, Parwani AV: Customizing the anatomical pathology laboratory information system (AP-LIS) to enhance clinical workflow, reporting, digital imaging, and patient safety, XXIXth Congress of the International Academy of Pathology (IAP), Cape Town, South Africa, *Histopathology*, 61, s1, 2012.
175. **Pantanowitz L**, Clayton AW, Demetris A, Lauro GR, Cable W, McHugh J, Parwani AV: Telepathology: A decade of experience using multiple platforms, XXIXth Congress of the International Academy of Pathology (IAP), Cape Town, South Africa, *Histopathology*, 61, s1, 2012.
176. Park S, Parwani AV, Duboy J, Macpherson T, Khalbuss WE, Monaco SE, **Pantanowitz L**: Whole slide image teaching sets to support undergraduate and graduate pathology education, XXIXth Congress of the International Academy of Pathology (IAP), Cape Town, South Africa, *Histopathology*, 61, s1, 2012.
177. Kaaka MD, **Pantanowitz L**, Dezube BJ, Michelow P: Fine needle aspiration of lymph nodes in HIV infected patients – results from a large series, XXIXth Congress of the International Academy of Pathology (IAP), Cape Town, South Africa, *Histopathology*, 61, s1, 2012.
178. Weiss KR, Kang JD, Even J, **Pantanowitz L**: Soft tissue Ewing’s sarcoma of the sciatic nerve mimicking lumbar radiculopathy: case report and literature review, Musculoskeletal Tumor Society (MSTS) annual meeting, Tampa, FL, 2012.
179. Barron S, Palekar A, Pascuelle W, **Pantanowitz L**: Fungal osteomyelitis: a novel presentation of *Scopulariopsis* in the transplant setting, College of American Pathologists CAP '12 annual meeting, San Diego, CA, *Arch Path Lab Med*, 136, 9, 1126, 2012.
180. **Pantanowitz L**, Parwani AV, Tseytlin E, Mello-Thoms C: Analysis of slide exploration strategy of cytologists when reading virtual slides. *Proc SPIE*, 8318, 831800:1-10, 2012. <https://doi.org/10.1117/12.912498>
181. Smith M, **Pantanowitz L**, Khalbuss W, Benkovich V, Monaco S: Cytological-histological correlation in indeterminate pediatric thyroid fine needle aspirations: a study of 68 cases, American Society of Cytopathology (ASC) 60th annual scientific meeting, Las Vegas, NV, *J Am Soc Cytopathol*, 1, 1S, S69-70, 2012.
182. Karunamurthy A, Cai G, Dacic S, Khalbuss W, **Pantanowitz L**, Monaco S: Unsatisfactory and suboptimal endobronchial ultrasound-guided fine-needle aspiration (EBUS-FNA) biopsies: follow-up and clinical implications, American Society of Cytopathology (ASC) 60th annual scientific meeting, Las Vegas, NV, *J Am Soc Cytopathol*, 1, 1S, S81, 2012.
183. Benkovich V, Cuda J, Khalbuss W, **Pantanowitz L**, Palekar A, Monaco S: Comparison of cell block preparation using HistoGel and plasma thrombin techniques, American Society of Cytopathology (ASC) 60th annual scientific meeting, Las Vegas, NV, *J Am Soc Cytopathol*, 1, 1S, S114, 2012.
184. Nassar D, Monaco SE, **Pantanowitz L**, Yang H, Khalbuss WE: Cytological-histological correlation of 103 salivary gland FNAs diagnosed as pleomorphic/monomorphic adenoma, American Society of Cytopathology (ASC) 60th annual scientific meeting, Las Vegas, NV, *J Am Soc Cytopathol*, 1, 1S, S73-74, 2012.

185. Benkovich V, Khalbuss W, **Pantanowitz L**, Monaco S: Non-pulmonary malignancies in endobronchial ultrasound guided fine-needle aspirations (EBUS-FNA), American Society of Cytopathology (ASC) 60th annual scientific meeting, Las Vegas, NV, *J Am Soc Cytopathol*, 1, 1S, S81, 2012.
186. **Pantanowitz L**, Nayar R, Auger M, Schmitt F, Wasserman P, Wilbur DC, Khalbuss WE: Evaluation of the International Academy of Cytology (IAC) virtual slide library, Pathology Informatics 2012 meeting, Chicago, IL, *J Pathol Inform*, 3, 37, S7-S8, 2012.
187. **Pantanowitz L**, Khalbuss WE, Tseytlin E, Monaco SE, Zhao C, Cuda J, Parwani AV, Mello-Thoms C: Computer-assisted analysis of cytologists' exploration of whole slide images, Pathology Informatics 2012 meeting, Chicago, IL, *J Pathol Inform*, 3, 37, S21, 2012.
188. Roy S, Cable W, Tseytlin E, Lesniak A, McHugh J, Lauro GR, Yousen S, Michalopoulos G, Parwani AV, **Pantanowitz L**: Customization of a digital pathology consultation portal for clients (**Awarded best presentation for applied informatics and clinical workflow**), Pathology Informatics 2012 meeting, Chicago, IL, *J Pathol Inform*, 3, 37, S46-S47, 2012.
189. Park S, Parwani AV, Yousem S, Wiehagen L, Kelly S, Piccoli A, Losos FJ, Balatincz K, **Pantanowitz L**: Computerized provider/physician order entry in anatomic pathology: a single center experience, Pathology Informatics 2012 meeting, Chicago, IL, *J Pathol Inform*, 3, 37, S49-S50, 2012.
190. Park S, Parwani A, Aller RD, Banach L, Becich MJ, Borckenfeld S, Carter AB, Friedman BA, Rojo MG, Georgiou A, Kayser G, Kayser K, Legg M, Naugler C, Sawai T, Weiner H, Winsten D, **Pantanowitz L**: The history of pathology informatics: a global perspective, Pathology Informatics 2012 meeting, Chicago, IL, *J Pathol Inform*, 3, 37, S18-S19, 2012.
191. Patel T, Park S, Duboy J, Parwani AV, Khalbuss WE, **Pantanowitz L**: Analysis of whole slide imaging (WSI) scan failures, Pathology Informatics 2012 meeting, Chicago, IL, *J Pathol Inform*, 3, 37, S31-S32, 2012.
192. **Pantanowitz L**, Khalbuss WE, Monaco SE, Parwani AV, Mello-Thoms C (**platform presentation**): Computer-assisted analysis of exploration strategies when viewing whole slide images in cytology, American Society of Cytopathology (ASC) 60th annual scientific meeting, Las Vegas, NV, *J Am Soc Cytopathol*, 1, 1S, S7, 2012.
193. **Pantanowitz L**, Yildiz-Aktas I, Khalbuss W, Wan Y, Zhuan Z, Monaco S: Cytomorphology and immunocytochemical profile of HeLa Cells, American Society of Cytopathology (ASC) 60th annual scientific meeting, Las Vegas, NV, *J Am Soc Cytopathol*, 1, 1S, S121-S122, 2012.
194. Gibson S, Monaco SE, Khalbuss WE, Piccarsic J, **Pantanowitz L**: Cerebrospinal fluid (CSF) findings in post-transplant lymphoproliferative disorder (PTLD), American Society of Cytopathology (ASC) 60th annual scientific meeting, Las Vegas, NV, *J Am Soc Cytopathol*, 1, 1S, S17, 2012.
195. Xing J, Monaco S, **Pantanowitz L**, Chen X, Khalbuss W: Cytomorphology and differential diagnosis of malignant neoplastic lesions with small cell morphology in urinary cytology, American Society of Cytopathology (ASC) 60th annual scientific meeting, Las Vegas, NV, *J Am Soc Cytopathol*, 1, 1S, S29-S30, 2012.
196. Woodard A, Jaffe R, Monaco S, Khalbuss W, **Pantanowitz L**: Cytopathology of osseous and non-osseous Langerhans cell histiocytosis, American Society of Cytopathology (ASC) 60th annual scientific meeting, Las Vegas, NV, *J Am Soc Cytopathol*, 1, 1S, S117, 2012.
197. **Pantanowitz L**, Likhtshteyn M, Monaco S, Rubenstein E, Ferguson B: Practice variation in the use of local anesthesia for fine needle aspiration, American Society of Cytopathology (ASC) 60th annual scientific meeting, Las Vegas, NV, *J Am Soc Cytopathol*, 1, 1S, S57, 2012.
198. Li Z, Khalbuss W, Monaco S, Rao U, Palekar A, **Pantanowitz L**: Cytopathology of gout in fluid and aspiration specimens, American Society of Cytopathology (ASC) 60th annual scientific meeting, Las Vegas, NV, *J Am Soc Cytopathol*, 1, 1S, S117, 2012.
199. Rollins-Raval MA, Monaco SE, Khalbuss WE, **Pantanowitz L**: Evaluation of myeloid leukemic effusions in cytopathology, United States & Canadian Academy of Pathology's 102nd Annual Meeting, Baltimore, MD, *Modern Pathology*, 26, S2, 101A, 2013.
200. Anani W, Roy S, Amin M, Rao U, **Pantanowitz L**, Parwani A: When worlds collide: a series of genitourinary collision tumors, United States & Canadian Academy of Pathology's 102nd Annual Meeting, Baltimore, MD, *Modern Pathology*, 26, S2, 194A, 2013.

201. Wiehagen LT, Wall RD, Kelly SM, Yousem SA, Piccoli AL, Green AA, Parwani AV, **Pantanowitz L**, Navina S: Institution of 24 hour histology processing and the impact on turn-around time, United States & Canadian Academy of Pathology's 102nd Annual Meeting, Baltimore, MD, *Modern Pathology*, 26, S2, 488A, 2013.
202. Wiehagen LT, Kelly SM, Murdoch GH, Piccoli AL, Yousem SA, **Pantanowitz L**, Parwani AV, Seethala RR: Impact of streamlined adverse event entry, United States & Canadian Academy of Pathology's 102nd Annual Meeting, Baltimore, MD, *Modern Pathology*, 26, S2, 488A-489A, 2013.
203. D'Haene N, Maris C, Rorive S, Lopez SM, Rostang J, Marchessoux C, **Pantanowitz L**, Parwani AV, Salmon I: Comparison study of five different display modalities for whole slide images in surgical pathology and cytopathology in Europe, SPIE (Society of Photo-Optical Instrumentation Engineers) Medical Imaging meeting, Lake Buena Vista, FL, 2013.
204. Wang T, Weiss K, Rao U, **Pantanowitz L**: Leiomyosarcoma in replanted extremity 24 years later, College of American Pathologists (CAP) meeting, Orlando, FL, *Arch Pathol Lab Med*, 137, 10, 1496, 2013.
205. Wang T, Monaco SE, **Pantanowitz L**: Fine-needle aspiration of hepatic angiosarcoma with exaggerated intracellular inclusion bodies, College of American Pathologists (CAP) meeting, Orlando, FL, *Arch Pathol Lab Med*, 137, 10, 1491, 2013.
206. Serdy K, Parwani A, Palekar A, Hrebinko R, **Pantanowitz L**: Bilateral giant scrotal lipomatosis: a case report and literature review, College of American Pathologists (CAP) meeting, Orlando, FL, *Arch Pathol Lab Med*, 137, 10, 1419, 2013.
207. **Pantanowitz L**, Lesniak A, Ho J, Aridor O, Anthony L, Parwani AV: Key technical features to review and compare when selecting a whole slide imaging system for diagnostic pathology use, Pathology Visions meeting, San Antonio, TX, 2013.
208. **Pantanowitz L**, Sinard JH, Fatheree LA, Henricks WH, Carter AB, Contis L, Beckwith BA, Evans AJ, Otis CN, Parwani AV: Facts and FAQs on CAP WSI validation guidelines (**Awarded best clinical poster**), Pathology Visions meeting, San Antonio, TX, 2013.
209. Cucoranu IC, Parwani AV, Srinivasan M, Duboy J, **Pantanowitz L**: Impact of whole slide image integrity on image analysis, American Society of Clinical Pathology (ASCP) annual meeting, Chicago, IL, 2013.
210. Cucoranu IC, Yousem SA, Lauro GR, Cable W, McHugh J, Parwani AV, **Pantanowitz L**: Evaluation of a web-based telepathology consultation service platform, United States & Canadian Academy of Pathology's 102nd Annual Meeting, Baltimore, MD, *Modern Pathology*, 26, S2, 377A, 2013.
211. Cucoranu IC, Yousem SA, Piccoli A, Parwani AV, **Pantanowitz L**: Customizing anatomical pathology laboratory information system (AP-LIS) tools to augment laboratory workflow, reporting, and patient safety, United States & Canadian Academy of Pathology's 102nd Annual Meeting, Baltimore, MD, *Modern Pathology*, 26, S2, 377A, 2013.
212. Saylor C, Lesniak D, **Pantanowitz L**, Duboy J, Aridor O, Anthony L, Lancia N, Ho J, Parwani AV, Evaluation of whole slide imaging systems prior to establishing a model digital pathology network for the air force medical service: methods and selection criteria, United States & Canadian Academy of Pathology's 102nd Annual Meeting, Baltimore, MD, *Modern Pathology*, 26, S2, 382A, 2013.
213. Amin M, McHugh J, Harper T, Duboy J, **Pantanowitz L**, Parwani AV: Implementation of a pathology teaching website with integrated whole slide imaging for greater compatibility with tablets/smartphones, United States & Canadian Academy of Pathology's 102nd Annual Meeting, Baltimore, MD, *Modern Pathology*, 26, S2, 375A-376A, 2013.
214. Li Z, Dacic S, **Pantanowitz L**, Khalbuss W, Monaco SE: Correlation of cytomorphology and molecular findings in *EGFR*, *KRAS*, and *ALK*-positive lung carcinomas (**Awarded 2nd prize by the Pulmonary Pathology Society**), United States & Canadian Academy of Pathology's 102nd Annual Meeting, Baltimore, MD, *Modern Pathology*, 26, S2, 458A, 2013.
215. Anani W, Piccoli A, **Pantanowitz L**, Parwani A: Standardized checklist/synoptic tool for reporting of uropathology neoplasms: implementation and experience with 6885 resected specimens, United States & Canadian Academy of Pathology's 102nd Annual Meeting, Baltimore, MD, *Modern Pathology*, 26, S2, 376A, 2013.
216. Jaradat J, Bilodeau EA, Manos S, Monaco SE, Summersgill KF, **Pantanowitz L**: Utility of oral cytology in the evaluation of candidiasis, American Society of Cytopathology (ASC) 61st annual meeting, Orlando, FL, 2013.

217. Silowash R, **Pantanowitz L**, Craig F, Monaco SE: Analysis of flow cytometry results in reactive-appearing pediatric fine needle aspiration biopsies, American Society of Cytopathology (ASC) 61st annual meeting, Orlando, FL, 2013.
218. Li Z, Khalbuss WE, **Pantanowitz L**, Monaco SE: Cytomorphologic, immunohistochemical and molecular features of poorly differentiated non-small cell lung carcinomas, American Society of Cytopathology (ASC) 61st annual meeting, Orlando, FL, 2013.
219. Rodriguez E, Dacic S, Khalbuss WE, **Pantanowitz L**, Monaco SE, Cytopathology of pulmonary adenocarcinomas with a single histological pattern, American Society of Cytopathology (ASC) 61st annual meeting, Orlando, FL, 2013.
220. Rodriguez E, Khalbuss WE, Monaco SE, Lale S, **Pantanowitz L**: Cytopathology of pulmonary sarcomas: a study of 40 cases with histologic comparison, American Society of Cytopathology (ASC) 61st annual meeting, Orlando, FL, 2013.
221. Col Pelletier JP, Col Smith DB, Col Selby DM, Maj Green E, Capt Rickard K, Maj Newberry J, Col Stokes G, Aridor O, Anthony L, **Pantanowitz L**, Ho J, Parwani AV: Introduction of digital pathology to AFMS: design and implementation of a model network, Association of Military Surgeons of the United States (AMSUS) 118th annual meeting, Seattle, WA, 2013.
222. Trejo Bittar HE, Monaco SE, **Pantanowitz L**: Role of surfactant protein A in identifying metastatic tumors of lung origin in cytopathology samples, American Society of Cytopathology (ASC) 61st annual meeting, Orlando, FL, *Arch Pathol Lab Med*, 137, 10, 1375, 2013.
223. Radkay L, Roth C, Monaco SE, Khalbuss WE, **Pantanowitz L**: Lyme disease: diagnostic pitfall for B-cell lymphoma in CSF cytology, College of American Pathologists (CAP) meeting, Orlando, FL, *Arch Pathol Lab Med*, 137, 10, 1460, 2013.
224. Theisen BK, Yousem SA, Monaco SE, Beasley HS, Dunn JA, **Pantanowitz L**: Fine-needle aspiration diagnosis of lung masses caused by granulomatous pneumocystosis, College of American Pathologists (CAP) meeting, Orlando, FL, *Arch Pathol Lab Med*, 137, 10, 1467, 2013.
225. Collins R, Khalbuss WE, Rao U, Palekar A, Monaco SE, **Pantanowitz L**: Cytopathology of parachordoma: a rare and enigmatic soft tissue neoplasm, College of American Pathologists (CAP) meeting, Orlando, FL, *Arch Pathol Lab Med*, 137, 10, 1459-1460, 2013.
226. **Pantanowitz L**, Yousem S, Piccoli A, Roy S, Kelly S, Wiehagen L, Parwani AV: Evaluation of comprehensive theranostic reporting in Anatomic Pathology, College of American Pathologists (CAP) meeting, Orlando, FL, *Arch Pathol Lab Med*, 137, 10, 1522, 2013.
227. Smith MA, Parwani AV, Harper T, Yousem SA, Kelly SM, Duboy J, Wiehagen LT, **Pantanowitz L**: Virtual anatomic pathology intraoperative consultation proficiency portal, College of American Pathologists (CAP) meeting, Orlando, FL, *Arch Pathol Lab Med*, 137, 10, 1506, 2013.
228. Smith MA, **Pantanowitz L**, Hyman R, Parwani AV, Schmeider K, Virji MA: Whose tube is it anyway? Multisite, variable setting, implementation of intelligent collection management and the effects on mislabeling rates, *Arch Pathol Lab Med*, 137, 10, 1508, 2013.
229. **Pantanowitz L**, Navina S, Cressman K, Monaco SE: Diagnostic utility of Merkel Cell Polyomavirus monoclonal antibody CM2B4 in fine needle aspiration material, American Society of Cytopathology (ASC) 61st annual meeting, Orlando, FL, 2013.
230. Dwyer J, Monaco SE, Ogori NP, Pai R, Brand R, **Pantanowitz L (platform presentation)**: Utility of endoscopic ultrasound-guided procure in sampling solid intra-abdominal masses, American Society of Cytopathology (ASC) 61st annual meeting, Orlando, FL, 2013.
231. Cuda J, Monaco SE, Ferguson BJ, Lichtenstyn M, **Pantanowitz L**: Deleterious effects of in vitro lidocaine on cell cytomorphology, American Society of Cytopathology (ASC) 61st annual meeting, Orlando, FL, 2013.
232. D'Haene N, Maris C, Rorive S, Lopez XM, Rostang J, Marchessoux C, **Pantanowitz L**, Cucoranu I, Parwani AV, Salmon I: Comparison study of five different display modalities for whole slide images in surgical pathology and cytopathology in Europe, Society of Photographic Instrumentation Engineer (SPIE) Medical Imaging meeting, San Diego, CA, 2014.
233. Cucoranu I, Parwani AV, Monaco SE, Khalbuss WE, Mello-Thoms C, Duboy J, Ahmed I, Espig K, Xthona A, **Pantanowitz L**: Impact of monitor display configuration on digital pathology diagnosis (**Awarded best**

- poster by the Association of Pathology Informatics), United States & Canadian Academy of Pathology (USCAP) 103rd Annual Meeting, San Diego, CA, 2014.**
234. Hartman DJ, Yousem SA, Parwani AV, Cucoranu IC, Kolowitz B, Cable W, Vijaykumar P, Von Reden A, Sloka Stephen, McHugh J, Romero Lauro GR, Ahmed I, **Pantanowitz L**: Development and implementation of an iPhone application (Pocket Pathologist) to facilitate rapid diagnostic pathology consultation, United States & Canadian Academy of Pathology (USCAP) 103rd Annual Meeting, San Diego, CA, 2014.
 235. Roy S, Monaco SE, **Pantanowitz L**, Khalbuss W: Tumor recurrence in neobladder - urine cytology findings with long-term follow-up, United States & Canadian Academy of Pathology (USCAP) 103rd Annual Meeting, San Diego, CA, 2014.
 236. Syed M, Ahmed I, Parwani A, Saylor C, Nine J, Balatincz K, McHugh J, Kolowitz B, Taylor J, Michalopoulos G, **Pantanowitz L**: Applications of google glass [GLASS™] in Anatomical Pathology, United States & Canadian Academy of Pathology (USCAP) 103rd Annual Meeting, San Diego, CA, 2014.
 237. Singhal RL, Monaco SE, **Pantanowitz L**: Fine needle aspiration experience in cases of myeloid sarcoma, United States & Canadian Academy of Pathology (USCAP) 103rd Annual Meeting, San Diego, CA, 2014.
 238. Gibson SE, Picarsic J, Swerdlow SH, **Pantanowitz L**: Role of Epstein-Barr virus (EBV) status and immunophenotypic studies in the evaluation of exfoliative cytology specimens from patients with post-transplant lymphoproliferative disorders (PTLD), United States & Canadian Academy of Pathology (USCAP) 103rd Annual Meeting, San Diego, CA, 2014.
 239. Amin M, Parwani AV, Roy S, **Pantanowitz L**: Utility of non-medical voice recognition software for transcription of pathology reports, United States & Canadian Academy of Pathology (USCAP) 103rd Annual Meeting, San Diego, CA, 2014.
 240. Bures N, **Pantanowitz L**, Monaco SE: Fine needle aspiration cytology in pediatric bone and soft tissue spindle cell lesions, United States & Canadian Academy of Pathology (USCAP) 103rd Annual Meeting, San Diego, CA, 2014.
 241. **Pantanowitz L**: Validation of whole slide imaging in pathology. *Analytical Cellular Pathology*, 2014, 476854, 2014. <http://www.hindawi.com/journals/acp/2014/476854/abs/>
 242. **Pantanowitz L**, McHugh J, Cable W, Zhao C, Parwani AV: Image file management to support international telepathology, *Analytical Cellular Pathology*, 2014, 913423, 2014. <http://dx.doi.org/10.1155/2014/913423>
 243. Hassell LA, Soenksen D, Stratman C, Chlipala E, **Pantanowitz L**: *Frontiers in Pathology: Digital Pathology. Pathology*, 46, S2, S16, 2014.
 244. Parwani AV, Anthony L, Bond CR, Ho J, **Pantanowitz L**, Glinski D, Aridor O, Smith DB: Challenges developing a model digital pathology network in a major military healthcare environment, Association for Pathology Informatics (API) summit, Pittsburgh, PA, *J Pathol Inform*, 5, S22, 2014.
 245. Parwani AV, Glinski D, Aridor O, **Pantanowitz L**, Anthony L, Ho J: Diagnostic differences between glass slide and digital slide image evaluation: a morphological feature based study, Association for Pathology Informatics (API) summit, Pittsburgh, PA, *J Pathol Inform*, 5, S41-S42, 2014.
 246. Syed M, Parwani AV, Khalbuss W, Arya P, Ahmed I, Cocoranu I, Cuda J, **Pantanowitz L**: VisionTek® live robotic digital telecytology validation at UPMC, Association for Pathology Informatics (API) summit, Pittsburgh, PA, *J Pathol Inform*, 5, S25-S26, 2014.
 247. Syed M, Ahmed I, Parwani AV, Anderson R, Balatincz K, Hartman D, Roy S, **Pantanowitz L**: Evaluation of the SPOT PathStation2 for gross telepathology, Association for Pathology Informatics (API) summit, Pittsburgh, PA, *J Pathol Inform*, 5, S24-S25, 2014.
 248. Syed M, Giglioti A, Sendek M, Parwani AV, **Pantanowitz L**: Mapping LOINC codes: the UPMC experience, Association for Pathology Informatics (API) summit, Pittsburgh, PA, *J Pathol Inform*, 5, S44, 2014.
 249. Cable W, **Pantanowitz L**, Maglicco D, Mitchell R, McHugh J, Parwani AV, Contis L: HemaVue: a web-based tool for clinician access to digital peripheral blood smears, Association for Pathology Informatics (API) summit, Pittsburgh, PA, *J Pathol Inform*, 5, S28, 2014.
 250. Smith MA, Monaco SE, Weinberg J, Parwani AV, **Pantanowitz L**: Utilization of computerized physician order entry (CPOE) and electronic medical record (EMR) in-patient documentation to improve fine needle aspiration service, Association for Pathology Informatics (API) summit, Pittsburgh, PA, *J Pathol Inform*, 5, S42-S43, 2014.

251. Felgar RE, Roth CG, Piccoli A, Freilino K, Nauman KJ, Nauman RA, Fitzgerald M, **Pantanowitz L**, Parwani AV, Swerdlow SH: Development of an informatics tracking solution to enhance flow cytometric specimen processing, Association for Pathology Informatics (API) summit, Pittsburgh, PA, *J Pathol Inform*, 5, S9-S10, 2014.
252. Hartman DJ, Roy S, **Pantanowitz L**, Amin M, Seethala RR, Ahmed I, Yousem SA, Parwani A, Cucoranu I: Smartphone adapters for digital photomicrography, Association for Pathology Informatics (API) summit, Pittsburgh, PA, *J Pathol Inform*, 5, S37-S38, 2014.
253. Yeh F, Parwani AV, **Pantanowitz L**, Ho C, Automated grading of renal cell carcinoma using whole slide imaging, Association for Pathology Informatics (API) summit, Pittsburgh, PA, *J Pathol Inform*, 5, S26-S27, 2014.
254. Monaco SE, Ahmed I, **Pantanowitz L**, MacPherson T, Khalbuss WE: Teleconferencing to support training programs with multiple sites, 13th annual GME Leadership Conference, University of Pittsburgh Medical Center, Pittsburgh, PA, 2014.
255. Kimpe T, Rostang J, Avanski A, Espig K, Xthona A, Cucoranu I, Parwani AV, **Pantanowitz L**: Does the choice of display system influence perception and visibility of clinically relevant features in digital pathology images? Society of Photographic Instrumentation Engineer (SPIE) Medical Imaging meeting, San Diego, CA, 2014.
256. Maldjian C, **Pantanowitz L**, Kofler JK, Klein MJ: Intraosseous hibernoma (platform), International Skeletal Society (ISS), Edinburgh, Scotland, 2014.
257. Trejo Bittar HE, Dacic S, **Pantanowitz L**: Detection of Merkel Cell Polyomavirus in lung adenocarcinomas: role of immunohistochemistry, College of American Pathologists (CAP) annual meeting, Chicago, IL, *Arch Pathol Lab Med*, 138, e2-e183, 2014.
258. Silowash R, **Pantanowitz L**, Monaco SE: Proximal-type epithelioid sarcoma with angiomatoid features presenting as a prevertebral mass, College of American Pathologists (CAP) annual meeting, Chicago, IL, *Arch Pathol Lab Med*, 138, e2-e183, 2014.
259. Patadji SD, Palekar A, **Pantanowitz L**: Histopathology of Lemierre Syndrome, College of American Pathologists (CAP) annual meeting, Chicago, IL, *Arch Pathol Lab Med*, 138, e2-e183, 2014.
260. Parwani AV, Lesniak D, Aridor O, Ho J, **Pantanowitz L**: A valuable toolkit for selecting a whole slide imaging system for diagnostic pathology use: key technical features to consider, College of American Pathologists (CAP) annual meeting, Chicago, IL, *Arch Pathol Lab Med*, 138, e2-e183, 2014.
261. Jain S, Palekar A, Monaco SE, Craig F, Bejjani G, **Pantanowitz L**: HIV-associated primary effusion lymphoma: an exceedingly rare entity in the cerebrospinal fluid, College of American Pathologists (CAP) annual meeting, Chicago, IL, *Arch Pathol Lab Med*, 138, e2-e183, 2014.
262. **Pantanowitz L**, Smith DB, Ho J, Anthony L, Aridor O, Glinski D, Pelletier JP, Selby DM, Green E, Rickard K, Newberry J, Stokes G, Parwani AV: Design, implementation, and evaluation of a model telepathology network for the Air Force Medical Service (AFMS), American Telemedicine Association (ATA), Baltimore, MD, *Telemedicine and e-Health*, 20, 5, A-1-A-144, 2014.
263. Zhao C, Wu T, Ding X, Parwani AV, Chen H, Lauro GR, Feng X, Wu S, Yousem S, **Pantanowitz L**: International telepathology consultation: two years of experience between the University of Pittsburgh Medical Center (UPMC) and Kingmed (China), Association for Pathology Informatics (API) summit, Pittsburgh, PA, *J Pathol Inform*, 5, S33-S34, 2014.
264. Tseytlin E, Cable W, Parwani AV, **Pantanowitz L**: WSI ZoomViewer: a vendor neutral HTML5 whole slide imaging viewer, Association for Pathology Informatics (API) summit, Pittsburgh, PA, *J Pathol Inform*, 5, S14-S15, 2014.
265. Roy S, Mitchell R, Burdelski G, McHugh J, Zhong S, Nauman K, Nikiforova MN, Nikiforov YE, Parwani AV, **Pantanowitz L**: Informatics infrastructure requirements for clinical next generation sequencing (NGS): challenges and solutions (**Best platform short abstract winner**), Association for Pathology Informatics (API) Summit, Pittsburgh, PA, *J Pathol Inform*, 5, S13-S14, 2014.
266. Roy S, Duboy, Ahmed I, Dhir R, Parwani AV, **Pantanowitz L**: Pros and cons of using digital pathology for genitourinary tumor board, Association for Pathology Informatics (API) summit, Pittsburgh, PA, *J Pathol Inform*, 5, S23, 2014.

267. Syed M, Nine J, Ahmed I, Parwani AV, Saylor C, McHugh J, Kolowitz B, Taylor J, Machalopoulos G, **Pantanowitz L**: Applications of Google Glass [GLASS™] in autopsy pathology (**Awarded best laboratory informatics ePoster**), Association for Pathology Informatics (API) summit, Pittsburgh, PA, *J Pathol Inform*, 5, S43-S44, 2014.
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- photomicrographs, Association for Pathology Informatics (API) Summit and World Congress on Pathology Informatics (WCPI), Pittsburgh, PA, *J Pathol Inform*, 6, 24, S7, 2015.
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322. Marchessoux C, Dufour AN, Espig K, Monaco S, Palekar A, **Pantanowitz L (oral presentation)**: Comparison of display resolution on user impact for digital pathology, 13th European Congress on Digital Pathology (ECDP 2016), Berlin, Germany, 2016.
323. Berg AN, Monaco SE, Cuda J, Dhir R, Hrebinko RL, **Pantanowitz L**: Utility of fine needle aspiration and core needle biopsy to pre-operatively assess renal lesions, United States & Canadian Academy of Pathology (USCAP) 105th Annual Meeting, Seattle, WA, *Modern Pathology*, 29, s2, 91A, 2016.
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333. Pham HV, **Pantanowitz L**, Liu Y: Quantitative phase imaging to improve the diagnostic accuracy of urine cytology, Pathology Informatics summit, Pittsburgh, PA, *J Pathol Inform*, 7, S26-S27, 2016.
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340. Hartman DJ, Pradhan D, **Pantanowitz L**, Duboy L: How does digital magnification on different whole slide scanners affect the assessment of gastric biopsies for *Helicobacter pylori*? Pathology Informatics summit, Pittsburgh, PA, *J Pathol Inform*, 7, S31-S32, 2016.
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342. Monaco S, Xing J, **Pantanowitz L**: Credentialing criteria for pathologists to obtain privileges to perform ultrasound guided fine needle aspiration, American Society of Cytopathology (ASC) 64th annual scientific meeting, New Orleans, LA, *J Am Soc Cytopathol*, 5, 5, S15, 2016.
343. Dante K, Monaco S, Xing J, Palekar A, **Pantanowitz L**: Fine needle aspiration of malignant mesothelioma presenting as localized tumors, American Society of Cytopathology (ASC) 64th annual scientific meeting, New Orleans, LA, *J Am Soc Cytopathol*, 5, 5, S17, 2016.
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346. Xing J, Seigh L, Monaco S, Ohori NP, Yousem S, Amin R, **Pantanowitz L**: Critical diagnoses in cytopathology: experience at a large medical center, American Society of Cytopathology (ASC) 64th annual scientific meeting, New Orleans, LA, *J Am Soc Cytopathol*, 5, 5, S62-S63, 2016.
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348. Griffith C, Schmitt A, **Pantanowitz L**, Monaco S (**platform presentation**): A pattern based risk stratification scheme for salivary gland cytology: a multi-institutional interobserver variability study to determine clinical applicability, American Society of Cytopathology (ASC) 64th annual scientific meeting, New Orleans, LA, *J Am Soc Cytopathol*, 5, 5, S86, 2016.

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350. Heayn M, Pearce T, **Pantanowitz L**, Macpherson T, Fine J: A web-based tool to facilitate self-assessment in pathology informatics training via Pathology Informatics Essentials for Residents (PIER) checklists, College of American Pathologists (CAP) meeting, Las Vegas, NV, *Abstracts and Case Studies From the College of American Pathologists 2016 Annual Meeting (CAP16)*, *Arch Pathol Lab Med*, 140, 9, e2-e244, 2016.
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353. Hartman D, Ahmed I, **Pantanowitz L (platform presentation)**: UPMC experience using smartphones for pathology teleconsultation, European Telemedicine Conference, Oslo, Norway, 2016.
354. Cuda J, Seigh L, Clark K, Monaco S, **Pantanowitz L (platform presentation)**: Utilizing computerized provider order entry (CPOE) to reduce the "Garbage In, Garbage Out" effect in the cytology laboratory, American Society of Cytopathology (ASC) 64th annual scientific meeting, New Orleans, LA, *J Am Soc Cytopathol*, 5, 5, S85, 2016.
355. Hanna M, Contis L, **Pantanowitz L**: Sharing CellaVision blood smear images with clinicians via the electronic medical record, Pathology Informatics summit, Pittsburgh, PA, *J Pathol Inform*, 8, 26, 2017.
356. Hanna M, Clifford B, **Pantanowitz L**: PathXL in an academic hospital setting: lessons of implementation, Pathology Informatics summit, Pittsburgh, PA, *J Pathol Inform*, 8, 26, 2017.
357. Hanna M, **Pantanowitz L**, Hartman D: Federated laboratory information systems trending away from the tower of Babel, Pathology Informatics summit, Pittsburgh, PA, *J Pathol Inform*, 8, 26, 2017.
358. Lopez-Nunez O, Chen CP, Clifford B, **Pantanowitz L**, Picarsic J: Optimizing a pediatric pathology digital slide teaching set with PathXL Tutor software as an educational tool for pathology training, Pathology Informatics summit, Pittsburgh, PA, *J Pathol Inform*, 8, 26, 2017.
359. Lopez-Nunez OL, **Pantanowitz L**, Monaco SE: Diagnosis of ectopic intrathyroidal thymic tissue by fine needle aspiration biopsy in pediatric patients, Pennsylvania Association of Pathologists annual scientific meeting, Harrisburg, PA, 2017.
360. Dantey K, Cuda J, Monaco SE, Xing J, Nestler R, **Pantanowitz L**: Utility of cell block preparation in urine cytology, United States & Canadian Academy of Pathology (USCAP) 106th Annual Meeting, San Antonio, TX, *Modern Pathology*, 30, s2, 92A, 2017.
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364. Hartman D, Piccoli A, Yousem A, Hanna M, **Pantanowitz L**: Advanced decision support for anatomic pathology laboratory information systems, United States & Canadian Academy of Pathology (USCAP) 106th Annual Meeting, San Antonio, TX, *Modern Pathology*, 30, s2, 397A, 2017.

365. Farahani N, Tasal H Jutt D, Braun A, Huffman T, **Pantanowitz L**: Three-dimensional imaging, scanners, and additive manufacturing: applications for pathology, Pathology Visions annual meeting, San Diego, CA, *J Pathol Inform*, 8, 46, 2017
366. Hanna M, **Pantanowitz L**: Portable, hands-free augmented reality solutions for diagnostic disciplines (**SIIM Innovation Challenge project semi-finalist**), Annual meeting of the Society for Imaging Informatics in Medicine (SIIM), Pittsburgh, PA, 2017.
367. Hanna M, Tseytlin E, Chavan G, Habib M, **Pantanowitz L**, Jacobson RS: Rapid Radiology-Pathology correlation using the TIES NLP system with manual abstraction tools, Annual meeting of the Society for Imaging Informatics in Medicine (SIIM), Pittsburgh, PA, 2017.
368. Hanna M, Worrell S, Fine J, Ahmed I, **Pantanowitz L**: Pathology specimen radiograph co-registration using the HoloLens improves physician assistant workflow, Annual meeting of the Society for Imaging Informatics in Medicine (SIIM), Pittsburgh, PA, 2017.
369. Hanna M, Xing J, Monaco SE, Hartman D, **Pantanowitz L**: Evaluation of diagnostic concordance between manual mitotic figure counting on glass slides versus whole slide images, Pathology Informatics summit, Pittsburgh, PA, *J Pathol Inform*, 8, 26, 2017.
370. Hanna M, **Pantanowitz L**: Comparison of different digital image resolutions for identifying acid fast bacilli, Pathology Informatics summit, Pittsburgh, PA, *J Pathol Inform*, 8, 26, 2017.
371. Hanna M, Duboy J, **Pantanowitz L**: Whole slide image file integrity: A 10-year look back at archival images, Pathology Informatics summit, Pittsburgh, PA, *J Pathol Inform*, 8, 26, 2017.
372. Hanna M, Ahmed I, He F, Lo H, **Pantanowitz L**: Value of sharing pathology educational digital slides on social media, Pathology Informatics summit, Pittsburgh, PA, *J Pathol Inform*, 8, 26, 2017.
373. Hanna M, Kolowitz B, **Pantanowitz L**: Feasibility of converting and viewing whole slide images in DICOM format, Pathology Informatics summit, Pittsburgh, PA, *J Pathol Inform*, 8, 26, 2017.
374. Hanna M, **Pantanowitz L**: Utility of Google image search for diagnostic surgical pathology, Pathology Informatics summit, Pittsburgh, PA, *J Pathol Inform*, 8, 26, 2017.
375. Hanna M, **Pantanowitz L**: Whole Slide Imaging (WSI) and Microsoft HoloLens: A comparison of WSI viewers, Pathology Informatics summit, Pittsburgh, PA, *J Pathol Inform*, 8, 26, 2017.
376. Hanna M, Cuda J, Monaco SE, Xing J, Ahmed I, **Pantanowitz L**: Proposed criteria for Rapid On-Site Evaluation (ROSE) telecytology validation: The UPMC experience, Pathology Informatics summit, Pittsburgh, PA, *J Pathol Inform*, 8, 26, 2017.
377. Hanna M, **Pantanowitz L**, Hartman DJ: Standardized playscripts for digital pathology vendor demonstrations, Pathology Informatics summit, Pittsburgh, PA, *J Pathol Inform*, 8, 26, 2017.
378. Hanna M, Ahmed I, **Pantanowitz L**: Recorded pathology didactic lectures for global online distribution: A 12-year experience, Pathology Informatics summit, Pittsburgh, PA, *J Pathol Inform*, 8, 26, 2017.
379. Garcia C, Hanna M, Contis L, **Pantanowitz L**, Hyman R, Sharing Cellavision blood smear images with clinicians via the electronic medical record, American Society of Hematology (ASH) 59th annual meeting, Atlanta, GA, *Blood*, 10, 5586, 2017.
380. Varley K, Mosley B, Hanna M, **Pantanowitz L**, Clifford B: Cytotechnology student education enhancement through the implementation of PathXL™ Tutor software as a solution for digital cytomorphology training, American Society of Cytopathology (ASC) 65th annual scientific meeting, Phoenix, AZ, *J Am Soc Cytopathol*, 6, 5, S5, 2017.
381. Xing J, Cuda J, **Pantanowitz L**, Monaco SE: The Paris system for reporting urinary cytology is helpful to reduce atypical diagnoses: an institution experience, American Society of Cytopathology (ASC) 65th annual scientific meeting, Phoenix, AZ, *J Am Soc Cytopathol*, 6, 5, S14, 2017.
382. Monaco SE, **Pantanowitz L**, Xing J: Utility of The Paris system for reporting urinary cytology in upper urinary tract specimens, American Society of Cytopathology (ASC) 65th annual scientific meeting, Phoenix, AZ, *J Am Soc Cytopathol*, 6, 5, S15, 2017.
383. Mosquera-Zamudio A, Hanna M, Monaco S, Xing J, Harper T, Zhao C, **Pantanowitz L**: International telecytology feasibility using digitally scanned cell block slides, American Society of Cytopathology (ASC) 65th annual scientific meeting, Phoenix, AZ, *J Am Soc Cytopathol*, 6, 5, S53, 2017.

384. Hanna M, Cuda J, Monaco S, **Pantanowitz L**: Should cytology workload limits be adjusted when screening digital cytology slides, American Society of Cytopathology (ASC) 65th annual scientific meeting, Phoenix, AZ, *J Am Soc Cytopathol*, 6, 5, S59, 2017.
385. **Pantanowitz L**, Xing J, Monaco S: Troublesome touches: cytomorphological artifacts and problems encountered with touch preparations, American Society of Cytopathology (ASC) 65th annual scientific meeting, Phoenix, AZ, *J Am Soc Cytopathol*, 6, 5, S62-S63, 2017.
386. Monaco SE, Cuda J, DeFrances M, **Pantanowitz L**: Providing feedback to trainees on cytology diagnostic skills using CoPath correlation reports, American Society of Cytopathology (ASC) 65th annual scientific meeting, Phoenix, AZ, *J Am Soc Cytopathol*, 6, 5, S4-S5, 2017.
387. Jo V, Krane JF, **Pantanowitz L**, Monaco SE: HPV-associated neuroendocrine carcinomas of the head and neck in fine needle aspiration cytology, USCAP 107th Annual Meeting, Vancouver, British Columbia, Canada, 2018.
388. Patadji S, Monaco SE, **Pantanowitz L**, Yatsenko S: The role of cytology in resolving issues related to which large B-Cell lymphoma should have fluorescent in situ hybridization studies performed to identify high grade B-cell lymphomas, USCAP 107th Annual Meeting, Vancouver, British Columbia, Canada, 2018.
389. Roy S, Nikiforov Y, Nikiforova M, **Pantanowitz L**: Low-cost compute cluster for production-grade molecular informatics applications - is it realistic, USCAP 107th Annual Meeting, Vancouver, British Columbia, Canada, 2018.
390. Syed S, Srinivasan M, Dhir R, **Pantanowitz L**: Impact of inter- and intra-scanner variability on image analysis, USCAP 107th Annual Meeting, Vancouver, British Columbia, Canada, 2018.
391. **Pantanowitz L**, Cuda J, Clark K, Monaco SE, Cytology specimen collection containers that may cause mucin-like contamination, USCAP 107th Annual Meeting, Vancouver, British Columbia, Canada, 2018.
392. Upadhyay S, **Pantanowitz L**, Wiley C: A new era for intraoperative neuro-telepathology: impact of migrating to LV1 from Zeiss, Pathology Informatics Summit, Pittsburgh, PA, *J Pathol Inform*, 9, 50, S35-S36, 2018.
393. Hartman DJ, **Pantanowitz L**, Farahani N: Whole-tissue phenotyping via three-dimensional reconstruction of human gastrointestinal tissues, Pathology Informatics Summit, Pittsburgh, PA, *J Pathol Inform*, 9, 50, S22, 2018.
394. Pradham D, Liu Y, **Pantanowitz L**: Evaluation of quantitative phase imaging (QPI) compared to urovysion for urine cytology, Pathology Informatics Summit, Pittsburgh, PA, *J Pathol Inform*, 9, 50, S43, 2018.
395. Qi Y, Monaco SE, Xing J, **Pantanowitz L**: Determination of appropriate urine volume cut-off values for cytology adequacy, USCAP 107th Annual Meeting, Vancouver, British Columbia, Canada, 2018.
396. **Pantanowitz L**, Picarsic J, Duboy J, Fine J, Hartman J: Effect of dedicated cytology protocol setting for scanning ThinPrep slides, Pathology Informatics Summit, Pittsburgh, PA, *J Pathol Inform*, 9, 50, S42-S43, 2018.
397. Hartman DJ, Picarsic J, Fine J, **Pantanowitz L**: Time and motion study for single sign-on solution (Caradigm) in two subspecialty practices, Pathology Informatics Summit, Pittsburgh, PA, *J Pathol Inform*, 9, 50, S31, 2018.
398. **Pantanowitz L**, Allen E, Callenberg K, Sanghvi A, Monaco SE, Xing J, Kolowitz B: Community crowdsourcing tool to expedite annotations for deep learning in pathology, Pathology Informatics Summit, Pittsburgh, PA, *J Pathol Inform*, 9, 50, S14, 2018.
399. Mosquera-Zamudio A, Arias-Stella JA, Madrigal E, Ugale CL, Herrá Díaz de la Espina I, Ugale J, Spinelli O, Saieg M, Parra-Medina R, Toro P, de Toro G, Hernandez-Prera J, Rivas Lemus DV, Jaramillo Plazas D, Hanna M, **Pantanowitz L**: Update from Latin America (LATAM) in the era of digital pathology, Pathology Informatics Summit, Pittsburgh, PA, *J Pathol Inform*, 9, 50, S40-S41, 2018.
400. Picarsic J, Hartman D, Fine J, Wiley C, Ahmed I, **Pantanowitz L**: Real-time sharing of digital intraoperative telepathology consultations with surgeons, Pathology Informatics Summit, Pittsburgh, PA, *J Pathol Inform*, 9, 50, S16-S17, 2018.
401. Fraggetta F, **Pantanowitz L**: Going fully digital: three years experience at Cannizzaro hospital in Italy, European Conference of Digital Pathology (ECDP) Congress, Helsinki, Finland, 06/2018.

402. Fraggetta F, Garcia Rojo M, Baidoshvili A, Yagi Y, Evans AJ, Tuthill MJ, Fukuoka J, **Pantanowitz L**: The importance of macro images for primary diagnosis with whole slide imaging, European Conference of Digital Pathology (ECDP) Congress, Helsinki, Finland, 2018.
403. Pantanowitz J, **Pantanowitz L**: Feasibility of whole slide imaging in hematopathology practice: experience with 707 international telepathology consultation cases, European Conference of Digital Pathology (ECDP) Congress, Helsinki, Finland, 2018.
404. Tizhoosh HR, Choi C, Kalra S, Mousa W, **Pantanowitz L**: Searching for similar scans in digital pathology – a first comprehensive report. Pathology Visions Meeting, San Diego, CA, *J Pathol Inform*, 10, S7-S8, 2018.
405. Liu Y, **Pantanowitz L**: A pilot study of computer-aided focus score calculation for Sjogren’s biopsies. Pathology Visions 2018 Meeting, San Diego, CA, *J Pathol Inform*, 10, S14, 2019.
406. Mukherjee M, Donnelly A, Rose B, Warren DE, Lyden E, Varley K, **Pantanowitz L**: Visualizing the changes in cytotechnology student’s performance in evaluating digital images (**awarded best poster**), Pathology Visions 2018 Meeting, San Diego, CA, *J Pathol Inform*, 10, S16-S17, 2019.
407. **Pantanowitz L**, Xing J, Cuda J, Monaco SE: The value of a quality assurance program when performing telecytology for ROSE, American Society of Cytopathology Annual Meeting, Washington, DC, *J Am Soc Cytopathol*, 5, S74, 2018.
408. Maleki Z, Lu R, Viswanathan K, Shafique K, Fatima A, Lose H, Rao R, Song S, Wiles A, Jo V, Wang H, Krane J, Powers C, Siddiqui MT, **Pantanowitz L**, Fadda G, Klijanienko J, Barkan G, Callegri F, Ali S, Kholova I, Nayar R, Baloch Z, Rossi ED, Faquin W, Puztaszeri M: Application of the Milan reporting system in submandibular gland fine needle aspiration (FNA) cytology and risk of malignancy (ROM) for each category: an international multi-institutional study of 706 cases, American Society of Cytopathology (ASC) Annual Meeting, Washington, DC, *J Am Soc Cytopathol*, 5, S13-S14, 2018.
409. Cunningham J, Monaco S, Xing J, Cuda J, Metahri D, **Pantanowitz L**: Utility of CellDetect® to reduce indeterminate urine cytology cases, American Society of Cytopathology (ASC) Annual Meeting, Washington, DC, *J Am Soc Cytopathol*, 5, S45, 2018.
410. Silowash R, **Pantanowitz L**, Monaco S: Clinical outcome of suspicious diagnoses in pancreatic cytology and small biopsies, American Society of Cytopathology (ASC) Annual Meeting, Washington, DC, *J Am Soc Cytopathol*, 5, S37, 2018.
411. Xing J, Monaco S, **Pantanowitz L**: Diagnostic utility and potential pitfalls of PAX8 immunostain in exfoliative specimens, American Society of Cytopathology (ASC) Annual Meeting, Washington, DC, *J Am Soc Cytopathol*, 5, S2 2018.
412. Xing J, Monaco S, **Pantanowitz L**: The ability of the Paris system to stratify the risk of high-grade urothelial carcinoma. American Society of Cytopathology (ASC) Annual Meeting, Washington, DC, *J Am Soc Cytopathol*, 5, S43, 2018.
413. Monaco S, Xing J, Ohori NP, Austin RM, DeFrances MC, **Pantanowitz L**: Comparison of quantitative internal and external measures of performance during cytopathology fellowship, American Society of Cytopathology (ASC) Annual Meeting, Washington, DC, *J Am Soc Cytopathol*, 5, S10, 2018.
414. Koah AE, **Pantanowitz L**, Cuda J, Xing J, Monaco S: Comparing ROSEs: A Comparison of Telecytology ROSE with Traditional ROSE, American Society of Cytopathology (ASC) Annual Meeting, Washington, DC, *J Am Soc Cytopathol*, 5, S74, 2018.
415. Niazi MKK, Tavolara TE, Senaras C, Tozbikian G, Hartman DJ, Arole V, **Pantanowitz L**, Gurcan MN: Generalization of tumor identification algorithms, SPIE Medical Imaging, San Diego, CA, 2019.
416. Hill M, Allison D, **Pantanowitz L**, Maleki Z: Application of the Milan system for reporting salivary gland cytopathology in cystic lesions, USCAP 108th Annual Meeting, National Harbor, MD, 2019.
417. Maleki Z, Muller S, Rekhtman N, **Pantanowitz L**: Sclerosing pneumocytoma of lung: cytomorphic findings and immunoprofile of a rare entity, USCAP 108th Annual Meeting, National Harbor, MD, 2019.
418. Fiorentino V, Musarra T, Dell’Aquila M, Larocca LM, Fadda G, **Pantanowitz L**, Ohori NP, Rossi ED: Role of cytology in the diagnosis of subcentimeter indeterminate thyroid lesions, USCAP 108th Annual Meeting, National Harbor, MD, 2019.

419. Girolami I, Parwani A, D'Errico A, Novelli L, Marletta S, Barresi V, Brunelli M, **Pantanowitz L**, Eccher A: The landscape of digital pathology in transplantation, 15th European Congress on Digital Pathology (ECDP), Coventry, UK, 2019.
420. Dietz R, **Pantanowitz L**: Introducing the PIER app for pathology residents, Pathology Informatics Summit, Pittsburgh, PA, *J Pathol Inform*, 10, 28, S2, 2019.
421. Dietz R, Hartman D, O'Leary M, Piccoli A, Duboy J, Karwoski I, Mensing A, **Pantanowitz L**: Using GoToAssist to improve slide scanning workflow in a distributed setup, Pathology Informatics Summit, Pittsburgh, PA, *J Pathol Inform*, 10, 28, S14-S15, 2019.
422. Dietz R, **Pantanowitz L**, Hartman D: Performance of deePathology.ai *Helicobacter pylori* detection software, Pathology Informatics Summit, Pittsburgh, PA, *J Pathol Inform*, 10, 28, S2, 2019.
423. Upadhyay S, Wiley C, **Pantanowitz L**: A comparative study of intraoperative teleneuropathology with conventional intraoperative glass slide consultations, Pathology Informatics Summit, Pittsburgh, PA, *J Pathol Inform*, 10, 28, S12-S13, 2019.
424. Seigh L, Hartman DJ, Cieply K, **Pantanowitz L**: Establishing a quality control (QC) process for clinical CD8 quantitative image analysis testing, Pathology Informatics Summit, Pittsburgh, PA, *J Pathol Inform*, 10, 28, S10-S11, 2019.
425. Hartman DJ, Patel S, Young K, **Pantanowitz L**: Expanding the use of hybrid scanners beyond remote intraoperative consultation, Pathology Informatics Summit, Pittsburgh, PA, *J Pathol Inform*, 10, 28, S4-S5, 2019.
426. Sanghavi A, Callenberg K, Allen E, Dietz R, **Pantanowitz L**: Analysis of cell galleries as an interface for reviewing urine cytology cases, Pathology Informatics Summit, Pittsburgh, PA, *J Pathol Inform*, 10, 28, S32, 2019.
427. Kalra S, Choi S, Moussa W, **Pantanowitz L**, Tizhoosh H: A bunch of barcodes for identification of histopathology images, Pathology Informatics Summit, Pittsburgh, PA, *J Pathol Inform*, 10, 28, S37, 2019.
428. Upadhyay S, Wiley C, **Pantanowitz L**: A comparative study of intraoperative teleneuropathology with conventional intraoperative glass slide consultation, UPMC Annual GME Quality & Safety Symposium, Pittsburgh, PA, 2019.
429. Kalra S, Choi C, Shah L, **Pantanowitz L**, Tizhoosh HR: Lessons learned from validation of an image search engine for histopathology (**awarded best poster**), Pathology Visions Annual Meeting, Orlando, FL, 2019. Published in *Journal Pathology Informatics*, 11, 1, S33, 2020.
430. Dietz R, O'Leary M, Duboy J, Piccoli A, Hartman D, **Pantanowitz L**: Using Microsoft Power BI for real-time analysis of a distributed whole slide scanning operation, Pathology Visions Annual Meeting, Orlando, FL, 2019. Published in *Journal Pathology Informatics*, 11, 1, S36-S37, 2020.
431. Dawood H, Abbara A, Karah N, Rhoads D, Antypas K, Haraoui L, **Pantanowitz L**: Telemicrobiology in humanitarian crisis, Global Syrian Refugee Crisis, Gaziantep, 2019
432. Clymer DR, Kostadinov S, Catov J, **Pantanowitz L**, Cagan J, LeDuc P: Identification of placental lesions using a structure-based convolutional neural network, Biomedical Engineering Society (BMES) Annual Meeting, Philadelphia, PA, 2019.
433. Rohatgi A, Hartman D, Karunamurthy A, Burkette J, Najjar Y, Kirkwood JM, Zarour HM, **Pantanowitz L**, Davar D: Evaluation of CD8 score by automated quantitative image analysis in metastatic melanoma treated with PD1 blockade: preliminary results, 34th Annual Society for Immunotherapy of Cancer (SITC) Meeting, National Harbor, MD, 2019.
434. Farchoukh L, **Pantanowitz L**, Xing J, Monaco S: Plasma cell neoplasms with aggressive features: cytomorphology with ancillary studies and clinical correlation, American Society of Cytopathology (ASC) 67th Annual Scientific Meeting, Salt Lake City, UT, *JASC*, 8, 5, S45-S46, 2019.
435. Varley K, **Pantanowitz L**, Monaco S, Cuda J, Methari D: Preparing for the future: enhancement of cytotechnology student education by incorporating ultrasound-guided FNA training, American Society of Cytopathology (ASC) 67th Annual Scientific Meeting, Salt Lake City, UT, *JASC*, 8, 5, S5, 2019.
436. Han M, Dietz R, Monaco S, Xing J, Cuda J, **Pantanowitz L**: Proficiency testing to evaluate remote telecytology competency, American Society of Cytopathology (ASC) 67th Annual Scientific Meeting, Salt Lake City, UT, *JASC*, 8, 5, S54, 2019.

437. Han M, Monaco S, **Pantanowitz L**, Xing J: Potential causes of cytohistological discrepancy and utility of the Milan System in salivary gland lesions – an institutional experience, American Society of Cytopathology (ASC) 67th Annual Scientific Meeting, Salt Lake City, UT, *JASC*, 8, 5, S37, 2019.
438. **Pantanowitz L**, Rogers A, Monaco S, Xing J, Martinez-Giron R: Thrombocytosis associated with thyroid follicular-derived neoplasia, American Society of Cytopathology (ASC) 67th Annual Scientific Meeting, Salt Lake City, UT, *JASC*, 8, 5, S42, 2019.
439. Updahyay S, Monaco S, Xing J, **Pantanowitz L**: Peritheliomatous pattern: a diagnostic clue for diagnosing melanoma in cytology, American Society of Cytopathology (ASC) 67th Annual Scientific Meeting, Salt Lake City, UT, *JASC*, 8, 5, S58, 2019.
440. Farchouk L, **Pantanowitz L**, Monaco S: 10 year retrospective review of cytopathology at an academic pediatric specialty hospital in the United States, American Society of Cytopathology (ASC) 67th Annual Scientific Meeting, Salt Lake City, UT, *JASC*, 8, 5, S56, 2019.
441. Monaco S, **Pantanowitz L**, Xing J, Cuda J, Kamur A: Cytological evaluation of tumor infiltrating lymphocyte adoptive cell therapy, American Society of Cytopathology (ASC) 67th Annual Scientific Meeting, Salt Lake City, UT, *JASC*, 8, 5, S64, 2019.
442. Han M, **Pantanowitz L**, Monaco S, Dhir R, Roy S, Xing J: Evaluation of hTERT antibody using ThinPrep urine specimens and correlation with cytological diagnoses using The Paris System, American Society of Cytopathology (ASC) 67th Annual Scientific Meeting, Salt Lake City, UT, *JASC*, 8, 5, S14-S15 2019.
443. Porteus C, **Pantanowitz L**, Gong Y, Gan Q, Mela N, Henderon-Jackson E, Peterson D, Bui M: Cytology of sclerosing epitheloid fibrosarcoma: multicenter and literature review to identify diagnostic pitfalls, American Society of Cytopathology (ASC) 67th Annual Scientific Meeting, Salt Lake City, UT, *JASC*, 8, 5, S58, 2019.
444. Dietz R, Xing J, Monaco S, Cuda J, Ahmed I, **Pantanowitz L**: Comparison between the performance of panotiq and RMT dynamic telecytology platforms for rapid on-site evaluation, American Society of Cytopathology (ASC) 67th Annual Scientific Meeting, Salt Lake City, UT, *JASC*, 8, 5, S63, 2019.
445. Maheswari M, Donnelly A, Warren D, Chantziantoniou N, Dimmitt B, Varley K, **Pantanowitz L (platform presentation)**: Eye tracking in cytotechnology education: “visualizing” students becoming experts (**received the award for best cytotechnologist scientific presentation**), American Society of Cytopathology (ASC) 67th Annual Scientific Meeting, Salt Lake City, UT, *JASC*, 8, 5, S66-S67, 2019.
446. Gonzalez D, Dietz R, **Pantanowitz L (platform presentation)**: Feasibility of a deep learning algorithm to distinguish large cell from small cell neuroendocrine carcinoma in cytology specimens, American Society of Cytopathology (ASC) 67th Annual Scientific Meeting, Salt Lake City, UT, *JASC*, 8, 5, S68, 2019.
447. Leung SC, Kidwell KM, Arun I, Augulis R, Badve SS, Bai Y, Bane AL, Bartlett JM, Bayani J, Bigras G, Blank A, Borgquist S, Buikema H, Chang MC, Dietz RL, Dodson A, Ehinger A, Fineberg S, Focke CM, Gao D, Gown AM, Guitierrez C, Hartman J, High JC, Kos Z, Laenkohlm A, Laurinavicius A, **Pantanowitz L**, Penault-Lorca FM, Piper T, Quintayo M, Rau TT, Reinhard S, Robertson S, Sakatani T, Salgado R, Spears M, Starczynski J, Sugie T, van der Vegt B, Viale G, Virk S, Zabaglo LA, Hayes DF, Dowsett M, Nielsen TO, Rimm DL, International Ki67 in Breast Cancer Working Group: Analytical validation and prognostic potential of an automated digital scoring protocol for Ki67: An international Ki67 working group study, San Antonio Breast Cancer Symposium, San Antonio, TX, 2019
448. Hipp J, **Pantanowitz L**: The impact of Next-Generation Sequencing on whole slide imaging, Pathology Visions 2018 Meeting, San Diego, CA, *J Pathol Inform* 10, 10, 2019.
449. Niazi MKK, Moore K, Hartman DJ, **Pantanowitz L**, Gurcan MN: Hotspot detection in pancreatic neuroendocrine images using local depth, SPIE Medical Imaging Conference, Houston, TX, 2020.
450. Babaie M, Riasatian A, Hemati S, Sajadi M, Batten A, Sikdar S, **Pantanowitz L**, Tizhoosh H: Detecting specimen contaminations in whole slide imaging using artificial intelligence, USCAP Annual Meeting, Los Angeles, CA, 2020.
451. Gabrielson M, Faquin W, Jo V, Kholova I, Wang H, Rossi E, Baloch Z, Song S, Callegari F, **Pantanowitz L**, Maleki Z, Ali S, Tommola S. Secretory carcinoma of the salivary gland, a rare entity: an international multi-institutional study, USCAP Annual Meeting, Los Angeles, CA, 2020.

452. Lajara S, Trejo Bittar U, Dacic S, Monaco SE, **Pantanowitz L**: Pulmonary scar carcinomas: cytomorphic features in histologically confirmed cases, USCAP Annual Meeting, Los Angeles, CA, 2020.
453. Satturwar S, Monaco SE, Xing J, **Pantanowitz L**. International telecytology consultation: an academic institutional experience, USCAP Annual Meeting, Los Angeles, CA, 2020.
454. Satturwar S, Pantanowitz J, Manko C, Monaco SE, Seigh L, **Pantanowitz L**. Ki-67 proliferation index in neuroendocrine tumors: can Augmented Reality (AR) microscopy with image analysis improve scoring? (oral presentation), USCAP Annual Meeting, Los Angeles, CA, 2020.
455. Voyten J, Holtzman M, **Pantanowitz L**, Dhir R, Beasley HS, Cuda J, Monaco SE. Lessons learned from clinical trial queries on small biopsy collections from an academic cancer center, American Society of Clinical Oncology (ASCO) annual meeting, virtual meeting, 2020.
456. Hassell LA, Peterson JE, **Pantanowitz L**. Pushed across the digital divide: COVID-19 accelerated pathology training onto a new digital learning curve. Association of Pathology Chairs (APC) online conference, July 19-22, 2020.
457. **Pantanowitz L**, Siegal G. Augmented reality microscopy: Clinical applications and future predictions. DPA Pathology Visions virtual meeting October 26-27, 2020. Published in J Pathol Inform. 2021; 12:37, S7.
458. Rissalan A, Babaie M, Maleki D, Kaira S, Valipour M, Hemali S, Zaveri MM, Satarpour A, Shafiei S, Afshari M, Rasoolijaberi M, Sikaroudi M, Adnan M, Shah S, Choi C, Damakinos S, Campbell C, Diamandis P, **Pantanowitz L**, Ghodsi A, Kashani H, Tizhoosh HR. DPA Pathology Visions virtual meeting October 26-27, 2020. Published in J Pathol Inform. 2021; 12:37, S9.
459. Zilla M, Monaco SE, Xing J, Hartman DJ, Landau M, **Pantanowitz L**. Grundium Ocus as a telepathology tool for surgical pathology and cytopathology. DPA Pathology Visions virtual meeting October 26-27, 2020. Published in J Pathol Inform. 2021; 12:37, S26-S27.
460. Lajara S, Dacic S, **Pantanowitz L**, Xing J, Monaco SE. Small biopsies of histologically-confirmed pulmonary adenosquamous carcinoma: morphologic, immunoprofile and molecular findings. American Society Cytopathology (ASC) 68th virtual scientific meeting, November 5-8, 2020. Published in Journal of the American Society of Cytopathology 2020, 9(6):S37.
461. Lajara S, **Pantanowitz L**. Cytological findings in gynecological malignancies metastatic to the lung. American Society Cytopathology (ASC) 68th virtual scientific meeting, November 5-8, 2020. Published in Journal of the American Society of Cytopathology 2020, 9(6):S37.
462. Decesere A, Cuda J, Monaco E, Cuda J, Pantanowitz L, Monaco S. Benchmarking cytology support for ROSE during EBUS, EUS and other bronchoscopic procedures (platform). American Society Cytopathology (ASC) 68th virtual scientific meeting, November 5-8, 2020. Published in Journal of the American Society of Cytopathology 2020, 9(6):S62.
463. Viswanathan K, Maleki Z, Cantley R, Pantanowitz L, Faquin W. Cytomorphology and diagnostic pitfalls of sebaceous and non-sebacous salivary gland lymphadenoma on fine needle aspiration: a multi-institutional case series. American Society Cytopathology (ASC) 68th virtual scientific meeting, November 5-8, 2020. Published in Journal of the American Society of Cytopathology 2020, 9(6):S33.
464. Harrington S, **Pantanowitz L**. Feasibility of reviewing digital pap tests using a gallery of images. American Society Cytopathology (ASC) 68th virtual scientific meeting, November 5-8, 2020. Published in Journal of the American Society of Cytopathology 2020, 9(6):S55.
465. **Pantanowitz L**, Quiroga-Garza G, Bien L, Heled R, Laifenfeld D, Linhart C, Sandbank J, Shach A, Varda S, Vecsler M, Michelow P, Hazelhurst S, Dhir R. Blinded external validation of a multi-feature AI-based algorithm for prostate core needle biopsies. Virtual European Society of Pathology/International Association of Pathology (ESP/IAP) congress. December 6-8, 2020.
466. Mannan R, Chugh S, Wang X, Chinnaiyan A, Rangaswamy R, Wang SZ, Cao X, **Pantanowitz L**, Myers JL, Huang T, Chinnaiyan AM, Brown NA, Dhanasekaran SM, Mehra R. Immunohistochemical assessment of ALK protein and its phosphorylation site Y1507 modification among ALK gene fusion positive lung cancers. USCAP 110th virtual annual meeting, March 13-18, 2021.
467. Cantley R, Hrycaj S, Konopka K, Chan M, Huang T, **Pantanowitz L**. Cytologic findings in patients with SARS-CoV-2 infection and body fluid effusion. USCAP 110th virtual annual meeting, March 13-18, 2021.

468. Yousif M, Huang Y, Sciallis A, Kleer C, Pang J, Smola B, Naik K, McClintock D, Zhao L, **Pantanowitz L**. Correlation between quantitative image analysis and manual scoring of ER, PgR, and HER2/neu in invasive breast carcinoma. USCAP 110th virtual annual meeting, March 13-18, 2021.
469. Wang XM, Mannan R, Qiao Y, Abdulfatah E, Willson A, Jentzen J, McMurry L, Farver C, Myers JL, **Pantanowitz L**, Zelenka-Wang S, Zhang Y, Zhang Z, Cao X, Hinnaiyan A, Mehra R. SARS-CoV-2 related biomarker investigation: Lessons from a contemporary single autopsy series. USCAP 110th virtual annual meeting, March 13-18, 2021.
470. Yousif M, Hickey C, Zapata M, Bocklage T, Balzer B, Bui M, Gardner J, Bumgardner C, **Pantanowitz L**, Qasem S. Curbside consults for soft tissue pathology using whole slide images. USCAP 110th virtual annual meeting, March 13-18, 2021.
471. Xing J, Cucci J, Cao C, Matthews M, **Pantanowitz L**. Utility of URO17TM (Keratin 17) immunohistochemistry in ThinPrep processed urine specimens. USCAP 110th virtual annual meeting, March 13-18, 2021.
472. Dadhania V, Gonzalez D, Yousif M, Cheng J, Dhanasekeran SM, Chinnaiyan AM, **Pantanowitz L**, Mehra R. Computational staining and deep learning to predict ERG gene fusion status in prostate cancer. Pathology Informatics summit, May 3-6, 2021.
473. **Pantanowitz L**. AI in prostate pathology – is this becoming reality? Pathology Informatics summit, May 3-6, 2021.
474. Youssif M, **Pantanowitz L**. Augmented Reality Microscopy (ARM) utility for measuring breast tumor size, distance to margin and lymph node metastases. 17th European Congress on Digital Pathology (ECDP), June 15-18, 2021.
475. Karah N, Antypas K, Al-Toutanji A, Suveyd U, Rafei R, Haraoui LP, Al Emin W, Hamze M, Abbra A, Rhoads D, **Panatanowitz L**, Uhlin BE. Telemicrobiology in humanitarian crisis (TmHC), DevRes conference, Sweden, June 14-16, 2021.
476. Satturwar S, Jiang X, Fuller MY, Khader SN, **Pantanowitz L**. Social media with cytopathology highlights, College of American Pathologists, Chicago, September 25-28, 2021.
477. Hamilton J, Kunju P, Rigney C, Mills E, **Pantanowitz L**. Push notification for pending work: What the work queues were missing. University of Michigan quality month, September 2021.
478. Jackson BR, Ye Y, Crawford J, Becich M, Roy S, Botkin J, de Baca ME, **Pantanowitz L**. Applying medical ethics to artificial intelligence in pathology and laboratory medicine. Digital Pathology Association (DPA) Pathology Visions annual meeting, Las Vegas, October 16-18, 2021. Published in Journal of Pathology Informatics 2022: 100029.
479. Gibson BA, Xing J, Cuda J, **Pantanowitz L**, Vribin C, Monaco SE. Value of guided imagery in an outpatient FNA clinic. American Society of Cytopathology (ASC) annual meeting, Las Vegas, November 11-14, 2021.
480. Cantley R, **Pantanowitz L**, Mehra R. Fine needle aspiration of metastatic prostate adenocarcinoma: A retrospective study. American Society of Cytopathology (ASC) annual meeting, Las Vegas, November 11-14, 2021.
481. Abdulfatah E, Brown NA, Reicher ZR, Huang T, Camelo-Piragua SI, Heider A, Hafez KS, Morgan TM, Davenport M, Vaishampayan UN, Skala SL, Spratt DE, Montgomery J, **Pantanowitz L**, Chinnaiyan AM, Shao L, Mehra R. Extragonadal germ cell tumors: a comprehensive study with emphasis on morphological features, clinical outcomes and associated secondary malignancies, USCAP 111th annual meeting, March 21, 2022, Los Angeles, CA.
482. Cantley RL, Chinnaiyan AM, Reichert ZR, Mannan R, Wang X, Zelenka-Wang SB, Cao X, Spratt DE, Vaishampayan UN, Morgan TM, Alumkal JJ, **Pantanowitz L**, Mehra R. Metastatic prostate cancer – assessment of cytopathologic and biomarker features with transdifferentiation and clinical correlates (platform presentation), USCAP 111th annual meeting, March 21, 2022, Los Angeles, CA.
483. Nakaguro M, Faquin WC, Snuderl M, Baaloch ZW, Cantley RL, Compton ML, Ely KA, Homes BJ, Hu R, Kerr DA, Montone KT, Nishino M, **Pantanowitz L**, Rossi ED, Nagao T, Sadow PM, CDKN2A/B loss in high-grade transformation of salivary gland carcinoma: high-grade malignant potential in histologically low-grade component. USCAP 111th annual meeting, March 21, 2022, Los Angeles, CA.
484. Jin X, Lew M, Smola B, **Pantanowitz L**, Jing X. Performance of affirma genomic sequencing classifier and histopathological outcome are associated with subtype of atypia in Bethesda category III thyroid nodules

- (platform presentation), USCAP 111th annual meeting, March 19-24, 2022, Los Angeles, CA. **Awarded Journal of American Society of Cytopathology physician-in-training award & 2nd place award by the Papanicolaou Society of Cytopathology.**
485. Paola R, Albino E, **Pantanowitz L**, Pietro A, Nicola S, Stefano M, Parwani A, Ilaria G. Technical and diagnostic issues with whole slide imaging in validation studies. 18th European Congress on Digital Pathology (ECDP), June 15-18, 2022, Berlin, Germany.
 486. Ouilette P, **Pantanowitz L**. Virtual multidisciplinary tumor board impact after the COVID-19 pandemic. 18th European Congress on Digital Pathology (ECDP), June 15-18, 2022, Berlin, Germany.
 487. Kim C, Rabah R, **Pantanowitz L**, Rottmann D, McHugh J, Simon C. Rare case of malignant transformation in recurrent lipoblastomatosis. Society for Pediatric Pathology (SPP), October 7-8, 2022, Rochester, NY.
 488. Hassell L, Tran N, Leavitt M, **Pantanowitz L**, Razzano D, Milner D, Mirza K, Gonzalez RS, Smith N, Fiedler G. The OPEN solution: Moving towards digital pathology-enabled virtual curriculum to increase global pathology workforce. Digital Pathology Association (DPA) Pathology Visions meeting. October 16-18, 2022, Las Vegas, NV.
 489. Yousif M, Balis U, McMyler E, Ouilette P, **Pantanowitz L**, Buckwalter K. Digital pathology at Michigan Medicine: current perceptions, state, and prospects. Digital Pathology Association (DPA) Pathology Visions meeting. October 16-18, 2022, Las Vegas, NV.
 490. Pantanowitz J, Huang T, Chan MP, Cantley R, Mehra R, **Pantanowitz L**. Aberrant LCA (CD45) immunoreactivity in tumors with neuroendocrine features: A diagnostic pitfall. College of American Pathologists (CAP) annual meeting, October 10, 2022, New Orleans, LA. Published in Archives Pathology Laboratory Medicine 2022; 146(9):e167.
 491. Jin X, Jing X, Cantley RL, Pang J, **Pantanowitz L**, Lew M. Telecytology Versus Conventional Rapid On-site Evaluation for Endobronchial Ultrasound-Guided Fine Needle Aspiration: A Single Institution's Experience. (Platform presentation). 21st International Congress of Cytology and American Society of Cytopathology (ASC) 70th Annual Scientific Meeting, November 15-20, 2022, Baltimore, Maryland. Published in Journal of the American Society of Cytopathology (JASC) 2022; 11(6): S8.
 492. Saad M, **Pantanowitz L**. Cytomorphology of Metastatic Melanoma in Serous Fluid. 21st International Congress of Cytology and American Society of Cytopathology (ASC) 70th Annual Scientific Meeting, November 15-20, 2022, Baltimore, Maryland. Published in Journal of the American Society of Cytopathology (JASC) 2022; 11(6): S22.
 493. Jin X, Jing X, Lew M, Heider A, Pang J, **Pantanowitz L**. Second Opinion Consultation in Cytopathology: A Summary of Nine Years of Experience at an Academic Institution. 21st International Congress of Cytology and American Society of Cytopathology (ASC) 70th Annual Scientific Meeting, November 15-20, 2022, Baltimore, Maryland. Published in Journal of the American Society of Cytopathology (JASC) 2022; 11(6): S57-S58.
 494. Jin X, Jing X, Lew M, Cantley RL, Heider A, Pang J, **Pantanowitz L**. Challenging Pancreatic Fine Needle Aspirations - Second Opinion Consultation Experience from an Academic Institution. 21st International Congress of Cytology and American Society of Cytopathology (ASC) 70th Annual Scientific Meeting, November 15-20, 2022, Baltimore, Maryland. Published in Journal of the American Society of Cytopathology (JASC) 2022; 11(6): S62-S63.
 495. Jin X, Jing X, Lew M, **Pantanowitz L**. Concordance of Second Opinion Diagnosis in Salivary Gland Cytopathology - Experience from a Single Academic Institution. 21st International Congress of Cytology and American Society of Cytopathology (ASC) 70th Annual Scientific Meeting, November 15-20, 2022, Baltimore, Maryland. Published in Journal of the American Society of Cytopathology (JASC) 2022; 11(6): S44.
 496. Jin X, Lew M, **Pantanowitz L**, Smola B, Jing X. Performance of Afirma Genomic Sequencing Classifier and Histopathological Outcome in Bethesda Category III Thyroid Nodules: A Comparison Between Single and Repeat Fine Needle Aspiration. USCAP 112th Annual Meeting. New Orleans, Louisiana. March 11-16, 2023.
 497. Abdulfatah E, Rottmann DA, Morag Y, **Pantanowitz L**, Udager AM, Lucas DR. Conventional Chondrosarcoma of the Rib Cage and Sternum: Clinicopathological and Molecular Analysis of 27 Patients Treated at a Single Institution. USCAP 112th Annual Meeting. New Orleans, Louisiana. March 11-16, 2023.

498. Post C, Cheng J, **Pantanowitz L**, Westerhoff M. Utility of Machine Learning to Detect CMV in Digital Slides. USCAP 112th Annual Meeting. New Orleans, Louisiana. March 11-16, 2023.
499. Kunju LP, Chapel DB, Chapel EE, Myers JL, Hamilton JA, **Pantanowitz L**. Hospitalists in Anatomic Pathology: Early Frozen Section Experience with an Innovative Model. USCAP 112th Annual Meeting. New Orleans, Louisiana. March 11-16, 2023.
500. Chen-Yost HI, Hao W, Hamilton JA, Jin X, **Pantanowitz L**. Second Opinion for Pulmonary and Pleural Cytology is Valuable for Patient Care. USCAP 112th Annual Meeting. New Orleans, Louisiana. March 11-16, 2023.
501. Wang X, Xiao H, Shao L, **Pantanowitz L**, Mannan R, Skala SL, Myers JL, Chinnaiyan A, Betz BL, Brown NA, Mehra R. MiTF Family Altered Renal Cell Carcinoma: An 8-year Review of 781 Clinical TFE3/TFEB FISH Assays Performed at a Tertiary Institution (2014-2022). USCAP 112th Annual Meeting. New Orleans, Louisiana. March 11-16, 2023.
502. Chapel EE, Kunju LP, **Pantanowitz L**, Chapel DB. Prospective Frozen Section Quality Assurance Review Enables Early Resolution of Diagnostic Disagreements and Facilitates Targeted Competency-Based Education. USCAP 112th Annual Meeting. New Orleans, Louisiana. March 11-16, 2023.
503. Chapel EE, Kunju LP, **Pantanowitz L**, Brock JE, Chapel DB. Intraoperative Pathologic Assessment of Breast Lumpectomy Margins is an Accurate Method of Evaluation with Low Re-excision Rates. USCAP 112th Annual Meeting. New Orleans, Louisiana. March 11-16, 2023.
504. Yousif M, Mahmood S, Taylor AS, Chapel EE, Kleer CG, **Pantanowitz L**, Abbott SE. Quantitative Image Analysis of Low HER-2/NEU Protein Expression in Breast Cancer by Immunohistochemistry: An Intralaboratory Study to Evaluate the Reproducibility of Low HER-2/NEU Testing. USCAP 112th Annual Meeting. New Orleans, Louisiana. March 11-16, 2023.
505. Dadhania V, Cantley R, Davenport M, **Pantanowitz L**, Mannan R, Wang X, Dhanasekaran SM, Vaishampayan UN, Alumkal JJ, Chinnaiyan AM, Reichert ZR, Mehra R. Clinicopathologic perspectives and disease categorization in metastatic prostatic carcinoma: a single tertiary institution study. USCAP 112th Annual Meeting. New Orleans, Louisiana. March 11-16, 2023.
506. Pantanowitz J, Mehra R, **Pantanowitz L**. Aberrant CD45 expression in high-grade prostatic adenocarcinoma with neuroendocrine transdifferentiation. Pennsylvania Association of Pathology (PAP) annual scientific meeting. April 15, 2023. Camp Hill, PA.
507. Cheng J, Schmidt C, Wilson A, Pantanowitz J, **Pantanowitz L**. Artificial intelligence for human gunshot wound classification. Pathology Informatics summit. May 22-25, 2023. Pittsburgh, PA.
508. Hassell L, Tran NTB, **Pantanowitz L**, Adhikan L, Massoul N, Gonzalez R, Mirza K, Leavitt M, Parkash V, Wong A. The OPEN solution: DP opens the way to solving workforce deficit. European Congress on Digital Pathology (ECDP). June 14-17, 2023. Budapest, Hungary.
509. Zilla ML, Starr D, Lajara S, **Pantanowitz L**, Khader S. The use of telecytology to perform on site evaluation of fine needle aspiration specimens at UPMC Shadyside in 2022. Digital Health Summit, University of Pittsburgh Medical Center (UPMC). October 4, 2023. Pittsburgh, Pennsylvania.
510. Sahai M, Yousif M, Quick M, Mayer S, LeDuc P, Cagan J, Jenoski R, **Pantanowitz L**. Detection of decidual vasculopathy using multiresolution hierarchical neural network. Pathology Visions. October 29-31, 2023. Orlando, Florida.
511. Saad M, Cantley R, **Pantanowitz L**, Xiaobing J. Performance of PRAME immunohistochemistry for metastatic melanoma in cytological specimens. American Society of Cytopathology (ASC) annual meeting. November 15-19, 2023. Austin, Texas. Published in *JASC* 2023; 12(5):S41.

PROFESSIONAL ACTIVITIES

TEACHING

- **Pathology Resident Informatics Curriculum Development and Training**, Baystate Medical Center, Springfield, MA. 2005-Present. Average training of 16 residents/year involving monthly didactic lectures, weekly conferences, quarterly journal clubs, 2-4 week elective rotations, & ongoing research mentoring.
- **Resident Anatomical & Clinical Pathology Training**, Baystate Medical Center, Springfield, MA. 2005-Present. Average 16 residents/year involving daily clinical and on-call supervision, quarterly didactic lectures, weekly conferences, & research mentoring.
- **Cytopathology Fellowship Training**, Baystate Medical Center, Springfield, MA. 2005-Present. Annual 1 fellow/year involving weekly clinical and FNA supervision, & research mentoring.
- **Medical Student Instruction** in Immunology, Microbiology, Infectious Disease & Hematologic Pathophysiology, Harvard Medical School. 2001-2003. Annual 50-100 medical student groups involving tutorials, lectures and laboratory coursework supervision.
- **Doctor of Philosophy (PhD) Thesis/Dissertation Review**. University of Kwazulu-Natal, Nelson Mandela School of Medicine, South Africa. Title: "Is highly active antiretroviral therapy alone effective as therapy for HIV/AIDS Kaposi's sarcoma?" 2009.
- Planning Committee Annual Cytopathology Continuing Medical Education Conference, Baystate Medical Center. 2004-2005.
- Graduate Medical Education Committee, Baystate Medical Center, Springfield, MA. 2004-2005.
- Resident Advisory Committee, Baystate Medical Center, Springfield, MA. 2004-2005.
- College of American Pathology Delegate from Massachusetts to the Residents Forum. 2002-2004.
- Graduate Medical Education Committee, Beth Israel Deaconess Medical Center, Harvard Medical School, Boston, MA. 2000-2002.
- Pathology Resident Teaching Committee, Beth Israel Deaconess Medical Center, Harvard Medical School, Boston, MA. 2001-2002.
- Published three editions of the following medical student histology study guide: **Pantanowitz L**, Harris S. Microanatomy Study Aid: For the students by the students. WITS Medical School, Johannesburg, South Africa. 1993, 1994 & 1995.

Clinical Fellow

2010-2017	Cytopathology and Bone and Soft Tissue Fellows (3-4/year), University of Pittsburgh Medical Center (UMPC), Pittsburgh, PA
2011-2020	Pathology Informatics Fellows (1-2/year), UPMC, Pittsburgh, PA
2010-2011	Gaurav Sharma, MD, Pathology Informatics Fellow, UPMC, Pittsburgh, PA
2012-2013	Seung Park, MD, Pathology Informatics Fellow, UPMC, Pittsburgh, PA
2013-2014	Ioan Cucoranu, MD, Pathology Informatics Fellow, UPMC, Pittsburgh, PA
2015-2016	Navid Farahani, MD, Pathology Informatics Fellow, UPMC, Pittsburgh, PA
2016-2017	Mohammed Syed, MD, Pathology Informatics Fellow, UPMC, Pittsburgh, PA
2017-2018	Matthew Hanna, MD, Pathology Informatics Fellow, UPMC, Pittsburgh, PA
2018-2019	Robin Dietz, MD, Pathology Informatics Fellow, UPMC, Pittsburgh, PA

2020-2023 Bone and Soft Tissue, Cytopathology & Pathology Informatics Fellows, University of Michigan

Medical Student Teaching

2016-2019 Yan Qi, PhD

International

2010-2011 Periodontology & Oral Medicine Foreign Student at University of Limpopo, South Africa, Co-Supervisor of Kaposi sarcoma research towards a specialist degree

2015-2020 School of Digital Pathology co-development with Centro Di Riferimento Oncologico, Aviano, Italy

2017 Mentor, USCAP Mentoring Academy

2021 Residents Forum Executive Committee (RFEC) trainee networking, College of American Pathologists (CAP)

2022-Present Open Pathology Education Network (OPEN), vice chair & board member

Regional

2009-2018 Pittsburgh High School mobile science lab

2018 Jeopardy tournament for residents at Pennsylvania Association of Pathologists (PAP) annual meeting

Institutional

2001-2003 Medical Student Instruction in Immunology, Microbiology, Infectious Disease & Hematologic Pathophysiology, Harvard Medical School, Boston, MA

2005-2010 Cytopathology Fellowship Training: weekly clinical and FNA supervision, & research mentoring, Baystate Medical Center, Springfield, MA (1 fellow/year)

2005-2010 Developed Pathology Resident Informatics Curriculum, Baystate Medical Center, Springfield, MA

2010-2020 Genomics, Research & Informatics for Pathology (GRIP) annual resident course, UPMC, Pittsburgh, PA

2011-2020 Pathobiology Course: Neoplasia lecture & laboratory session, Medical Student Education, University of Pittsburgh, Pittsburgh, PA

2011-2020 Cytopathology: FNA Biopsy-Radiology elective, Medical Student Education, University of Pittsburgh, Pittsburgh, PA

2011-2020 Cytotechnology Student Informatics, Anisa I. Kanbour School of Cytotechnology, University of Pittsburgh, Pittsburgh, PA

2012 Pathology Informatics, University of Pittsburgh Cancer Institute (UPCI) High School Summer Academy, Pittsburgh, PA (July 2012)

2013-2015 University of Pittsburgh Computer Science, Biology and Biomedical (Pathology) Informatics (CoSBB) Academy Summer Student and Intern Mentor, Pittsburgh, PA (Best poster award)

2017-2019 Medical Student Fellowship Mentor, University of Pittsburgh, PA

2017-2019 Pitt Dean's Summer Research Program Mentor, University of Pittsburgh, PA

2020-present Pathology residency Program Education Committee (PEC), University of Michigan, MI

2020-present Surgery & Applied Sciences (SAS) medical student pathology rotation educational signout sessions (8 hours/year), University of Michigan, MI

2021-present Cytopathology fellowship Program Education Committee (PEC), University of Michigan, MI

Dissertation Committees

2009	Doctor of Philosophy (PhD) Thesis/Dissertation Review. University of Kwazulu-Natal, Nelson Mandela School of Medicine, South Africa. Title: "Is highly active antiretroviral therapy alone effective as therapy for HIV/AIDS Kaposi's sarcoma?"
2016-2017	Chi Liu, PhD Thesis, Nuclear Morphometry based Pattern Recognition in Pathology, Carnegie Mellon University, Biomedical Engineering Department, Committee Member
2018-2019	Daniel Clymer, PhD Thesis, Decidual Vasculopathy Identification in Whole Slide Images using Multi-Resolution Hierarchical Convolutional Neural Networks. Carnegie Mellon University, Computer Science Department, Committee Member

RESEARCH

Current Grant Support:

Grant Detail	Role in Project	Source \$ Amount	Dates
<i>Open Pathology Education Network (OPEN)</i>	Co-PI (Principal Investigator: Ngoc Tran)	College of American Pathologists (CAP) Foundation global pathology award \$10,000	09/2022-Present

Prior Grant Support:

Grant Detail	Role in Project	Source \$ Amount	Dates
Human Immunodeficiency Virus (HIV)-related breast disease.	Principal Investigator (100%)	Rays of Hope and Baystate Regional Cancer Program \$17,000	Dec 2006 – June 2010
Multiple gene expression profile in primary and metastatic breast carcinoma.	Co-Principal Investigator (50%)	Rays of Hope and Baystate Regional Cancer Program \$12,401	May 2007 – June 2010
Molecular mechanisms of plasminogen deficiency	Co-Principal Investigator (50%)	Beth Israel Deaconess Medical Center Pathology Foundation \$5,000	June 2003 – July 2004
<i>Clinicopathologic findings in patients with COVID and body fluid effusion cytology</i>	Principal Investigator: Liron Pantanowitz	Department of Pathology, University of Michigan, \$4,000	09/2020-05/2021.
<i>COVID ISH positivity in GI Tract Biopsies</i>	Co-PI (Principal Investigator: Maria Westerhoff)	Department of Pathology, University of Michigan, \$14,102	09/2020-09/2021.
<i>GenitoUrinary Development Molecular Anatomy Project</i>	Co-I with Effort (Principal Investigator: R. Dhir)	(GUDMAP) National Institutes of Health (NIH)	07/2016-06/2021.

		\$400,000	
<i>Telemicrobiology in humanitarian crises</i>	Co-I with Effort (Principal Investigator: N. Karah)	US Agency for International Development, UK Department for International Development, Grand Challenges Canada CAD\$250,000 / US\$191,836	09/2018-09/2020.
<i>Molecular Mechanisms of Plasminogen Deficiency</i>	Co-I with Effort (Principal Investigator: O. N. Kocher)	BIDMC Pathology Foundation \$5,000	06/2003-07/2004.
<i>HIV-related Breast Disease</i>	Pantanowitz, Liron PI	Rays of Hope Baystate Regional Cancer Program \$17,000	12/2006-06/2010.
<i>Multiple Gene Expression Profile in Breast Carcinoma Rays of Hope</i>	Co-I with Effort (Principal Investigator: G. Crisi)	Baystate Regional Cancer Program \$12,401	05/2007-06/2010.
<i>Pittsburgh Biomedical Informatics Training Program</i>	Co-I with Effort (Principal Investigator: R.S. Crowley)	National Institutes of Health (NIH) \$216,000	07/2010-06/2011.
<i>Air Force Medical Service (AFMS) Telepathology Project</i>	Co-I with Effort (Principal Investigator: A. Parwani)	US Department of Defense (DOD) \$1,512,000	01/2013-12/2013.
<i>Telepathology iPhone app Development for Digital Consultations</i>	Pantanowitz, Liron PI	Shadyside Hospital Foundation \$13,100	06/2013-12/2013.
<i>R01 Nanoscale Single-Cell Analysis of Exfoliative Cytology</i>	Co-I with Effort (Principal Investigator: Y. Liu)	National Institutes of Health (NIH) \$1,332,074	04/2013-03/2017.
<i>Cancer Center Support Grant for NCI-designated Cancer Center</i>	Co-I with Effort (Principal Investigator: A. Brufsky)	National Institutes of Health (NIH) \$129,534	08/2015-07/2018.
<i>Clinical Proteomic Tumor Analysis Consortium Phase III Tissue Source Site</i>	Co-I with Effort (Principal Investigator: R. Dhir)	Leidos \$26,234	09/2015-08/2019.
<i>Industry-sponsored Research Grant for Image Search</i>	Pantanowitz, Liron PI	Huron Digital Pathology \$63,357	06/2016-06/2018.
<i>Industry-sponsored Research Grant for Renal Cancer AI Algorithm Development</i>	Pantanowitz, Liron PI	Cytosavy \$74,535	04/2017-01/2018.
<i>Industry-sponsored Research Grant for Breast Cancer Mitosis Algorithm Validation</i>	Pantanowitz, Liron PI	Lunit \$79,866	03/2017-03/2020.
<i>Industry-sponsored Research Grant for Prostate Cancer Deep Learning Algorithm Validation</i>	Pantanowitz, Liron PI	Ibex \$40,250	04/2017-01/2020.
<i>Placenta Pathology Deep Learning Algorithm Development</i>	Pantanowitz, Liron PI	Pittsburgh Healthcare Data Alliance (PHDA) \$211,037	10/2017-01/2020.

<i>Industry-sponsored Research Grant for 3D Automated Microscopy</i>	Co-I with Effort (Principal Investigator: R. Dhir)	3Scan \$58,734	12/2018-12/2019.
<i>Industry-sponsored Research Grant for Leukemia AI Algorithm Development</i>	Pantanowitz, Liron PI	Cytometrix \$25,156	04/2019-02/2020.
<i>Utility of PRAME immunohistochemistry in the cytologic diagnosis of melanoma,</i>	Principal Investigator: Liron Pantanowitz	Department of Pathology, University of Michigan, \$7,946	12/2021-Present.
<i>Conventional Chondrosarcoma of the Chest Wall: Clinicopathologic and Molecular Analysis,</i>	Co-PI (Principal Investigator: David Lucas)	Department of Pathology, University of Michigan, \$16,999	08/2021-Present.

Non-funded Research:

Patents

Issued

1. Sample Imaging and Imagery Archiving for Imagery Comparison, US Patent # 11257216, Co-Inventor, Issue date 2/22/2022. European Patent 3883450 9/1/2021. Japanese Patent PCT/IB2019/059949 2/17/2023.
2. Systems and Methods for Specimen Interpretation, Co-Inventor, US Patent # 16653571, Issue date 11/2/2022.

Application in Process

1. Method for Object Detection Using Hierarchical Deep Learning, Patent # US 2021/0327061 A1, Co-Inventor, Submitted Oct 10/2021. Pending.
2. METODO E SISTEMA PER LA GESTIONE DI IMMAGINI DIGITALI IN TEMPO REALE GENERATE DA PIATTAFORMA OTTICA DIGITALE (Method and system for managing digital images in real time generated by digital optical platform), Patent # I0194601/CS, Submitted 07/19/2022. Pending.

CURRENT RESEARCH INTERESTS

- Pathology Informatics – Digital pathology, laboratory information systems, artificial intelligence.
- Cytopathology – Non-gynecological cytopathology, applications of innovative technology.

Editorial Positions, Boards, and Peer-Review Service

International

- 2012 Peer-Reviewer, International Academy of Cytopathology “Case of the Month”
- 2013 Reviewer, Wittgenstein Award (EUR 1.5 million) Austrian Science Fund
- 2015-2020 Member, USCAP Education Informatics Subcommittee

- 2020 Grant reviewer, UK Medical Research Council (MRC)

National

- 2001-2002 Member, AABB (American Association of Blood Banks) Scientific Section Committee
- 2011-2013 Member, AIDS Malignancy Clinical Trials Consortium (AMC) for Kaposi Sarcoma, National Cancer Institute (NCI)
- 2012-2014 Member, Association Pathology Informatics Training and Education Committee
- 2013-2018 Member, Lab Management University (LMU) Informatics Working Committee
- 2014-2020 Member, National Cancer Informatics Program (NCIP) Whole Slide Imaging work group
- 2016-present Member, DICOM Working Group Membership on WG-26
- 2020-present Member, The Alliance for Digital Pathology, Pre-analytics Committee
- 2023-present Member, College of American Pathologists (CAP) Practice Integration and Education in AI (PIE-AI) work group
- 2023-present Grant reviewer, American Institute of Biological Sciences (AIBS), for Andy Hill CARE Fund Life Science start-up and development grant program
- 2023-present Board member, Quest Diagnostics Venture (QDV), Pennsylvania

Regional

- 2008-2010 Member, Center of Excellence in Apoptosis Research, Pioneer Valley Life Sciences Institute, Springfield, MA

Institutional

- 2007 Grant Reviewer, Collaborative Biomedical Research Program, University of Massachusetts, Amherst & Baystate Medical Center, Springfield, MA
- 2011-2020 University of Pittsburgh Cancer Institute (UPCI) Cancer Virology Program
- 2018 Grant Reviewer, Alzheimer Disease Research Center, University of Pittsburgh

- 2020 Grant reviewer, Center for Clinical & Translational Science (CCTS), Ohio State University, Columbus, OH

Editorial Boards

- 1996 Editor-in-Chief, The Leech Medical Journal, University of the Witwatersrand
- 2005-2007 Editorial Review Board Member, American Society of Cytopathology (ASC)
- 2005-2021 International Editorial Board Member, HIV and AIDS Review
- 2006-2011 Editorial Board of The AIDS Reader. Section co-editor for Images in HIV/AIDS
- 2007-2009 Editor, Baystate Reference Laboratory (BRL) News
- 2008-present Associate Editor, Cytojournal
- 2009-2010 Member, PathXchange Case Editorial Board
- 2010 Lead Guest Editor, HIV/AIDS edition of Pathology Research International
- 2010-2013 Editorial Board Member, Head & Neck Pathology
- 2010-2018 Editorial Board Member, Translational Biomedicine
- 2010-present **Founder** and Editor in Chief, Journal of Pathology Informatics
- 2011-2014 Editor, ASCP Pathology Informatics Case Reports (formerly CheckSample)
- 2011-present Editorial Board Member, Diagnostic Pathology
- 2012-2018 Editorial Board Member, Journal of OncoPathology
- 2012-present Section Editor, Digital Pathology Archives of Pathology & Laboratory Medicine.
- 2013-present Associate and Deputy Editor, Diagnostic Cytopathology
- 2013-present Associate Editor, Journal of the American Society of Cytopathology (JASC)
- 2013-present Editorial Board Member, Cancer Cytopathology
- 2013-2018 Editorial Board Member, International Journal of Case Reports in Medicine
- 2013-2018 Section Editor, Timely Reviews Diagnostic Cytopathology
- 2015-2018 Editorial Board Member, Video Journal of Pathology
- 2018-present Editorial Board Member, Pathologica

- 2019-present Section Editor, International Perspectives Section Cancer Cytopathology
- 2019-2023 Associate Editor, Modern Pathology
- 2019-present Editorial Board Member, American Journal of Pathology
- 2020-present Editorial Board, Cytopathology
- 2020-present Editor, Pathology Informatics selected abstracts, CAP Today
- 2022-present Guest Editor, Advances in Anatomic Pathology (AAP), Volume 29(6)
- 2023-present Editorial Board Member, Annals of Diagnostic Pathology
- 2019-present Senior Associate Editor, Modern Pathology
- 2023-present Editorial Board, CytoJournal Monograph & Atlas Series (CMAS) Journal

Journal Reviewer

- 2010-present Journal of Pathology Informatics (**Editor-in-Chief**)
- 2010-present Cytojournal (**Editorial board**)
- 2010-present Diagnostic Cytopathology (**Editorial board**)
- 2010-present Diagnostic Pathology (**Editorial board**)
- 2010-present Cytopathology (**Editorial board since 2020**)
- 2010-present Acta Cytologica (Ad Hoc)
- 2010-present Histopathology (Ad Hoc)
- 2010-present Human Pathology (Ad Hoc)
- 2012-present Journal of American Society Cytopathology (**Editorial board**)
- 2018-Present Head & Neck Pathology (Ad Hoc, past **Editorial board**)
- 2018-present American Journal of Pathology (**Editorial board**)
- 2019-present American Journal of Clinical Pathology (Ad Hoc)
- 2019-present Archives Pathology Laboratory Medicine (**Editorial board**)
- 2019-present Cancer Cytopathology (**Editorial board**)

- 2019-present Modern Pathology (**Editorial board**)
- 2020-present Laboratory Investigation (Ad Hoc)
- 2020-present Academic Pathology (Ad Hoc)
- 2020-present Journal of Microscopy (Ad Hoc)
- 2020-present Clinical Case Reports (Ad Hoc)
- 2020-present Expert Review of Medical Devices (Ad Hoc)
- 2020-present Expert Review of Molecular Diagnostics (Ad Hoc)
- 2020-present IEEE Transactions on Medical Imaging (Ad Hoc)
- 2020-present Nature Protocols (Ad Hoc)
- 2020-present JAMA (Ad Hoc)
- 2020-present Brain Pathology (Ad Hoc)
- 2020-present Scientific Reports (Ad Hoc)
- 2020-present Journal of Clinical Investigation (Ad Hoc)
- 2020-present Molecular Cancer Research (Ad Hoc)
- 2021-present PLOS One (Ad Hoc)
- 2022-present Clinical & Experimental Medicine (Ad Hoc)
- 2022-present iScience (Ad Hoc)
- 2022-present Journal of Engineering in Medicine (Ad Hoc)
- 2022-present Advances in Anatomic Pathology (Ad Hoc)
- 2022-present Journal of Medical Imaging (Ad Hoc)
- 2022-present Journal of Clinical Laboratory Analysis (Ad Hoc)
- 2022-present Breast Cancer Research (Ad Hoc)

INVITED SEMINARS AND LECTURESHIPS

Extramural Invited Presentations

1. Therapeutic applications of angiogenesis inhibitors, Grand Rounds, Department of Medicine, Beth Israel Deaconess Medical Center, Harvard Medical School, May 2003, Boston, MA
2. AIDS-related lymphomas, Professor Rounds, Department of Medicine, Metro West Medical Center, November 2004, Framingham, MA
3. HIV and the Breast, National Cancer Institute (NCI) AIDS Malignancy Task Force, NIH, February 2006, Bethesda, MA
4. Atypical squamous cells, cannot exclude high grade squamous intraepithelial lesion (ASC-H): morphology, predictive value, clinical management and molecular testing, American Society of Cytopathology (ASC) National Cyto Teleconference, February 2006, Webinar.
5. Kaposi's sarcoma, Pathology Update, University of Vermont, September 2006, Burlington, VT
6. Screening for Chlamydia: a co-carcinogen in cervical dysplasia, Upper New York State Society of Cytology (UNYSSC) Annual Fall Meeting, September 2007, Syracuse, NY
7. The Emerging Role of Digital Imaging in Gynecologic Cytology, Upper New York State Society of Cytology (UNYSSC) Annual fall meeting. Syracuse, NY, September 2007.
8. Practice Evolution: Decentralized Computer-Assisted IHC Image Analysis, CAP Foundation Futurescape Conference, June 2008, Rosemont, IL
9. Kaposi's sarcoma: A model of oncogenesis, Pioneer Valley Life Sciences Institute (PVLISI), August 2008, Springfield, MA
10. Hardware, Software, Vaporware: Informatics for Pathologists, American Society for Clinical Pathology (ASCP) Annual Meeting, October 2008, Baltimore, MD
11. Practical Cytology Informatics, American Society of Cytopathology (ASC). 56th Annual Scientific Meeting, November 2008, Orlando, FL
12. Impact of Informatics on Pathology Practice, Boston Medical Center, Grand Rounds, January 2009, Boston, MA
13. Global AIDS and its influence on Cytopathology, The International Academy of Cytology (IAC) seminar at the American Society of Cytopathology (ASC) 57th Annual Scientific Meeting, November 2009, Denver, CO
14. The cytopathology & informatics partnership: current and future roles of informatics in cytopathology, Innovations & Trends in Cytology Session at the American Society of Cytopathology (ASC) 57th Annual Scientific Meeting, November 2009, Denver, CO
15. Panel discussion: Barriers and drivers to the adoption of digital imaging and WSI, Cerner, CoPath Workshop, February 2010, Waltham, MA
16. Imaging in AP - Current and Future State, Digital imaging in the field of cytology, Cerner, CoPath Workshop, February 2010, Waltham, MA

17. Kaposi sarcoma: A model of oncogenesis, Dermatology Grand Rounds, University of California San Francisco (UCSF), February 2010, San Francisco, CA
18. Digital Pathology: Benefits of Whole Slide Imaging, Bioimagene: Digital pathology presentation series. United States & Canadian Academy of Pathology (USCAP) Annual Meeting, March 2010, Washington DC
19. Alternate telepathology platforms, Association of Directors of Anatomic and Surgical Pathology (ADASP): Telepathology and Other Future Technologies Session, United States & Canadian Academy of Pathology (USCAP) Annual Meeting, March 2010, Washington, DC
20. Digital images & the future of digital pathology, New Frontiers in Digital Pathology, 1st Annual Digital Pathology Summit, University of Nebraska Medical Center, May 2010, Omaha, NE
21. Computer basics – bits to networks, Pathology Informatics Meeting, September 2010, Boston, MA
22. Manageable quality measures in Anatomical Pathology, Pathology Informatics Meeting, September 2010, Boston, MA
23. Review of digital imaging in pathology, American Society for Clinical Pathology (ASCP) Annual Meeting, October 2010, San Francisco, CA
24. Review of pathology informatics, American Society for Clinical Pathology (ASCP) Annual Meeting, October 2010, San Francisco, CA
25. Errors in non-gynecological cytopathology & pathology: there is more to learn from system failures than from system successes, Workshop, American Society of Cytopathology (ASC) 58th Annual Scientific Meeting, November 2010, Boston, MA
26. Practical cytology informatics, Workshop, American Society of Cytopathology (ASC) 58th Annual Scientific Meeting, November 2010, Boston, MA
27. Cytopathology of infectious diseases. Video microscopy tutorial, American Society of Cytopathology (ASC) 58th Annual Scientific Meeting, November 2010, Boston, MA
28. Informatics in Cytopathology, Africa Calls Teleconference, Annenberg Center for Health Sciences, November 2010, Rancho Mirage, CA
29. Recent trends in Pathology Informatics, Pittsburgh Pathology Society, February 2011, Pittsburgh, PA
30. Kaposi sarcoma update, Grand rounds. Department of Pathology, Allegheny General Hospital, February 2011, Pittsburgh, PA
31. Contemporary issues related to Kaposi sarcoma, Grand Rounds, Department of Pathology, University of Pittsburgh Medical Center, February 2011 Pittsburgh, PA
32. Whole Slide Imaging: Education, tumor boards and education, College of American Pathologists Companion Meeting, Whole Slide Imaging: The Here and Now, United States & Canadian Academy of Pathology (USCAP) Annual Meeting, February 2011, San Antonio, TX
33. Role and Implementation of Informatics, McMaster University, May 2011, Hamilton, ON, Canada

34. Introduction to Pathology Informatics, Virtual Management College Webinar, College of American Pathologists (CAP), June 2011, Webinar
35. Cytopathology of Infectious Diseases, American Society of Cytopathology (ASC) Cyto-E-teleconference, August 2011, Webinar
36. Block and slide tracking in Anatomic Pathology as an essential element of a quality and safety program, College of American Pathologists (CAP) Annual Meeting, September 2011, Grapevine, TX
37. Pathology Informatics Fellowship, Roundtable, ASCP Meeting, September 2011, Las Vegas, NV
38. Stand-alone applications: filling the LIS functionality gaps, Pathology Informatics Meeting, October 2011, Pittsburgh, PA
39. Current overview of pathology informatics literature: key articles in JPI and trends in the field, Pathology Informatics 2011 Meeting Plenary Session, October 2011, Pittsburgh, PA
40. Validating whole slide imaging systems for diagnostic use in pathology, Webinar for the Personalized Health Care (PHC) Series, College of American Pathologists (CAP), October 2011, Webinar
41. Informatics in the anatomical pathology laboratory: making it work for you, American Society for Clinical Pathology (ASCP) Annual Meeting, October 2011, Las Vegas, NV
42. Practical cytology informatics workshop, American Society of Cytopathology (ASC) 59th Annual Scientific Meeting, November 2011, Baltimore, MD
43. Papanicolaou society of cytopathology seminar: Digital pathology - current & future state in cytology, American Society of Cytopathology (ASC) 59th Annual Scientific Meeting, November 2011, Baltimore, MD
44. The era of digital pathology consultation, BioConference Live: Clinical Diagnostics, May 2012, Webinar
45. Digital pathology: current applications in pathology, Huaxia Pathology Information Net, IPATHOLOGY, July 2012, China, (available at <http://teach.ipathology.cn/article/13818.html>)
46. Block and slide tracking in Anatomic Pathology as an essential element of a quality and safety program, College of American Pathologists (CAP) Annual Meeting, September 2012, San Diego, CA
47. Challenging image-guided FNA cases, University of the Witwatersrand, School of Pathology, September 2012, Johannesburg, South Africa
48. Multimodality telepathology experience at UPMC, XXIXth Congress of the International Academy of Pathology (IAP), October 2012, Cape Town, South Africa
49. Pathology Informatics: Past, present and future trends, XXIXth Congress of the International Academy of Pathology (IAP), October 2012, Cape Town, South Africa
50. Whole slide imaging in education and proficiency testing, XXIXth Congress of the International Academy of Pathology (IAP), October 2012, Cape Town, South Africa

51. Giant cell carcinoma of the pancreas, Cytological and histological approaches to difficult hepatobiliary and pancreatic masses, XXIXth Congress of the International Academy of Pathology (IAP), October 2012, Cape Town, South Africa
52. Foamy gland variant of pancreatic adenocarcinoma, Cytological and histological approaches to difficult hepatobiliary and pancreatic masses, XXIXth Congress of the International Academy of Pathology (IAP), October 2012, Cape Town, South Africa
53. Granular cell tumor of the thyroid gland. Head & Neck Seminar, XXIXth Congress of the International Academy of Pathology (IAP), October 2012, Cape Town, South Africa
54. Recent advances in Kaposi sarcoma, XXIXth Congress of the International Academy of Pathology (IAP), October 2012, Cape Town, South Africa
55. Digital pathology consultation: A decade of experience at UPMC, Pathology Informatics 2012 Meeting, October 2012, Chicago, IL
56. Recommendations for validating whole slide imaging for diagnostic purposes in pathology, Pathology Visions Annual Conference of the Digital Pathology Association (DPA), October 2012, Baltimore, MD
57. API Workshop: Informatics in the Anatomical Pathology laboratory – making it work for you, American Society Clinical Pathology (ASCP) Annual Meeting, October-November 2012, Boston, MA
58. Pathology Informatics: theory and practice – introduction to a new text by the editors, American Society Clinical Pathology (ASCP) Annual Meeting, October-November 2012, Boston, MA
59. CAP companion meeting: Digital imaging: It's a brave new world for Pathology, American Society Clinical Pathology (ASCP) Annual Meeting, October-November 2012, Boston, MA
60. Cytopathology of infectious diseases, A virtual video microscopy workshop, American Society Clinical Pathology (ASCP) Annual Meeting, October-November 2012, Boston, MA.
61. Morphology and molecular update in thoracic and mediastinal cytopathology, American Society of Cytopathology (ASC) 60th Annual Meeting, November 2012, Las Vegas, NV
62. Bridging the gap between basic histology and cytopathology, American Society of Cytopathology (ASC) 60th Annual Meeting, November 2012, Las Vegas, NV
63. FNA of solid pancreatic neoplasms, University of Pittsburgh Medical Center Grand Rounds, January 2013, Pittsburgh, PA
64. Digital pathology: The big picture, Molecular Med Tri-Conference, February 2013, San Francisco, CA
65. Integrating pathology images & information systems, Roundtable, Molecular Med Tri-Conference, February 2013, San Francisco, CA
66. Tracking as part of an AP QA program - why do it, United States Canadian Academy of Pathology (USCAP) 102nd Annual Meeting, CAP Companion Meeting, March 2013, Baltimore, MD

67. Teleconsultation, United States Canadian Academy of Pathology (USCAP) 102nd Annual Meeting, API Companion Meeting, March 2013, Baltimore, MD
68. Cytopathology of infectious diseases. Target meeting's 2nd World Virology & Microbiology Online Conference, April 2013, Webinar
69. How digital imaging affects your LIS choices, American Pathology Foundation (APF), April 2013, Webinar
70. Biomarkers and targeted therapy for Kaposi sarcoma, Biomarkers & Diagnostics World Congress, May 2013, Philadelphia, PA
71. Validation of whole slide imaging in pathology, Biomarkers & Diagnostics World Congress, May 2013, Philadelphia, PA
72. Cytopathology of soft tissue: a practical approach, Biomarkers & Diagnostics World Congress, May 2013, Philadelphia, PA
73. Validating whole slide imaging systems for diagnostic purposes in pathology: guidance overview & discussion, CAP, May 2013, Webinar
74. Barcoding in the anatomical pathology lab, BioConference Live Clinical Diagnostics Virtual Conference, May 2013, Webinar
75. Digital Pathology – Recommendation for validation, Webinar for CLIA Partners in Laboratory Oversight Meeting, June 2013, Webinar
76. Current status of whole slide imaging, telepathology & light microscopic image analysis, Presidential Symposium, American Association of Neuropathologists (AANP) Annual Meeting, June 2013, Charleston, SC
77. UPMC Digital Pathology: Past, present and future, US Air Force Telepathology Summit, July 2013, San Antonio, TX
78. CAP recommendations for validating whole slide imaging systems for diagnostic purposes in pathology, US Air Force Telepathology Summit, July 2013, San Antonio, TX
79. Value of informatics in the histology laboratory, 5th Annual IHC/Molecular Forum, July 2013, Bethesda, MD
80. Informatics in the anatomical pathology laboratory: making it work for you, ASCP Annual Meeting, August 2013, Chicago, IL (Selected for Lab Management University (LMU) certification)
81. Whole slide imaging: CAP validation guidelines, application and regulation issues for clinical implementation, ASCP Annual Meeting, August 2013, Chicago, IL
82. Value of informatics in the histology laboratory, 39th Annual National Society of Histotechnology (NSH) Symposium, September 2013, Providence, RI
83. Block and slide tracking in Anatomic Pathology as an essential element of a quality and safety program, College of American Pathologists (CAP) Annual Meeting, October 2013, Orlando, FL

84. Validation of whole slide imaging systems for diagnostic purposes in Pathology – what’s needed, Round table, College of American Pathologists (CAP) Annual Meeting, October 2013, Orlando, FL
85. Managing laboratory information: Hot topics, College of American Pathologists (CAP) Annual Meeting, October 2013, Orlando, FL
86. Leveraging digital pathology: Past, present and future applications at UPMC, Grand Rounds, Yale School of Medicine, Department of Pathology, October 2013, New Haven, CT
87. Personalized genomic medicine & bioinformatics changing today’s practice of cytopathology, American Society of Cytopathology (ASC) 61st Annual Scientific Meeting, November 2013,
88. Morphology and molecular update in thoracic and mediastinal cytopathology, American Society of Cytopathology (ASC) 61st Annual Scientific Meeting, November 2013, Orlando, FL
89. Bridging the gap between basic histology and cytopathology, American Society of Cytopathology (ASC) 61st Annual Scientific Meeting, November 2013, Orlando, FL
90. WSI validation review and forecasts, Digital Pathology Association (DPA), January 2014, Webinar
91. American Telemedicine Association (ATA) updated guideline on telepathology, Molecular Tri-Con Meeting, February 2014, Webinar
92. Digital pathology: The UPMC experience, Grand Rounds, University of California San Francisco (UCSF), Department of Pathology, February 2014, San Francisco, CA
93. Practical approach to soft tissue cytology, American Society for Cytotechnology, February 2014, Webinar
94. Barriers to the adoption of digital pathology in clinical practice, Bioimaging Day, Carnegie Mellon University, February 2014, Pittsburgh, PA
95. Next generation sequencing and current biomedical informatics Challenges, Papanicolaou Society of Cytopathology (PSC) Companion Meeting Presentation at the USCAP Annual Meeting, March 2014, San Diego, CA
96. Cytology Education Learning Lab (CELL) website, American Society of Cytopathology (ASC), May 2014, Webinar
97. American Telemedicine Association: New telepathology guidelines, Pathology Informatics Summit, May 2014, Pittsburgh, PA
98. Journal of Pathology Informatics update, Pathology Informatics Summit, May 2014, Pittsburgh, PA
99. Design, implementation, and evaluation of a model telepathology network for the Air Force Medical Service (AFMS) Lightning round, American Telemedicine Association (ATA) Meeting, May 2014, Baltimore, MD
100. Roadmaps providing new standards for telemedicine services: ATA’s practice guidelines, American Telemedicine Association (ATA) Meeting, May 2014, Baltimore, MD

101. Advances in digital pathology at UPMC: Impact on patient safety and quality assurance, Shadyside Hospital Foundation, June 2014, Pittsburgh, PA
102. The growing use of digital images in pathology: Discover the opportunities and challenges of using digital pathology in your laboratory, The Pathology Blawg, July 2014, Webinar
103. Informatics and GME education: Preparing future generations for success, Association of Pathology Chairs (APC) Annual Meeting, July 2014, Boston, MA
104. Customizing the laboratory information system to improve patient safety and workflow, 40th Annual National Society of Histotechnology (NSH) Symposium, August 2014, Austin, TX
105. Validation of whole slide imaging systems for diagnostic purposes in Pathology – what’s needed, Roundtable, College of American Pathologists (CAP) Annual Meeting, September 2014, Chicago, IL
106. Implementing whole slide imaging for clinical use: what to do and what to avoid, College of American Pathologists (CAP) Annual Meeting, September 2014, Chicago, IL
107. Customizing the laboratory information system to improve patient safety and workflow in the pathology laboratory, College of American Pathologists (CAP) Annual Meeting, September 2014, Chicago, IL
108. Educating residents in computational pathology and informatics, North East Association of Pathology Chairs Meeting, September 2014, Bermuda
109. Approach to diagnosing spindle & myxoid soft tissue tumors, Hospital 301 Annual Pathology Meeting, September 2014, Beijing, China
110. Telepathology practice: guidelines & clinical applications, American Society of Clinical Pathology (ASCP) Annual Meeting, October 2014, Tampa, FL
111. Next generation pathology: building practice changing informatics tools for the pathology laboratory, American Society of Clinical Pathology (ASCP) Annual Meeting, October 2014, Tampa, FL
112. Image file management to support international telepathology, International Academy of Digital Pathology (IADP) 2nd International Congress, November 2014, Boston, MA
113. Validation of whole slide imaging in pathology, International Academy of Digital Pathology (IADP) 2nd International Congress, November 2014, Boston, MA
114. Cytopathology queries for WSI validation: From CAP guidelines on validating whole slide imaging systems for diagnostic purposes in pathology, American Society of Cytopathology 62nd Annual Scientific Meeting, November 2014, Dallas, TX
115. Morphology & molecular update in thoracic & mediastinal cytopathology, American Society of Cytopathology 62nd Annual Scientific Meeting, November 2014, Dallas, TX
116. Molecular musical roundtable discussions: Soft tissue, American Society of Cytopathology 62nd Annual Scientific Meeting, November 2014, Dallas, TX

117. Overcoming barriers in adoption of Digital Pathology panel discussion, Digital Pathology Congress, December 2014, London, UK
118. Pros & cons of Digital Pathology (keynote address), Digital Pathology Congress, December 2014, London, UK
119. Significance and practical applications of ATA clinical guidelines for telepathology, Association of Pathology Informatics (API) and American Telemedicine Association (ATA), January 2015, Webinar
120. Telepathology practice – review the pros & cons of different telepathology applications, University of Miami 39th Annual Review & Recent Practical Advances in Pathology, February 2015, Miami, FL
121. Running a FNA clinic – what is involved, University of Miami 39th Annual Review & Recent Practical Advances in Pathology, February 2015, Miami, FL
122. Informatics and current pathology practice, University of Miami 39th Annual Review & Recent Practical Advances in Pathology, February 2015, Miami, FL
123. Google Glass for Pathology, Molecular Med Tri-Con Digital Pathology Conference, February 2015, San Francisco, CA
124. Pathology Informatics Essentials for Residents (PIER) a novel resource for educating pathology residents, Pathology Informatics Summit, May 2015, Pittsburgh, PA
125. Digital pathology: imaging systems, practice and guidelines, Pathology Informatics Summit, May 2015, Pittsburgh, PA
126. Cytopathology of soft tissue: A practical approach, UPMC Cytology Regional Conference, June 2015, Pittsburgh, PA
127. Digital pathology strategy, Digital Pathology Online Workshop, June 2015, Monza MB, Italia
128. Is digital pathology ready? The pros and cons of digital imaging in pathology, New York State Society of Pathologists Annual Meeting, September 2015, Niagara Falls, NY
129. How digital pathology will change the workflow of surgical pathology, Association of Pathology Informatics and Sunquest Information Systems, September 2015, Webinar ([Lecture available on YouTube](#))
130. Validation of whole slide imaging systems for diagnostic purposes in pathology – what’s needed, College of American Pathologists (CAP) Annual Meeting, October 2015, Nashville, TN
131. Implementation of whole slide imaging for clinical use: what to do and what to avoid, College of American Pathologists (CAP) Annual Meeting, October 2015, Nashville, TN
132. Customizing the anatomic pathology laboratory information system to improve patient safety and workflow, College of American Pathologists (CAP) Annual Meeting, October 2015, Nashville, TN
133. Thyroid FNA Update, UPMC Pasavant Grand Rounds, October 2015, Pittsburgh, PA
134. WSI validation workshop: pathologist and vendor perspectives, Pathology Visions Digital Pathology Association (DPA) Meeting, October 2015, Boston, MA

135. Insourcing: selection and implementation of a digital pathology consultation platform, Pathology Visions Digital Pathology Association (DPA) Meeting, October 2015, Boston, MA
136. Preparing for primary digital diagnosis: what is involved, Pathology Visions Digital Pathology Association (DPA) Meeting, October 2015, Boston, MA
137. Digital cytopathology: digital imaging – where are we and what’s next, American Society of Clinical Pathology (ASCP) Annual Meeting, October 2015, Long Beach, CA
138. Morphology and molecular update in thoracic and mediastinal cytopathology, American Society of Clinical Pathology (ASCP) Annual Meeting, October 2015, Long Beach, CA
139. Digital Pathology, GE Minds & Machines Conference, November 2015, Dubai, UAE
140. Soft tissue: molecular musical roundtable discussions, American Society of Cytopathology (ASC) Annual Meeting, November 2015, Chicago, IL
141. Challenging hematopathology cases in FNA and small biopsies: lesions other than non-Hodgkin lymphoma, American Society of Cytopathology Annual Meeting, November 2015, Chicago, IL
142. A morphologic approach to soft tissue lesions, American Society of Cytopathology (ASC) Annual Meeting, November 2015, Chicago, IL
143. Insourcing opportunities using telepathology, II Ibero-American Congress on Telehealth and Telemedicine, November 2015, Seville, Spain
144. Mobile health and the future of digital pathology, 2nd Digital Pathology Congress, December 2015, London, UK
145. Experiences from Pittsburgh with the Omnyx solution, 2nd Digital Pathology Congress, December 2015, London, UK
146. Keynote address: Contemporary guidelines in digital pathology, 2nd Digital Pathology Congress, December 2015, London, UK
147. Expanding access to expertise: UPMC digital pathology consultation service, GE Omnyx, December 2015, Webinar
148. Innovative trends in digital cytology, MD Anderson Cancer Center Pathology Grand Grounds, January 2016, Houston, TX
149. Return on investment for digital pathology, Breakout Session, Molecular Med Tri-Con Meeting, March 2016, San Francisco, CA
150. Cytology digital consultation, Molecular Med Tri-Con Meeting, March 2016, San Francisco, CA
151. International telepathology makes difference, Molecular Med Tri-Con Meeting, March 2016, San Francisco, CA
152. Image analysis in current clinical practice, USCAP Annual Meeting API Companion Meeting, March 2016, Seattle, WA

153. Digital pathology: pros and cons, Pennsylvania Association of Pathologists (PAP) Annual Scientific Meeting, April 2016, Harrisburg, PA
154. Touch preparations – indications for use and proper technique, 4th Annual Regional Pathologists' Assistants Conference, April 2016, Pittsburgh, PA
155. Digital Cytology, Grand Rounds, University of Vermont Medical Center, May 2016, Burlington, VT
156. Keynote talk: Telepathology systems: Matching up different systems with suitable applications, DigitalPath Europe Meeting, May 2016, London, UK
157. Applying 3D printing to pathology practice, Pathology Informatics Summit, May 2016, Pittsburgh, PA
158. Implementing digital pathology at a large academic medical center: the nuts and bolts, Pathology Informatics Summit, May 2016, Pittsburgh, PA
159. Strategies and demands for digital pathology workflow integration, Keynote Lecture, 13th European Congress on Digital Pathology, May 2016, Berlin, Germany
160. Comparison display resolution on user impact for digital pathology, 13th European Congress on Digital Pathology, Quality Assessment and Quality Management Symposium, May 2016, Berlin, Germany
161. Impacting clinical, workflow & economic outcomes with digital pathology, 13th European Congress on Digital Pathology, GE Healthcare: Global Experiences from Implementing Omnyx Digital Pathology Symposium, May 2016, Berlin, Germany
162. Keynote address: What is the killer app in digital pathology, 2nd Digital Pathology Congress USA, July 2016, Philadelphia, PA
163. Overview of telepathology, Weill Cornell 7th Annual Papanicolaou Tutorial on Updated Diagnostic Cytopathology, July 2016, New York City, NY
164. Strategies and demands for digital pathology workflow integration, Webinar, International Summer School on Digital Pathology, September 2016, Aviano, Italy
165. Image analysis: pros and cons, Diagnostic Services of Manitoba (DSM) Digital Pathology Symposium, September 2016, Winnipeg, Canada
166. Development and validation of quantitative image analysis in anatomic pathology for diagnostic, prognostic, and predictive purposes, College of American Pathologists (CAP) Annual Meeting, September 2016, Las Vegas, NV
167. Implementing whole slide imaging for clinical use: what to do and what to avoid, college of American Pathologists (CAP) Annual Meeting, September 2016, Las Vegas, NV
168. Whole slide imaging, Pathology Informatics Symposium, HIMSS Asia Pacific Meeting, October 2016, Singapore
169. Pathology Informatics: Overview & hot topics, Pathology Informatics Symposium, HIMSS Asia Pacific Meeting, October 2016, Singapore

170. Telecytology: Applications & challenges, Webinar, Australian Society of Cytology Annual Meeting, October 2016, Melbourne, Australia
171. Challenging hematopathology cases in FNA and small biopsies: lesions other than Non-Hodgkin Lymphoma, American Society of Cytopathology (ASC) Annual Meeting, November 2016, New Orleans, LA
172. Quantitative cytology and its emerging role in daily practice, American Society of Cytopathology (ASC) Annual Meeting, November 2016, New Orleans, LA
173. Current issues in cytology: telecytology, American Society of Cytopathology (ASC) Annual Meeting, November 2016, New Orleans, LA
174. Computer-aided diagnosis for pathology: pros & cons, MD Anderson Cancer Center Grand Rounds, January 2017, Houston, TX
175. Overview of informatics for the practicing pathologist, Texas Society of Pathologists 96th Annual Meeting, January 2017, Bastrop, TX
176. CAP quantitative image analysis guideline update, 24th Molecular Med Tri-Con Meeting, February 2017, San Francisco, CA
177. Diagnostic utility of viral cytopathic effect in cytopathology practice. University of Pittsburgh Cancer Institute, March 2017, Pittsburgh, PA
178. The impact of enterprise imaging on pathology, Digital Pathology Association Companion Meeting, United States and Canadian Academy of Pathology (USCAP), March 2017, San Antonio, TX
179. Primary diagnosis using digital pathology – are we there yet, Association of Pathology Informatics, March 2017, Webinar
180. Imaging analysis: pros and cons for pathology practice, Leopoldina Meeting, April 2017, San Servolo, Venice, Italy
181. Pathology informatics: critical information you need to know, Vanderbilt medical Center, April 2017, Nashville, TN
182. Digital imaging for clinical pathology, Vanderbilt Medical Center, April 2017, Nashville, TN
183. Image analysis in pathology: pros & cons, Cleveland Clinic, April 2017, Cleveland, OH
184. Cell block interpretation, Advanced Cytopathology Education (ACE) ASCP/ASC course, May 2017, New York City, NY
185. Killer APPS in digital pathology, Visiopharm North American User Group Meeting, Pittsburgh, PA, May 2017
186. Primary diagnosis and regulatory/DICOM landscape and how it will impact the use of digital images in pathology, Pathology Informatics Summit, May 2017, Pittsburgh, PA
187. RFP process for selecting a digital pathology solution, Pathology Informatics Summit, May 2017, Pittsburgh, PA

188. Mobile trends and novel applications in digital pathology, Pathology Informatics Summit, May 2017, Pittsburgh, PA
189. Rad-Path diagnostics: rethinking imaging informatics, Society for Imaging Informatics in Medicine (SIIM) Annual Meeting, June 2017, Pittsburgh, PA
190. Implementing digital pathology for primary diagnosis: lessons learned, Australasian Division of the International Academy of Pathology (IAP) ASM2017 Meeting, Digital & Quantitative Pathology Companion Session, June 2017, Sydney, Australia
191. Pathology Informatics: critical information you need to know, University of Illinois at Chicago, July 2017, Chicago, IL
192. Implication of FDA approval of WSI for primary diagnosis, University of Illinois at Chicago, July 2017, Chicago, IL
193. Computer aided diagnosis in pathology: pros & cons, Pathology Horizons Meeting, August 2017, Cairns, Australia ([Lecture available on YouTube](#))
194. What does FDA approval of a digital pathology system for use in primary diagnosis mean for the pathology industry, Dark Daily, August 2017, Webinar
195. Imprint cytology: beyond rapid on site evaluation, American Society of Clinical Pathology (ASCP) Annual Meeting. September 2017, Chicago, IL
196. Strategies and demands for digital pathology workflow integration, University of Nottingham image analysis training school, September 2017, Nottingham, UK
197. Quantitative image analysis of immunohistochemical biomarker for breast cancer – practical issues and a case-based approach following CAP guidelines, Pathology Visions Meeting, October 2017, San Diego, CA
198. Hot topic discussion: Joint NSH/DPA online digital pathology certificate of completion and current certification environment, Pathology Visions Meeting, October 2017, San Diego, CA
199. 20 years of digital pathology – an overview of the road travelled and what is on the horizon, AMIA Annual Symposium, November 2017, Washington, DC
200. Challenging hematopathology cases in FNA and small biopsies: lesions other than non-Hodgkin lymphoma, ASC 65th Annual Scientific Meeting, November 2017, Phoenix, AZ
201. Cytology Shark Tank, ASC 65th Annual Scientific Meeting, November 2017, Phoenix, AZ
202. Journal of ASC Hot Topics, ASC 65th Annual Scientific Meeting, November 2017, Phoenix, AZ
203. Sign-out with the professor: Approach to touch preparation cytology, ASC 65th Annual Scientific Meeting, November 2017, Phoenix, AZ
204. Digital cytology: current and future practice, ASC Cyto-econference eSeries, November 2017, Webinar
205. Keynote address: College of American Pathologists (CAP) guideline on quantitative image analysis (QIA), 4th Digital Pathology Congress Europe, December 2017, London, UK

206. Preparing an RFP for a Digital Pathology system, Association for Pathology Informatics (API) Digital Pathology Workshop, Henry Ford Hospital, December 2017, Detroit, MI
207. Whole slide imaging for primary diagnosis: is your practice prepared for the digital future, College of American Pathologists (CAP), December 2017, Webinar
208. The Emerging World of Enterprise Imaging and Its Impact on Pathology, Molecular Med Tri-Con 6th Annual Digital Pathology, February 2018, San Francisco, CA
209. Artificial intelligence vs. medical doctor: implications for the practice of surgical pathology, Panel discussion, Molecular Med Tri-Con 6th Annual Digital Pathology Meeting, February 2018, San Francisco, CA
210. Image analysis of pathology: pros and cons, Temple University Grand Rounds, February 2018, Philadelphia, PA
211. Frozen sections by digital scans, Association of Directors of Anatomic and Surgical Pathology (ADASP) Annual Meeting, March 2018, Vancouver, Canada
212. The data gold rush: value of pathology WSI repositories for machine learning, biomarker discovery and commercial use, API Companion Meeting, USCAP 107th Annual Meeting, March 2018, Vancouver, Canada
213. Cystic salivary gland lesions, USCAP 107th Annual Meeting, March 2018, Vancouver, Canada
214. Cytopathology in patient-centered care and personalized medicine, Africa Calls Teleconference, March 2018, Webinar
215. Impact of FDA approval on WSI, Pennsylvania Association of Pathologists (PAP) Annual Scientific Meeting, April 2018, Harrisburg, PA
216. Telepathology: The value of internal and international teleconsultation for cancer diagnostics. Digital Pathology: Advances in Cancer Diagnostics, Major symposium, American Association for Cancer Research (AACR) Annual Meeting, April 2018, Chicago, IL
217. Quantitative cytology and its emerging role in daily practice, American Society for Cytotechnology (ASCT), April 2018, Webinar
218. Top 5 questions about developing computational pathology algorithms: answers from a practicing pathologist and computational biologist, Pathology Informatics Summit, May 2018, Pittsburgh, PA
219. Computational cytopathology: past and prospective apps, Pathology Informatics Summit, May 2018, Pittsburgh, PA
220. Turning research repository images into gold: winning strategies for funding WSI research infrastructure and programs, Pathology Informatics Summit, May 2018, Pittsburgh, PA
221. Image analysis in pathology: pros and cons, National Center of Pathology, May 2018, Vilnius, Lithuania
222. Does pathologist input for AI apps matter, 14th European Congress on Digital Pathology (ECDP), May 2018, Helsinki, Finland

223. The emerging world of enterprise imaging and its impact on pathology, International Symposium on Innovation in Transplantation: The Digital Era, June 2018, Verona, Italy
224. American pathologists guidelines for validating whole-slide imaging for diagnostic purposes, International Symposium on Innovation in Transplantation, June 2018, Verona, Italy
225. Digital cytology: current and future practical applications, American Society for Clinical Pathology (ASCP), September 2018, Webcast
226. Automated quantification of CD8 cells in solid tumors: Is it right for your patients? Hillman Cancer Center Hematology-Oncology grand rounds, September 2018, Pittsburgh, PA
227. Implementing digital pathology for common clinical applications: a histotechnologist and pathologist's perspective, National Society for Histotechnologists (NSH) 44th Annual Meeting, September 2018, St. Louis, MO
228. Strategies and demands for digital pathology workflow integration, Nottingham Molecular Pathology Node, Image Analysis Training School, Webcast, September 2018, Nottingham, UK
229. The future of digital pathology, Plenary Talk, Società Italiana di Anatomia Patologica e Citologia Diagnostica – Divisione Italiana della International Academy of Pathology (SIAPEC-IAP), October 2018, Bari, Italy
230. The impact of Next Generation Sequencing on Whole Slide Imaging, Pathology Visions Meeting, November 2018, San Deigo, CA
231. Case studies in interoperability in digital pathology workflow: real world examples of LIS-integration with digital pathology systems, Pathology Visions Meeting, November 2018, San Deigo, CA
232. Evolution of digital pathology = revolution of medicine, Plenary Presentation, Pathology Visions Meeting, November 2018, San Diego, CA
233. Cytology Shark Tank, ASC 66th Annual Scientific Meeting, November 2018, Washington, DC
234. Everything you need to know about telecytology, but were afraid to ask, American Society of Cytopahtology (ASC) 66th Annual Meeting, November 2018, Washington, DC
235. Preparing an RFP for a Digital Pathology system, Association for Pathology Informatics (API) Digital Pathology Workshop, Ohio State University, December 2017, Columbus, OH
236. The impact of FDA approval on whole slide imaging, 26th International Molecular Med Tri-Con Meeting, March 2019, San Francisco, CA
237. The pathologist's evolving role in digital pathology and AI, CAP Companion Society Symposium USCAP Meeting, March 2019, National Harbor, MD
238. Digital Pathology in 2025, Digital Pathology Association (DPA), April 2019, Webinar
239. AI in Pathology, Joint Meeting of American College of Radiology, Association for Pathology Informatics & College of American Pathologists, May 2019, Pittsburgh, PA

240. Signing out anatomical pathology cases 5 years from now, Weill Cornell Grand Rounds, May 2019, New York City, NY
241. Digital pathology for everyday sign-out, Keynote, Varmote Patologi Meeting, May 2019, Linköping, Sweden
242. The pathologist's role in AI, Keynote, 6th Nordic Digital Pathology (NDP) Symposium, May 2019, Linköping, Sweden
243. A day in the life of a pathologist in 2025, Sociedad Espanola de Anatomia Patologica (SEAP)-International Academy of Pathology (IAP) Congress, May 2019, Granada, Spain
244. The future of digital pathology: a day in the life of a pathologist a decade from now, IVth International Symposium of Integrated Diagnosis, Skype presentation, June 2019, Bogotá, Columbia
245. Validating AI apps for pathology practice, Keynote address, 5th Digital Pathology & AI Congress, June 2019, New York City, NY
246. Digital pathology for everyday sign-out, Virginia Commonwealth University, June 2019, Richmond, VA
247. Digital pathology for everyday sign-out, University of Michigan, June 2019 Ann Arbor, MI
248. Touch preparations: indications for use and proper technique, University of the Witwatersrand, July 2019, Johannesburg, South Africa
249. Digital pathology for everyday sign-out, Mayo Clinic, July 2019, Rochester, MN
250. Digital pathology for everyday sign-out, University of Miami, July 2019, Miami, FL
251. What you need to know about performing frozen sections by digital scans, 11th Annual Generation Summit, August 2019, Washington, DC
252. Digital pathology for everyday sign-out, Japanese Society of Digital Pathology 18th Annual Meeting, August 2019, Hamamatsu, Japan
253. Digital pathology for everyday sign-out, Taiwanese Society of Pathology Meeting, September 2019, Taipei, Taiwan
254. Embedding AI into digital pathology workflows, 31st European Congress of Pathology, September 2019, Nice, France
255. Strategies and demands for digital pathology workflow integration, Webex, Nottingham Image Analysis Training School, September 2019, Webinar
256. Importance of pre-imaging factors in the histology laboratory, Pathology Visions Annual Meeting, October 2019, Orlando, FL
257. The critical role of the pathologist in digital pathology & AI, Pathology Visions Annual Meeting, October 2019, Orlando, FL
258. Quantitative image analysis: overview of the new CAP guideline for HER2 image analysis, Patologia Digital 8th Course SeAP-IAP, October 2019, Valencia, Spain

259. The business use case for digital pathology at UPMC, Patologia Digital 8th Course SeAP-IAP, October 2019, Valencia, Spain
260. Artificial intelligence and cytopathology, Memorial Sloan Kettering Cancer Center, November 2019, New York City, NY
261. How to personalize your cytology service in the era of personalized medicine, American Society of Cytopathology (ASC) 67th Annual Scientific Meeting, November 2019, Salt Lake City, UT
262. Everything you need to know about telecytology, but were afraid to ask, American Society of Cytopathology (ASC) 67th Annual Scientific Meeting, November 2019, Salt Lake City, UT
263. Digital pathology for everyday sign-out, Brigham & Women's Hospital, Harvard University, November 2019, Boston, MA
264. Digital pathology for everyday sign-out, University of Rochester, December 2019, Rochester, NY
265. Digital pathology for everyday sign out: are we there yet, California Society of Pathology 72nd Annual Meeting, December 2019, San Francisco, CA
266. Diagnostic problems in surgical pathology, California Society of Pathology 72nd Annual Meeting, December 2019, San Francisco, CA
267. A strategic view of the evolution of digital pathology on a five-year horizon. Digital Pathology & AI Workshop III. Association for Pathology Informatics (API). December 2019, Pittsburgh, PA.
268. Digital Pathology and Artificial intelligence: pros and cons. American College of Veterinary Pathologists (ACVP), January 2020, Webinar
269. What informatics means to the modern pathologist. Modern Pathology course. USCAP interactive learning center, February 2020, Palm Springs, CA
270. Embedding AI into digital pathology workflows, Digital Pathology Association companion meeting. USCAP annual meeting, March 2020, Los Angeles, CA
271. Artificial Intelligence meets Digital Pathology: Next generation morphology practice, special course, USCAP annual meeting, March 2020, Los Angeles, CA
272. Telecytology for rapid-on-site evaluation: from implementation to clinical challenges, short course, USCAP annual meeting, March 2020, Los Angeles, CA
273. Soft Tissue Cytopathology, American Society Cytopathology (ASC), April 2020, Webinar
274. Clinical validation of an AI-based algorithm for prostate cancer diagnosis in whole slide images of core needle biopsies, April 20, 2020, Webinar
275. Responding to COVID-19: informatics virtual conference. Association for Pathology Informatics (API), May 13, 2020, Webinar
276. The impact of the COVID-19 pandemic on laboratory procedures and personnel. American Society for Cytopathology (ASC), May 14, 2020, Webinar

277. COVID-19 & Cytology Labs. Centers for Disease Control and Prevention (CDC) Clinical Laboratory COVID-19 Response Call, June 8, 2020, Webinar
278. Architectural aspects of cell blocks as small biopsies. Virtual webinar on science of cellblockistry. Cytojournal and Cytopathology Foundation, July 11, 2020, Webinar
279. Effective frozen section and remote consultation models using digital pathology, Association for Pathology Informatics (API) virtual classroom, Digital Pathology realized: real-world advice from the experts. August 26, 2020, Webinar
280. Strategies and demands for digital pathology workflow integration. University of Nottingham image analysis training school, October 2020, Nottingham, UK
281. Clinical validation and deployment of an AI-based algorithm for prostate cancer diagnosis in whole slide images of core needle biopsies. University of Witwatersrand, Wits Faculty of Health Sciences virtual biannual research day, October 15, 2020, Johannesburg, South Africa
282. Computational staining of the tumor microenvironment. Virtual Biomarkers Conference, October 15, 2020
283. Strategic view of the evolution of digital pathology on a 5 year horizon. Association for Pathology Informatics (API) Digital Pathology & AI Workshop IV, October 23, 2020
284. Artificial Intelligence and Anatomical Pathology: Feasibility for clinical practice. Canadian Association of Pathologists, Webinar, October 26, 2020
285. Digital Pathology and regulations. National Society for Histotechnology (NSH), Webinar, October 29, 2020
286. Augmented Reality Microscopy: Applications & future predictions. Digital Pathology Association (DPA) Pathology Visions meeting, October 30, 2020
287. Digital Cytology & AI in the 2020s. State of the Art Symposium. American Society of Cytopathology (ASC) 68th annual virtual scientific meeting, November 7, 2020
288. AI - is it ready for the clinic? SGPath/SSPATH 86th Annual Meeting of the Swiss Society of Pathology, Keynote lecture, November 12, 2020
289. The future of digital pathology panel. 6th Digital Pathology & AI Congress: USA, November 20, 2020
290. The future of digital pathology panel. 7th Digital Pathology & AI Congress: Europe, December 1, 2020
291. Telepathology: Still the #1 application of digital pathology. Keynote talk. 7th Digital Pathology & AI Congress: Europe, December 1, 2020
292. Molecular vs AI in thyroid pathology? Virtual European Society of Pathology / International Association of Pathology (ESP/IAP) congress. December 8, 2020
293. CD8+ TILs in oropharyngeal squamous cell carcinoma. Future Directions meeting, University of Michigan. January 15, 2021
294. Top 10 milestones in digital pathology. Padova University, Padua, Italy. January 25, 2021

295. Strategies and demands for digital pathology workflow integration. Molecular diagnostics training school. Medical University of Vienna. February 11, 2021
296. Embedding AI into clinical practice: A pathologist's perspective. European Society for Digital and Integrative Pathology (ESDIP) workshop on Digital workflow: The new standard in pathology. February 24, 2021
297. Augmented Reality Microscopy (ARM) in anatomic and toxicologic pathology. Augmentiqs, webinar. February 25, 2021
298. Update on clinical validation guidelines for WSI and AI in Pathology. Tata Memorial Centre, Mumbai, India's Evidence-Based Management (EBM) of cancers in India virtual meeting. March 7, 2021
299. Telecytology for rapid-on-site evaluation: from implementation to clinical challenges, short course. USCAP annual meeting, March 2021
300. Artificial intelligence and the practice of Anatomical Pathology, Papanicolaou Society of Cytopathology companion meeting. USCAP annual meeting, March 2021.
301. Digital Pathology AI tools available in the market now. Association for Pathology Informatics companion meeting. USCAP annual meeting, March 2021
302. Digital Cytology: A view from the USA and UK. British Association of Cytopathology (BAC) webinar. May 13, 2021
303. Artificial intelligence and cytopathology. Pathology & laboratory medicine grand rounds. Dartmouth-Hitchcock medical center. May 19, 2021
304. Interviewing for a leadership position in pathology. Chinese American Pathologists Association (CAPA) webinar. May 30, 2021
305. Performance of an artificial intelligence algorithm for reporting urine cytopathology. European Congress in Digital Pathology (ECDP). June 18, 2021
306. Importance of pre-imaging factors in the pathology laboratory. Controlli di qualita nella diagnostica anatomo-patologica webinar. Societa Italiana di Anatomia Patologica e Citologia Diagnostica (SIAPEC)-IAP. June 24, 2021
307. Validating AI systems for clinical use in pathology practice. AI-Med Clinician Series virtual conference. June 29, 2021.
308. AI & Cytopathology. 19th Japanese Society of Digital Pathology (JSDP) virtual meeting. August 20, 2021.
309. Artificial intelligence in breast pathology. European Conference of Pathology (ECP) virtual. August 29, 2021.
310. The usefulness of deep learning tools in the diagnosis of neuroendocrine tumours. European Conference of Pathology (ECP) virtual. August 31, 2021.

311. Practical approach to FNA of soft tissue lesions. American Society for Cytopathology (ASC) Cyto-conference. August 24, 2021.
312. Bob Gay lecture series. Touch preps: friend or foe? American Society for Cytotechnology (ASCT) annual conference. Denver, CO. August 28, 2021.
313. Bob Gay lecture series (keynote). AI & Cytology: how will it change your world? American Society for Cytotechnology (ASCT) annual conference. Denver, CO. August 28, 2021.
314. Contemporary Cytopathology: A practical approach. Interactive microscopy course. USCAP, Palm Springs. September 18-20, 2021.
315. Telecytology for deep seated lesions. Singapore Cytology Society webinar hosted by Singapore General Hospital. September 25, 2021.
316. Validation of Artificial Intelligence (AI)-based tools in Digital and Computational Pathology. Digital Pathology Association (DPA) webinar, September 30, 2021.
317. Digital Pathology: What have we learned from the COVID-19 pandemic? Inaugural Digital Pathology and AI virtual summit. October 1, 2021.
318. Business use case for deploying AI in Pathology. Inaugural Digital Pathology and AI virtual summit. October 1, 2021.
319. Strategies and demands for digital pathology workflow integration. University of Nottingham virtual molecular diagnostics and image analysis training school. October 7, 2021.
320. Validating artificial intelligence for pathology practice. TelemedEdu, USA. Troy, MI. October 8, 2021.
321. Computational pathology and digital image analysis. PATH 862 course. University of Michigan, Ann Arbor, MI. October 14, 2021.
322. Validating AI for pathology practice. Aga Kahn University virtual pathology symposium. Karachi, Pakistan. October 15, 2021.
323. How digital imaging is transforming pathology. Biopsie renali pre-trapianto: protocolli la valutazione rapida. Virtual symposium. October 20, 2021.
324. DP instrument validation: using instruments not yet approved by the FDA. Association of Pathology Informatics (API) virtual 5th annual Digital Pathology and AI workshop. November 4, 2021.
325. The nuts and bolts of quantitative image analysis in practice. Association of Pathology Informatics (API) virtual 5th annual Digital Pathology and AI workshop. November 4, 2021.
326. Papanicolaou Society of Cytopathology seminar on artificial intelligence and the practice of Anatomical Pathology. American Society of Cytopathology (ASC) 69th annual scientific meeting. Las Vegas, NV. November 11, 2021.

327. A practical approach to the diagnosis of common and uncommon thyroid lesions using an interactive digital case format. American Society of Cytopathology (ASC) 69th annual scientific meeting. Las Vegas, NV. November 12, 2021.
328. JASC Hot Topic: Transitioning to HPV primary screening for cervical cancer. American Society of Cytopathology (ASC) 69th annual scientific meeting. Las Vegas, NV. November 12, 2021.
329. Digital cytology & AI. Virtual grand rounds for Gemelli University. Rome, Italy. December 1, 2021.
330. Digital pathology & artificial intelligence applied to urine cytopathology. Xth Molecular Cytopathology congress. Napoli, Italy. December 6, 2021.
331. The application of Artificial Intelligence in pathology and issues relating to deployment, clinical validation, and regulation. South African Division of the International Academy of Pathology (IAP) virtual congress. January 17, 2022.
332. A practical approach to touch preparations & imprints. University of Miami 46th annual virtual pathology conference. January 26, 2022.
333. A practical approach to soft tissue cytopathology. University of Miami 46th annual virtual pathology conference. January 26, 2022.
334. FNA of salivary gland cysts. University of Miami 46th annual virtual pathology conference. January 26, 2022.
335. What is on the horizon for digital cytology? University of Miami 46th annual virtual pathology conference. January 26, 2022.
336. The digital future of anatomical pathology. Beth Israel Deaconess Medical Center grand round, Harvard Medical School, Boston, MA. February 3, 2022.
337. AI & Cytopathology. MD Anderson Cancer Center grand round, Houston, TX. February 4, 2022.
338. The business use case for adopting digital pathology. UMass Memorial Medical Center and Quest Diagnostics, Marlborough, MA. February 9, 2022.
339. Strategies and demands for digital pathology workflow integration. Molecular diagnostics training school. Medical University of Vienna. February 24, 2022.
340. Infectious disease applications of artificial intelligence from whole slide images. Binford-Daminn Society companion meeting. United States and Canadian Academy of Pathology (USCAP) 111th annual meeting. Los Angeles, CA. March 20, 2022.
341. What's next? The future of pathology work & teaching after COVID-19. American Society of Investigational Pathology (ASIP) companion meeting. United States and Canadian Academy of Pathology (USCAP) 111th annual meeting. Los Angeles, CA. March 20, 2022.
342. Artificial intelligence meets digital pathology: Next generation morphology practice. Primer in Precision Pathology special course. United States and Canadian Academy of Pathology (USCAP) 111th annual meeting. Los Angeles, CA. March 21, 2022.

343. Impact of innovative tools like artificial intelligence on pathology. Hot topics session. United States and Canadian Academy of Pathology (USCAP) 111th annual meeting. Los Angeles, CA. March 21, 2022.
344. AI in Pathology. United States and Canadian Academy of Pathology (USCAP) 111th annual meeting. Los Angeles, CA. March 22, 2022.
345. Telecytology for rapid on-site evaluation: From implementation to clinical challenges. Short course. United States and Canadian Academy of Pathology (USCAP) 111th annual meeting. Los Angeles, CA. March 24, 2022.
346. Implementation of image analysis for clinical reporting and developing artificial intelligence for pathology reporting. Curtis & Wyss Digital Pathology & AI conference. Lisbon, Portugal. March 25, 2022.
347. AI & Cytopathology. American Society of Cytotechnology (ASCT) webinar. March 30, 2022.
348. A practical approach to touch preparations. Virtual Advanced Cytopathology Education (ACE) for the American Cytopathology Society (ASC). April 29, 2022.
349. Implementation of a full digital pathology laboratory. Pulmonary Pathology Society. Cork, Ireland. June 26, 2022.
350. Artificial intelligence and anatomical pathology: feasibility for clinical practice. Academia de Patologia y Medicina de Laboratorio (APML) de Puerto Rico annual meeting. San Juan, Puerto Rico. April 3, 2022.
351. Artificial intelligence in breast pathology. Academia de Patologia y Medicina de Laboratorio (APML) de Puerto Rico annual meeting. San Juan, Puerto Rico. April 3, 2022.
352. The application of artificial intelligence in pathology and issues related to deployment, clinical validation, and regulation. American Association of Cancer Research (AACR) annual meeting. New Orleans, Louisiana. April 12, 2022.
353. The application of artificial intelligence to surgical pathology. Howard University grand rounds. Washington DC. April 27, 2022.
354. The most overlooked precursor to digital pathology initiatives: pre-analytics quality control. Association for Pathology Informatics (API) Sunquest webinar. May 4, 2022.
355. Factors that impact digital pathology implementation. Digital Pathology All Stars webinar. MI&T congress. Bologna, Italy. May 6, 2022.
356. The new challenges of telemedicine in digital diagnosis & cancer prevention. Sharing Progress in Cancer Care (SPCC) Conference: Telemedicine in Cancer Care Continuum. May 6, 2022.
357. The business use case for adopting digital pathology. Michigan Society of Pathologists (MSP) meeting. Troy, MI. May 7, 2022.
358. A digital future of anatomical pathology. The Ohio Society of Pathologists (OSP) spring webinar. May 14, 2022.

359. Basic concepts in Non-Gynecologic cytomorphology and histologic correlates. International Academy of Cytopathology (IAC) & British Society of Cytopathology virtual tutorial. July 18, 2022.
360. The current state of telepathology. International Academy of Cytopathology (IAC) & British Society of Cytopathology virtual tutorial. July 19, 2022.
361. AI & Cytopathology: Is it the next step for personalized practice? 33rd Brazilian Congress of Pathology & 26th Brazilian Congress of Cytopathology, Foz do Iguacu, Brazil. Aug 3, 2022.
362. Approach to soft tissue tumors in FNA. 33rd Brazilian Congress of Pathology & 26th Brazilian Congress of Cytopathology, Foz do Iguacu, Brazil. Aug 5, 2022.
363. Telecytology: technology & issues. 33rd Brazilian Congress of Pathology & 26th Brazilian Congress of Cytopathology, Foz do Iguacu, Brazil. Aug 5, 2022.
364. Artificial intelligence & digital pathology: Hype or reality? 33rd Brazilian Congress of Pathology & 26th Brazilian Congress of Cytopathology, Foz do Iguacu, Brazil. Aug 6, 2022.
365. A digital future of anatomical pathology. St Thomas' Hospital. London, UK. September 15, 2022.
366. Promoting sustainable academic-industry partnership in the era of DO & AI. Digital Pathology Association (DPA) webinar. September 20, 2022.
367. A digital future of anatomical pathology. Massachusetts General Brigham (MGB) pathology grand round/Gabrieli lectureship. Boston, MA. September 22, 2022.
368. The evolution of digital pathology. Plenary lecture. New Frontiers in Pathology, University of Michigan Pathology course. Ann Arbor, MI. Sept 29, 2022.
369. Strategies and Demands for Digital Pathology Workflow Integration. Digital Pathology & Image Analysis Training School. Virtual lecture. Medical University of Vienna Department of Pathology & Nottingham Molecular Pathology Node. Oct 6, 2022.
370. AI and cytopathology. International Academy of Pathology (IAP) Congress. Virtual symposium. Sydney, Australia. Oct 11, 2022.
371. Artificial intelligence and anatomical pathology: what every practicing pathologist should know. College of American Pathologists (CAP) annual meeting. New Orleans, Louisiana. Oct 11, 2022.
372. What are the rules of engagement? Guidance for collaborations between academia and industry to promote progress in digital pathology and artificial intelligence. Pathology Visions meeting. Las Vegas, NV. Oct 17, 2022.
373. Digital dermatopathology sign-out: from soup to nuts. Basic science course. American Society of Dermatopathology (ASDP) 59th annual meeting. Oct 20, 2022.
374. Digital Pathology: State of the science. Foundation for the National Institutes of Health (FNIH) Biomarkers Consortium cancer steering committee virtual symposium. Oct 28, 2022.

375. Top milestones in the history of digital pathology. Ohio State University (OSU) Digital Pathology workshop. October 28, 2022.
376. A practical approach to touch preparations and imprints. Ohio State University (OSU) Pathology Update Course. October 29, 2022.
377. A practical approach to FNA of salivary gland cysts. Ohio State University (OSU) Pathology Update Course. October 29, 2022.
378. Digital Pathology: Digital cytology & emerging AI applications. International Academy of Pathology (IAP) Thailand annual meeting. Nov 2, 2022.
379. Cytopathology customizations: Designing your laboratory information system and data analytics for cytology. Short course with Monaco SE & Cibas ES. International Academy of Cytology (IAC) 21st International congress of cytology & American Society of Cytopathology (ASC) 70th annual scientific meeting. Baltimore, Maryland. Nov 16, 2022.
380. A practical approach to the diagnosis of common and uncommon thyroid lesions using an interactive digital case format. Microscopic workshop with Rossi E. International Academy of Cytology (IAC) 21st International congress of cytology & American Society of Cytopathology (ASC) 70th annual scientific meeting. Baltimore, Maryland. Nov 18, 2022.
381. Case based slide seminar demonstrating the practical application of the WHO international system for reporting soft tissue cytopathology. Symposium with Dodd L, Raymond W, Rekhi B, Silverman J, Teot LA, et al. International Academy of Cytology (IAC) 21st International congress of cytology & American Society of Cytopathology (ASC) 70th annual scientific meeting. Baltimore, Maryland. Nov 18, 2022.
382. Chinese American Pathologists Association (CAPA): Updates in diagnosis of bone and soft tissue tumors: For practicing cytopathologists and cytotechnologists. Companion session with Li Z, Bui M, and Qian X. International Academy of Cytology (IAC) 21st International congress of cytology & American Society of Cytopathology (ASC) 70th annual scientific meeting. Baltimore, Maryland. Nov 19, 2022.
383. Training cytologists for a brave new world. Short course with Michelow P & Donnelly A. International Academy of Cytology (IAC) 21st International congress of cytology & American Society of Cytopathology (ASC) 70th annual scientific meeting. Baltimore, Maryland. Nov 19, 2022.
384. The application of AI in pathology & issues related to deployment. Victor Babes National Institute of Pathology, Bucharest, Romania. Nov 19, 2022.
385. Using artificial intelligence for Pap test screening and diagnosis. Short course. International Academy of Cytology (IAC) 21st International congress of cytology & American Society of Cytopathology (ASC) 70th annual scientific meeting. Baltimore, Maryland. Nov 20, 2022.
386. Allied societies panel: Working together on an international level. European Society of Digital and Integrative Pathology (ESDIP). Nov 21, 2022.

387. Digital Pathology: Digital cytology & emerging AI applications. Japanese Society of Clinical Cytology joint JHU-ASC-JSCC virtual cytopathology course. Japan. December 11, 2022.
388. Out with the old and in with the new: An updated approach to the cytologic classification of tumors. Interactive microscopy course. USCAP, Palm Springs, CA. January 11-13, 2023.
389. Artificial intelligence and anatomical pathology: feasibility for clinical practice. Association of Indian Pathologists of North America (AIPNA) International pathology meeting. Jaipur, India. February 3, 2023.
390. Soft tissue cytopathology. American Society of Cytopathology (ASC) Global Cytology Educational Program (GCEP) virtual workshop. February 8, 2023.
391. Artificial intelligence and anatomical pathology: feasibility for clinical practice. Virtual grand rounds. Geisinger Medical Center. February 14, 2023.
392. Strategies and demands for digital pathology workflow integration. Molecular diagnostics training school. Medical University of Vienna. February 23, 2023.
393. Digital cytology & emerging AI applications. ASCP-ASC's Africa Calls virtual cytopathology lecture. March 29, 2023.
394. Digital cytology & emerging AI applications. ASC's Advanced Cytopathology Education (ACE) course: Marketing the cytologist. Virtual lecture. April 26, 2023.
395. Tips For Using Quantitative Image Analysis in Breast Pathology Practice. Association for Pathology Informatics (API) Pathology Informatics Summit. Pittsburgh, PA. May 23, 2023.
396. Digital pathology global task force. 19th European Congress on Digital Pathology (ECDP). Budapest, Hungary. June 17, 2023.
397. Artificial intelligence and anatomical pathology: feasibility for clinical practice. Keck School of Medicine of University of Southern California (USC) grand rounds. September 8, 2023.
398. The digital Pap test: Experience using the Hologic Genius system. 35th European Congress of Pathology (ECP) annual scientific meeting. Dublin, Ireland. September 12, 2023.
399. Feasibility of artificial intelligence for Pathology clinical practice. Life Sciences Baltics meeting. Vilnius, Lithuania. September 20, 2023.

Interviews

1. *Making AP count with computer-assisted imaging.* CAP Today, 2008. http://www.captodayonline.com/Archives/0908/0908_making_AP_count_3.html
2. *How LIS tweaks can enhance efficiency, patient safety.* CAP Today, 2014. <https://www.captodayonline.com/lis-tweaks-can-enhance-efficiency-patient-safety/>
3. *How informatics tools can boost QA in anatomic pathology.* CAP Today Newsbytes, 2017. <https://www.captodayonline.com/newsbytes-1-17/>
4. *Whole slide imaging for primary diagnosis: 'Now it is happening'.* CAP Today, 2017. <https://www.captodayonline.com/whole-slide-imaging-primary-diagnosis-now-happening/>
5. *'Connectathon' opens door to interoperability in digital pathology.* CAP Today, 2017.

- <https://www.captodayonline.com/connectathon-opens-door-interopability-digital-pathology/>
6. *Even as Digital Pathology Is Poised to Be Disruptive in Primary Diagnosis, Most Anatomic Pathology Groups Are Unprepared for How Their Incomes Will Change.* Dark Daily, 2017. <https://www.darkdaily.com/even-as-digital-pathology-is-poised-to-be-disruptive-in-primary-diagnosis-most-anatomic-pathology-groups-are-unprepared-for-how-their-incomes-will-change-814/>.
 7. *Digital pathology RFPs: from the questions to selections.* CAP Today Newsbytes, 2019. <https://www.captodayonline.com/newsbytes-0219/>
 8. *The early adopter.* The Pathologist, 2019. <https://thepathologist.com/outside-the-lab/the-early-adopter>
 9. *Brave new tele-world.* US News & World News, 2020. https://www.usnews.com/news/the-report/articles/2020-04-17/telemedicine-distance-learning-are-likely-to-stay-after-coronavirus?context=amp&__twitter_impression=true
 10. *Integrating artificial intelligence with digital pathology.* Lab Manager, 2020. <https://www.labmanager.com/ask-the-expert/integrating-artificial-intelligence-with-digital-pathology-22148>
 11. *Bottom-Up to 2020.* The Pathologist <https://thepathologist.com/inside-the-lab/bottom-up-to-2020>
 12. *Augmented reality for the lab.* The Pathologist <https://thepathologist.com/diagnostics/augmented-reality-for-the-lab>
 13. *Telepathology: a prime application of digital pathology.* European Hospital <https://healthcare-in-europe.com/en/news/telepathology-a-prime-application-of-digital-pathology.html>
 14. *Forging a new path.* AI Med. <https://ai-med.io/ai-champions/forging-a-new-path/>
 15. *A look ahead at AI-based assistance in anatomic pathology.* CAP Today <https://www.captodayonline.com/a-look-ahead-at-ai-based-assistance-in-anatomic-pathology/>
 16. *Pathology hospitalists in place at UMich.* CAP Today April 2022. <http://digital.olivesoftware.com/olive/odn/captoday/>
 17. *Histology lab tips for top-tier whole slide images.* CAP Today July 2022. <http://digital.olivesoftware.com/olive/odn/captoday/#>
 18. *Pathology in the Modern Age.* McCain LA. Inside M Pathology. 2022.
 19. *Telemedicine and diagnosis.* Cancerworld magazine. September 2022. <https://cancerworld.net/telemedicine-and-diagnosis/>
 20. *Digital pathology now, and where to from here.* CAP Today December 2022. <https://www.captodayonline.com/digital-pathology-now-and-where-to-from-here/>
 21. *Follow your Path: Clinical Informatics.* <https://followyourpath412.podbean.com/e/follow-your-path-clinical-informatics-iron-pantanowitz/>
 22. *How should we proceed with image-analyzing AI? The Scientist.* August 2023, Issue 2. <https://www.the-scientist.com/ts-digest/issue/the-roles-of-endogenous-psychedelics-18-2#how-should-we-proceed-with-image-analyzing-ai-71209>

Other Presentations and Activities

1. Cytology Online: Internet resources for the cytologist and clinician, The 23rd Annual Cytopathology Conference: Tomorrow's Cytology Today, Baystate Medical Center, April 2005, North Hampton, MA
2. Novel AIDS-related Non-Hodgkin Lymphomas, HIV Rounds, Baystate Medical Center, October 2006, Springfield, MA
3. Cytology Informatics: What can IT do for you, The 26th Annual Baystate Cytopathology Conference. Celebrating Cytology, April 2008, Holyoke, MA

4. AIDS Cytopathology, 27th Annual Baystate Cytopathology Conference: Spring into Cytology, June 2009, Holyoke, MA
5. Moderator, Scientific platforms, ASC Meeting, November 2010, Boston, MA
6. Judge, Annual Resident & Fellow Research Day, Department of Pathology & Molecular Medicine. McMaster University, May 2011, Hamilton, ON, Canada
7. Moderator, Digital Imaging Track, Pathology Informatics Meeting, October 2012, Chicago, IL
8. Chair, Whole slide imaging in education, proficiency testing and teleconsultation symposium, XXIXth Congress of International Academy of Pathology (IAP), October 2012, Cape Town, South Africa
9. Co-Chair, Cutaneous vascular tumor short course, XXIXth Congress of International Academy of Pathology (IAP), October 2012, Cape Town, South Africa
10. Chairperson, Digital Pathology Track, Molecular Med Tri-Conference, February 2013, San Francisco, CA
11. Moderator, Pathology Informatics Platforms, United States & Canadian Academy of Pathology (USCAP) 102nd Annual Meeting, March 2013, Baltimore, MD
12. Chairperson, Whole Slide Imaging & Digital Pathology Track, Biomarkers & Diagnostics World Congress, May 2013, Philadelphia, PA
13. Digital pathology research at UPMC Grand Rounds, University of Pittsburgh Medical Center, January 2014, Pittsburgh, PA
14. Chairperson, Digital Pathology Track, Molecular Med Tri-Conference, February 2014, San Francisco, CA
15. Moderator, Association for Pathology Informatics (API) Summit, May 2014, Pittsburgh, PA
16. Pathology Roundtable Panel / Q & A Session, Advocating for the Value of Pathology, Association of Pathology Chairs (APC) Annual Meeting, July 2014, Boston, MA
17. Moderator, Pathology Informatics Essentials for Residents (PIER): Ready or not, Discussion Group #3, Association of Pathology Chairs (APC) Annual Meeting, July 2014, Boston, MA
18. Judge for Platform Presentations, American Society for Clinical Pathology (ASCP) Annual Meeting, October 2014, Tampa, FL
19. Cytopathology of soft tissue: A practical approach, Cytology Conference at University of Pittsburgh, June 2015, Pittsburgh, PA
20. Judge for poster presentations, Pathology Visions Workshop, Digital Pathology Association, October 2015, Boston, MA
21. Thyroid FNA update, UPMC Passvant Grand Rounds, October 2015, Pittsburgh, PA
22. Digital Pathology Panel, Healthcare Breakout Session, GE Minds + Machines Conference, November 2015, Dubai, UAE
23. Overcoming barriers in adoption of digital pathology panel discussion, 2nd Digital Pathology Congress, December 2015, London, UK

24. Chairperson, Digital Pathology Hot Topics II Session, Molecular Med Tri-Con Meeting, March 2016, San Francisco, CA
25. Moderator, Making the transition to digital: ROI and lessons learnt, Peer-to-Peer Roundtable, DigitalPath Europe Meeting, May 2016, London, UK
26. Chair, Strategy & Technology Session, DigitalPath Europe Meeting, May 2016, London, UK
27. Chair, GE Healthcare: Global Experiences from Implementing Omnyx Digital Pathology Lunch Symposium, 13th European Congress on Digital Pathology, May 2016, Berlin, Germany
28. Chair, Clinical Workflow Integration Symposium, 13th European Congress on Digital Pathology, May 2016, Berlin, Germany
29. Chair, Digital Pathology Workflow Integration Panel Discussion, 13th European Congress on Digital Pathology, May 2016, Berlin, Germany
30. Digital pathology update, Grand Rounds, University of Pittsburgh Medical Center (UMPC), July 2016, Pittsburgh, PA
31. Diagnostic utility of viral cytopathic effect in cytopathology practice, University of Pittsburgh Cancer Institute, Cancer Virology Program, March 2017, Pittsburgh, PA
32. Digital Pathology, University of Pittsburgh Medical Center Enterprises, July 2017, Pittsburgh, PA
33. Moderator, Image Analysis Vendor Challenge (Indica Labs, Leica Biosystems & Visiopharm), Pathology Visions Meeting, October 2017, San Diego, CA
34. Moderator, DICOM Digital Pathology Connect-a-thon: Panel Discussion, Pathology Visions Meeting, October 2017, San Diego, CA
35. Moderator, Interoperability and Component Testing in Whole-slide Imaging Systems (Abels E, Badano A, Glassy E), Pathology Visions meeting, October 2017, San Diego, CA
36. Chairperson, Keynote Session, Molecular Med Tri-Con 6th Annual Digital Pathology, February 2018, San Francisco, CA
37. Chairperson, Imaging for Clinical Practice Session, Molecular Med Tri-Con 6th Annual Digital Pathology, February 2018, San Francisco, CA
38. Chairperson, Computer-Aided Diagnosis Session, Molecular Med Tri-Con 6th Annual Digital Pathology, February 2018, San Francisco, CA
39. Chairperson, Digital Pathology Resources and Guides Session, Molecular Med Tri-Con 6th Annual Digital Pathology, February 2018, San Francisco, CA
40. Automated quantification of CD8 cells in solid tumors by the pathology image analysis lab: is it right for your patients, Hematology-Oncology Grand Rounds, University of Pittsburgh Medical Center, September 2018, Pittsburgh, PA

41. Judge for poster presentations, Pathology Visions Workshop, Digital Pathology Association, November 2018, San Diego, CA
42. Moderator, Image Tools that Facilitate Collaboration Workshop, Pathology Visions Meeting, November 2018, San Diego, CA
43. Moderator, Pitfalls in the Implementation of Digital Pathology Roundtable, Pathology Visions Meeting, November 2018, San Diego, CA
44. Chairperson, State-of-the-Art Clinical Practice Using Digital Pathology Session, Molecular Med Tri-Con 7th Annual Digital Pathology Meeting, March 2019, San Francisco, CA
45. Chairperson, Novel Applications of Digital Pathology, Molecular Med Tri-Con 7th Annual Digital Pathology Meeting, March 2019, San Francisco, CA
46. Chairperson, Business-related Aspects of Digital Pathology, Molecular Med Tri-Con 7th Annual Digital Pathology Meeting, March 2019, San Francisco, CA
47. Panel Member, Hot Topics in Digital Pathology, Digital Pathology Association Companion Meeting, Pathology Informatics Summit, May 2019, Pittsburgh, PA
48. Industry sponsored AI research supported by UPMC digital pathology core, National Mesothelioma Virtual Bank Annual Meeting, University of Pittsburgh, September 2019, Pittsburgh, PA
49. Moderator, The “Worldvision Cytopathology Contest”, ASC Meeting, November 2019, Salt Lake City, UT
50. Chair, Planning committee. Digital Pathology & AI Workshop III and Hospital Tour for Association for Pathology Informatics (API). December 2019, Pittsburgh, PA
51. Judge, Power List Big Breakthroughs, The Pathologist, 2020
52. Moderator, Hot topics: Business use case for implementing telepathology, USCAP annual meeting, March 2020, Los Angeles, CA
53. Moderator, Evening Specialty Course for Cytopathology, USCAP annual meeting. 2021-2023.
54. Pajamas & Pathology: Implementing remote sign-out, Digital Pathology Association (DPA), Twitter #DPAchat, April 14, 2020 (<http://www.tchat.io/rooms/dpachat>)
55. Judge for breakthrough category of The Pathologist’s Power List 2020
56. PhD dissertation award in digital and computational pathology committee. 2022-present.
57. Moderator, ADASP annual virtual meeting, “Limited diagnostic material – how to triage appropriately” session, March 19, 2022.
58. Judge for poster presentations, Pathology Visions meeting, Digital Pathology Association, October 2022, Las Vegas.

SERVICE

Committee Services**International**

2010-2014	International Society of Translational Medicine (ISTM) Committee, Member
2010-present	World Association of Medical Editors (WAME), Member
2016-present	European Congress on Digital Pathology (ECDP), Scientific Committee Member
2019-present	Advisory Board for the Federated European Digital Image Network for Pathology (www.examode.eu)
2019-present	International Ki67 in Breast Cancer Working Group
2021-present	Scientific committee & abstract reviewer for the European Congress on Digital Pathology (ECDP)
2022-present	Advisor for Globalization of Telepathology in Colombian Regions with Artificial Intelligence (GLORIA) program

National

2002-2004	College of American Pathology (CAP) Delegate from Massachusetts to the Residents Forum, Member
2002-2004	Pathology Informatics & Clinical Genomics Advisory Group, Arda's Corporation, Lexington, MA, Member
2007-2011	CAP Diagnostic Intelligence & Health Information Technology (DIHIT)
2009-2010	American Society of Cytopathology (ASC) eLearning Committee, Member
2009-2010	Consultant Physician's Information Education Resource (PIER), American College of Physicians, Member
2009-2010	Medical Advisory Board for BioImagene
2009-2012	Association for Pathology Informatics (API) Membership Committee, Member
2010-2011	American Society of Cytopathology (ASC) Continuing Education Oversight Committee, Member
2010-2012	American Society of Cytopathology (ASC) eJournal Committee, Chair
2010-2012	CAP Whole Slide Imaging Validation Working Group, Chair
2010-2014	Association for Pathology Informatics (API) Publications Committee, Co-Chair
2010-2019	ASCP Press Book Proposal Review Committee, Member
2010-present	Association for Pathology Informatics (API) Council, Member
2011-2014	Nationwide Children's Hospital Columbus Ohio WSI tumor scoring, Member
2011-2015	American Society of Cytopathology (ASC) Scientific Program Committee

2012	ABIM Foundation's Choosing Wisely Campaign, ASC Representative
2012	CoPath Cerner Workshop Planning Committee
2012-2013	American Society of Cytopathology (ASC) Publication Committee, Member
2012-2014	American Telemedicine Association (ATA) Annual Meeting, Abstract Reviewer
2012-2014	American Telemedicine Association (ATA) Practice & Guidelines Committee
2012-2015	Abstract Review Subcommittee for USCAP, Member
2012-2015	American Society of Cytopathology (ASC) Annual Meeting, Abstract Reviewer
2012-2021	CAP Digital & Computational Pathology Committee, Member
2012-2016	Clinical informatics board exam committee, American Board Preventative Medicine (ABPM), Member
2013	American Society of Cytopathology (ASC) Website Committee, Member
2013	Cytotechnology Programs Review Committee Resource Subcommittee, Co-Chair
2013	President of the Association for Pathology Informatics (API)
2013-2016	College of American Pathologists (CAP) Annual Meeting, Abstract Reviewer
2013-2016	Papanicolaou Society of Cytopathology Scientific Program Committee, Member
2013-2016	Papanicolaou Society of Cytopathology Website Committee, Chair
2013-2018	American Board of Pathology (ABP) Lab Management Test Development & Advisory Committee, Member
2013-2018	Association of Pathology Chairs (APC), Pathology Roundtable, Member
2014-2017	Pathology Informatics Essentials for Residents (PIER) Curriculum Committee, Co-Chair; curriculum developed for CAP, API and APC/PRODS
2014-2016	Secretary/Treasurer of the Pittsburgh Pathology Society (PPS)
2015	American Society of Cytopathology (ASC) Research and Current Concepts Committee, Co-Chair
2015	CoPath Cerner Workshop Planning Committee, Member
2015-present	Digital Pathology Association (DPA) Board of Directors, Member
2016-2017	American Society of Cytopathology (ASC) Research Committee, Chair
2016-present	Digital Pathology Association (DPA) Regulatory and Standards Committee
2016-present	Executive Board of the American Society of Cytopathology (ASC), Member
2016-2019	Executive Council of the Pennsylvania Association of Pathologists (PAP)
2016-2017	Pittsburgh Pathology Society (PPS), Vice President
2017-2020	Pittsburgh Pathology Society (PPS), President
2017-2019	Digital Pathology Association (DPA) Certification Program Taskforce, Chair
2017-2022	Digital Pathology Association (DPA) Foundation, Treasurer

2017-2018	Papanicolaou Society of Cytopathology Research Committee, Chair
2017-2020	College of American Pathologists (CAP) Pennsylvania House of Delegates (HOD), Member
2017-2020	Medical Advisory Board for Leica, Member
2018-2021	DPA Pathology Visions Meeting Planning Committee, Co-Chair
2018-2019	CLIAC Nontraditional Testing Workflow Model (NTWM) Workgroup, Member
2018-2019	National Society for Histotechnology (NSH) digital pathology certificate program, Development Member
2019-2021	Healthcare Financial Management Association (HFMA), Member
2019-present	ASC Foundation Board, Member
2020-2023	United States and Canadian Academy of Pathology (USCAP) Education Committee, Member
2020-2021	President-elect, American Society of Cytopathology (ASC)
2021-2022	Vice President, American Society of Cytopathology (ASC)
2021-present	Clinical Laboratory Improvement Act (CLIA) regulations assessment workgroup
2021-present	Association of Directors of Anatomic and Surgical Pathology (ADASP), Council Member
2021-present	Artificial Intelligence Committee, College of American Pathologists (CAP), Member
2021-2023	Immunohistochemistry Committee, College of American Pathologists (CAP), Member
2021-present	Association for Pathology Chairs (APC) Clinical Service Leaders Committee
2021-2023	Michigan Society of Pathologists (MSP), website committee member
2021-2023	Michigan Society of Pathologists (MSP), Board of trustees member
2021-2022	President-elect, Digital Pathology Association (DPA)
2022-2023	Advisory panel member for the American Society of Clinical Pathology (ASCP) optimizing data-driven decision making in cytology
2022-2023	American Society of Cytopathology (ASC) telecytology validation task force
2022-2023	American Society of Cytopathology (ASC) digital cytology white paper task force
2022-present	Beth Israel Deaconess Medical Center (BIDMC), Harvard Medical School, Cancer Center external advisory board
2023-present	American Society of Cytopathology (ASC), vice chair of Nominating Committee
2023-present	American Society of Cytopathology (ASC), vice chair of Foundation Board

Institutional

1993	WITS Medical South African Union of Jewish Students Committee, Member
1994-1995	Student HIV Action Committee, Vice President

1994-1996	The Leech Medical Journal Editorial Committee, Member
1995-1996	Medical Professional and Ethics Committee, WITS, South Africa, Member
2000-2002	Graduate Medical Education Committee, Beth Israel Deaconess Medical Center
2001-2002	Pathology Resident Teaching Committee, Beth Israel Deaconess Medical Center, Member
2003-2004	Beth Israel Deaconess Medical Center, Harvard Medical School Cancer Committee, Member
2004-2005	Graduate Medical Education Committee, Baystate Medical Center, Member
2004-2005	Resident Advisory Committee, Baystate Medical Center, Member
2005-2007	Baystate Mary Lane Hospital Medical Executive Committee, Member
2005-2010	Transfusion/Blood Utilization Review Committee, Baystate Medical Center
2005-2010	Transfusion/Blood Utilization Review Committee, Franklin Medical Center
2006-2010	Quality Informatics Committee, Baystate Health Member
2006-2010	QA/Performance Improvement Committee, Baystate Medical, Member
2007-2009	Baystate Medical Center Institutional Review Board (IRB), Member
2007-2010	Pathology Research Committee, Baystate Medical Center, Member
2011-2020	Genomics, Research & Informatics in Pathology Resident Course Coordinator
2012-2014	UPMC Hospital Infection Control & Patient Safety Committee, Member
2013-2014	UPMC eRecord Strategic Leadership Group, Member
2013-2014	UPMC eRecord Physician Advisory Council, Member
2015-2020	NCI National Clinical Trial Network (NCTN) Pathologist Service Provider
2015-2020	UPMC Cancer Committee, Member
2015-2020	TIES Cancer Research Network (TCRN) Committee, Member
2016-2020	Anisa I. Kanbour School of Cytotechnology at UPMC, Board Member
2016-2020	UPMC Urban AP Professional Quality Assurance Committee, Member
2017-2020	UMPC Enterprises Analytics Advisory Board (AAB), Member
2021-2023	Molecular Oncology Testing Committee, Department of Pathology, University of Michigan, Member
2021-2023	Michigan Medicine Laboratories (MLabs) Executive Committee, Department of Pathology, University of Michigan, Member
2021-2023	Compassionate Peers and Stress Support (COMPASS), University of Michigan, volunteer peer supporter
2021-2023	Quality Council, Department of Pathology, University of Michigan, Member

Administrative Services

Volunteer

2001-2002	Moderator, Real ResidentMD.com Pathology Bulletin Board
2018-2020	Volunteer, CerviCusco, Peru (https://www.friendsofcervicusco.org)

Consulting Positions

2015-2016	Consultant, Omnyx, Pittsburgh, PA
2016-2017, 2019	Consultant, Hologic, Marlborough, MA
2016-present	Consultant, Hamamatsu, Japan
2017-present	Consultant, Ibex, Israel
2020-present	Consultant, Nanotech Projects, Italy
2022-2023	Consultant, Praxis Medical, Tampa, FL
2023-present	Consultant, AiXMed