CURRICULUM VITAE
TOBY CHARLES CORNISH, M.D., Ph.D.

I. PERSONAL INFORMATION

Current Position:

Professor, Department of Pathology, Medical College of Wisconsin
Professor, Data Science Institute, Medical College of Wisconsin
Director of Informatics, Department of Pathology, Medical College of Wisconsin
Pathology & Laboratory Medicine Informatics Officer, Froedtert Hospital

Contact Information:

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II. EDUCATION AND TRAINING

1995	B.S.	Bradley University, Peoria, IL	Biochemistry
2004	Ph.D.	University of Illinois, Urbana, IL	Neuroscience
2005	M.D.	University of Illinois, Chicago, IL	Medicine
2006	Intern	Johns Hopkins Hospital	Anatomic Pathology
2007	Asst. Resident	Johns Hopkins Hospital	Anatomic Pathology
2008	Research Fellow	Johns Hopkins University	Pathology
2009	Resident	Johns Hopkins Hospital	Anatomic Pathology
2010	Clinical Fellow	Johns Hopkins Hospital	GI & Liver Pathology
2011	Certificate	Johns Hopkins University	Clinical Informatics

III. ACADEMIC APPOINTMENTS

July 2010 - Jun 2011	Assistant (Faculty), GI & Liver Pathology	JHU School of Medicine
July 2011 - Jan 2016	Assistant Professor, Pathology	JHU School of Medicine
Jan 2016 - present	Adjunct Assistant Professor, Pathology	JHU School of Medicine
Jan 2016 - Jun 2017	Visiting Associate Professor, Pathology	University of Colorado School of Medicine
July 2017 - Aug 2023	Associate Professor, Pathology	University of Colorado School of Medicine

Apr 2022 - Aug 2023	Associate Professor, Biomedical Informatics (secondary appointment)	University of Colorado School of Medicine
Aug 2023 - Apr 2024	Professor, Pathology	University of Colorado School of Medicine
Aug 2023 - Apr 2024	Tenure	University of Colorado School of Medicine
Aug 2023 - Apr 2024	Professor, Biomedical Informatics (secondary appointment)	University of Colorado School of Medicine
Apr 2024 - present	Professor, Pathology	Medical College of Wisconsin
Apr 2024 - present	Professor, Data Science Institute (secondary appointment)	Medical College of Wisconsin

IV. OTHER PROFESSIONAL POSITIONS

Hospital positions:

July 2010 - Jan 2016	Pathologist	Johns Hopkins Hospital
July 2010 - Jan 2016	Pathologist	Johns Hopkins Bayview Medical Center
July 2012 - Jan 2016	Pathologist	Howard County General Hospital
July 2014 - Jun 2015	Associate Director	Division of Informatics, Pathology Department, JHU Hospital
July 2015 - Jan 2016	Interim Director	Division of Informatics, Pathology Department, JHU Hospital
Jan 2016 - Apr 2024	Medical Director of Informatics	Department of Pathology, University of Colorado School of Medicine
Jan 2016 - Apr 2024	Medical Director of the LIS	UC Health System
Jan 2016 - Apr 2024	Pathologist	University of Colorado Hospital
Sep 2018 - Jul 2021	Medical Director of Clinical Informatics, Pathology and Lab Medicine	Children's Hospital Colorado
Apr 2024 - present	Pathologist	Froedtert Hospital
Apr 2024 - present	Pathology & Laboratory Medicine Informatics Officer	Froedtert Hospital

Other:

2011 - 2012	Member, Aperio, Inc. Repository Project Advisory Group
2012 - 2016	Co-director, Imaging and Image Analysis, Oncology Tissue Services Lab (formerly the Tissue Microarray Lab), JHU
2015 - 2017	Member, Advisory Panel, Digital Pathology Congress
2016 - 2020	Member, American Registry of Pathology Editorial Advisory Board, Next Generation of ARP Publications (5th Series)
2017 - 2018	Member, Pathology Steering Board, Epic Systems Corporation

2017 - 2019	Section Editor (Informatics), Editorial Board, *American Journal of Clinical Pathology*
2017 - 2019	Member, Pathology Imaging Advisory Board, Leica Biosystems, Inc.
2017 - 2020	Member, CoPathPlus Pathology Advisory Committee, Cerner Corp.
2019 - present	Associate Editor (Informatics), Editorial Board, *American Journal of Clinical Pathology*
2019 - 2022	Member, Advanced Staining and Imaging Advisory Board, Leica Biosystems, Inc.
2019 - 2020	Member, Editorial Advisory Board, *Springer Lecture Notes in Artificial Intelligence: State-of-the-Art Survey: AI/Machine Learning for Digital Pathology,* Leica, Inc.
2021	Member, Ozanimod (ZEPOSIA®) Advisory Board: GI Pathologists' Insights on True North Biopsy Data and Real-World Biopsy Data Reporting to Guide Future BMS Trials, Bristol Meyers Squibb
2023 - present	Member, Digital Pathology Scientific Advisory Board, Leica Biosystems, Inc.
2024	Member, Adoption and Medical Value of Digital Pathology and Emerging Topics in Computational Pathology Advisory Board, Roche Diagnostics
2025 - present	Senior Associate Editor, Editorial Board, *Modern Pathology*

V. HONORS, SPECIAL RECOGNITIONS AND AWARDS

1998 - 1999	Program in Arms Control, Defense and International Security Research Fellowship (University of Illinois, Urbana-Champaign)
2000	University Fellowship (University of Illinois, Urbana-Champaign)
2000 - 2002	Developmental Neuroscience and Psychobiology Training Grant Fellow (NIH; University of Illinois, Urbana-Champaign)
2004	Daniel K. and Frances Bloomfield Award ("Outstanding Student Entering the Last Year of Studies in the Medical Scholars Program," University of Illinois, Urbana-Champaign College of Medicine)
2005	Donald Thrush Award for Excellence in Pathology (University of Illinois, Urbana-Champaign College of Medicine)
2008	Excellence in Basic Research, Pathology Young Investigators (JHU)
2008	College of American Pathologists Travel Grant, APIII (Advancing Practice, Instruction, and Innovation through Informatics) Meeting
2009 - 2010	Ruth L. Kirchstein NRSA Fellowship (JHU training grant)
2010	Excellence in Clinical Research, Pathology Young Investigators (JHU)
2010 - 2011	Yardley Fellow (Division of GI & Liver Pathology, JHU)
2012	Dr. Frank Netter Award for Special Contributions to Medical Education (Vesalius Trust)
2012	Grover Hutchins, M.D., Endowment, Faculty Support Award (JHU)
2014	Educational Innovation Award, Institute for Educational Excellence (JHU SOM)
2019	Summit Award for Excellence in Teaching and the Education of Pathologists (CU SOM Pathology Dept)
2020	Medical Student Small Group Teaching Certificate ("Awarded in recognition of exceptional service in teaching 10 or more small group sessions by a faculty member"; CU SOM Pathology Dept)
2020	The Power List 2020, "Big Breakthroughs", *The Pathologist* Magazine
2021	Medical Student Small Group Teaching Certificate ("Awarded in recognition of exceptional service in teaching 6 or more small group sessions by a faculty member"; CU SOM Pathology Dept)

2023   Summit Award for Excellence in Teaching and the Education of Pathologists
                (CU SOM Pathology Dept)
2023   Pathologist of the Year (CU SOM Pathology Dept)

VI. MEMBERSHIP IN PROFESSIONAL ORGANIZATIONS

2005 - 2021   Member, United States and Canadian Academy of Pathology (USCAP)
2006 - 2024   Member, College of American Pathologists (CAP)
2006 - present Member, American Society for Clinical Pathology (ASCP)

2007 - present Member, Association for Pathology Informatics (API)
2009 - 2011   Member, American Association for Cancer Research (AACR)
2012 - present Member, Digital Pathology Association (DPA)
2015 - 2016   Member, American Medical Informatics Association (AMIA)
2016 - 2024   Member, American Telemedicine Association (ATA)
2018 - present Member, Gastrointestinal Pathology Society (GIPS)
2019 - 2024   Member, Healthcare Information and Management Systems Society (HIMSS)
2019 - 2024   Member, Society for Imaging Informatics in Medicine (SIIM)
2019 - present Member, Pathology Innovation Collaborative Community (PICC)/Alliance for
                Digital Pathology

VII. MAJOR COMMITTEE AND SERVICE RESPONSIBILITIES

Departmental:

2009 - 2016   Member, Web Site Committee, JHU SOM Pathology Dept
2011 - 2015   Member, Residency Selection Committee, JHU SOM Pathology Dept
2014 - 2015   Associate Director, Division of Informatics, JHU SOM Pathology Dept
2015 - 2016   Interim Director, Division of Informatics, JHU SOM Pathology Dept
2016 - 2024   Medical Director, Pathology Informatics, CU SOM Pathology Dept
2017 - 2024   Chairperson, Web Site Committee, CU SOM Pathology Dept
2019 - 2021   Co-Chairperson, Colorado Genetic Laboratory (CGL) & Colorado Molecular
                Correlates Laboratory (CMOCO) LIS Search Committee, CU SOM Pathology
                Department
2021 - 2024   Vice-Chair for Informatics, CU SOM Pathology Dept
2021 - 2024   Member, AP/CP Program Evaluation Committee, CU SOM Pathology Dept
2021 - 2024   Chairperson, Subcommittee on Technology for Education, AP/CP Program
                Evaluation Committee, CU SOM Pathology Dept
2022 - 2024   Member, AP/CP Curriculum Committee, CU SOM Pathology Dept
2022 - 2023   Member, Vice-Chair for Clinical Pathology and Laboratory Medical Director
                Recruitment Committee, CU SOM Pathology Dept
2023   Chairperson, Medical Director of the University of Colorado Hospital Core
                Laboratory Recruitment Committee, CU SOM Pathology Dept
2023 - 2024   Member, Promotions Advisory Committee, CU SOM Pathology Dept

University / School of Medicine:

2010 - 2014   Member, caTissue Steering Committee, JHU SOM
2011 - 2016   Member, Education Technology Committee, JHU SOM

2012 - 2016	Co-director, Imaging and Image Analysis, Oncology Tissue Services Lab (formerly the Tissue Microarray Lab), JHU SOM
2014 - 2016	Member, OpenSpecimen Steering Committee, JHU SOM
2021 - 2024	Member, Center for Health Artificial Intelligence (CHAI), CU SOM
2022 - 2024	Affiliate Member, University of Colorado Cancer Center

Hospital / Health System:

2009 - 2010	GI Biopsy Quality Improvement Effort, Johns Hopkins Hospital
2010 - 2016	GI Pathology Interesting Case/Quality Assurance Conference, Johns Hopkins Hospital
2011 - 2016	PDS/Pathology Information Systems Steering Committee, Johns Hopkins Hospital
2012	Member, College of American Pathologists Laboratory Accreditation Inspection Team, Johns Hopkins Hospital
2015 - 2016	Autopsy Pathology Quality Assurance Conference, Johns Hopkins Hospital
2015 - 2016	Member, Health IT Safety Committee, Johns Hopkins Medicine
2015 - 2016	Epic Physician Champions (Pathology Representative), Johns Hopkins Medical Institutions
2015 - 2016	Member, Data Trust Research Data Sub-Council, Johns Hopkins Medicine
2015 - 2016	Member, Laboratory Advisory Committee, Johns Hopkins Hospital
2015 - 2016	Member, Clinical Advisory/Laboratory Management Committee, Johns Hopkins Department of Pathology
2016 - 2024	Member, Joint Informatics Group, UCHealth
2016 - 2024	Member, LIS Steering Committee, UCHealth
2016 - 2024	Medical Director, Laboratory Information System, UCHealth
2016 - 2024	Member, Pharmacogenomics Implementation Committee Colorado (PICColo), CU / UCHealth
2018 - 2021	Medical Director of Clinical Informatics, Pathology and Lab Medicine, Children's Hospital Colorado (CHCO)
2024 - present	Member, Clinical Informatics Governance Council (CIGC), Inpatient Subcommittee, Froedtert Health
2024 - present	Member, Beaker Steering Committee, Froedtert Health
2024 - present	Member, Clinical Decision Support (CDS) Committee, Froedtert Health
2024 - present	Member, Predictive Modeling and Artificial Intelligence (PMAI) Review Committee, Froedtert Health
2024 - present	Member, Enterprise Executive Lab Stewardship Committee, Froedtert Health
2025 - present	Member, Enterprise Medical Imaging AI Steering Committee, Froedtert Health
2025 - present	Member, Genomics Module – Oncology Subject Matter Expert Subcommittee, Froedtert Health
2025 - present	Member, Genomics Module – Pharmacogenomics Subject Matter Expert Subcommittee, Froedtert Health
2025 - present	Member, Genomics Module – Medical Genetics Subject Matter Expert Subcommittee, Froedtert Health

Clinical (Service) Responsibilities:

2010 - 2016	Gastrointestinal pathology, Johns Hopkins Hospital
2011 - 2016	Autopsy pathology, Johns Hopkins Hospital

2011 - 2016   Autopsy pathology, Johns Hopkins Bayview Medical Center
2012 - 2016   Gastrointestinal pathology, Howard County General Hospital
2016 - 2024   Gastrointestinal pathology, University of Colorado Hospital
2016 - 2021   Gastrointestinal pathology, UCHealth Broomfield Hospital
2016 - 2018   Gastrointestinal pathology, UCHealth Grandview Hospital
2020 - 2024   Gastrointestinal pathology, UCHealth Cherry Creek Medical Center
2024 - present   Gastrointestinal pathology, Froedtert Hospital

Professional Society:

2012 - 2013	Member, College of American Pathologists Digital Pathology Working Group
2013 - 2014	Member, College of American Pathologists Digital Pathology Project Team
2014 - 2019	Member, College of American Pathologists Digital Pathology Committee
2017 - 2018	Member, AACR 2018 Annual Meeting Program Committee
2018 - 2019	Co-chair, Association for Pathology Informatics Training and Education Committee
2019 - 2020	Member, College of American Pathologists Digital and Computational Pathology Committee
2019 - 2022	Member, HIMSS-SIIM Enterprise Imaging Community's Multimedia Interactive Content Reporting Workgroup
2020 - 2024	Member, HIMSS-SIIM Enterprise Imaging Community Advisory Council
2020 - 2022	Member, Digital Pathology Association Artificial Intelligence / Machine Learning (AI/ML) Task Force
2021	President-Elect, Association for Pathology Informatics
2021 - 2024	Member, College of American Pathologists Artificial Intelligence Committee
2022	President, Association for Pathology Informatics
2023 - 2024	Past President, Association for Pathology Informatics
2023 - 2024	Member, American Society of Clinical Pathology (ASCP) Taskforce on the *American Journal of Clinical Pathology (AJCP)*
2024 - 2025	Chair, Publications Committee, Association for Pathology Informatics
2025 - 2026	Co-chair, Publications Committee, Association for Pathology Informatics
2024 - present	Member, Technical Standards and Innovation Committee, Association for Pathology Informatics

VIII. LICENSURE AND BOARD CERTIFICATION

Licensure:

2008 - 2010	Medical Physician and Surgeon, Commonwealth of Pennsylvania, MD435996 (status: inactive; expiration: 12/31/2010)
2010 - 2016	Medical Physician and Surgeon, State of Maryland, D70746 (status: inactive; expiration: 9/30/2016)
2015 - 2025	Physician, State of Colorado, DR.0056128 (status: active; expiration: 4/30/2025)
2024 - present	Physician - MD, State of Wisconsin, 83540-20 (status: active; expiration: 10/31/2025)

Board Certification:

2009 - present   Diplomate, Anatomic Pathology, The American Board of Pathology

2015 - present   Diplomate, Clinical Informatics, The American Board of Pathology

IX. INVENTIONS, PATENTS, INTELLECTUAL PROPERTY

2015   Halushka MK and **Cornish TC**. "Method and System to Digitize Pathology Slides in a Stepwise Fashion for Review", Co-inventor (with Marc K. Halushka), US Patent 9,214,019; filed Feb 15, 2012, and issued Dec 15, 2015.

X. REVIEW AND REFEREE WORK

Editorial Board Service:

2017 - 2019	Section Editor	*American Journal of Clinical Pathology* (Informatics, GI & Liver Pathology)
2019 - present	Associate Editor	*American Journal of Clinical Pathology* (Informatics)
2019 - 2023	Editorial Advisory Board	*American Registry of Pathology, Fascicles of Pathology, 5th Series*
2019 - 2020	Editorial Advisory Board	*Springer Lecture Notes in Artificial Intelligence: State-of-the-Art Survey: AI/ML for Digital Pathology*
2020 - 2024	Editorial Board	*Modern Pathology*
2024 - present	Editorial Board	*Laboratory Investigation*
2025 - present	Senior Associate Editor	*Modern Pathology*

Ad-hoc Review for Journals:

2009	Ad-hoc Reviewer	*Annals of the British Machine Vision Association*
2010 - 2024	Ad-hoc Reviewer	*Laboratory Investigation*
2012	Ad-hoc Reviewer	*Diagnostic Cytopathology*
2012	Ad-hoc Reviewer	*Journal of Neuropathology and Exp Neurology*
2013 - 2024	Ad-hoc Reviewer	*Archives of Pathology & Laboratory Medicine*
2014 - present	Ad-hoc Reviewer	*Journal of Pathology Informatics*
2014	Ad-hoc Reviewer	*Journal of Visualized Experiments*
2015	Ad-hoc Reviewer	*AIMS Medical Science*
2015	Ad-hoc Reviewer	*Scientific Reports*
2015	Ad-hoc Reviewer	*Advances in Medical Sciences*
2016	Ad-hoc Reviewer	*Microscopy and Microanalysis*
2017 - 2019	Ad-hoc Reviewer	*Pathology*
2017 - present	Ad-hoc Reviewer	*American Journal of Clinical Pathology*
2017 - 2023	Ad-hoc Reviewer	*Journal of Clinical Investigation*
2018 - 2025	Ad-hoc Reviewer	*JAMA Oncology*
2018	Ad-hoc Reviewer	*Clinical Medicine Insights: Pathology*
2018	Ad-hoc Reviewer	*Histopathology*
2019 - 2020	Ad-hoc Reviewer	*Modern Pathology*
2019	Ad-hoc Reviewer	*JAMA Network Open*
2019	Ad-hoc Reviewer	*Research Square*
2019	Ad-hoc Reviewer	*npj Digital Medicine*
2020	Ad-hoc Reviewer	*Medical Image Analysis*
2020 - 2025	Ad-hoc Reviewer	*Clinical Chemistry*

2020	Ad-hoc Reviewer	*Human Pathology: Case Reports*
2020	Ad-hoc Reviewer	*Mayo Clinic Proceedings: Innovations, Quality & Outcomes*
2021	Ad-hoc Reviewer	*Journal of the American Medical Informatics Association (JAMIA)*
2021 - 2024	Ad-hoc Reviewer	*Journal of Pathology*
2021	Ad-hoc Reviewer	*Journal of Pathology: Clinical Research*
2021	Ad-hoc Reviewer	*American Journal of Pathology*
2021	Ad-hoc Reviewer	*Journal for ImmunoTherapy of Cancer*
2021	Ad-hoc Reviewer	*Computerized Medical Imaging and Graphics*
2022	Ad-hoc Reviewer	*Future Medicinal Chemistry*
2022	Ad-hoc Reviewer	*Translational Oncology*
2022	Ad-hoc Reviewer	*Gastroenterology*
2022 - 2025	Ad-hoc Reviewer	*International Journal of Computer-Assisted Radiology and Surgery (IJCARS)*
2022	Ad-hoc Reviewer	*Biomedicines*
2022	Ad-hoc Reviewer	*Cybernetics and Systems*
2023	Ad-hoc Reviewer	*IEEE Journal of Biomedical and Health Informatics*
2023	Ad-hoc Reviewer	*Case Reports in Pathology*
2023	Ad-hoc Reviewer	*International Journal of Surgical Pathology*
2023	Ad-hoc Reviewer	*Clinica Chimica Acta*
2024	Ad-hoc Reviewer	*BMJ Oncology*
2024	Ad-hoc Reviewer	*Molecular Oncology*
2024	Ad-hoc Reviewer	*Frontiers in High Performance Computing*
2024	Ad-hoc Reviewer	*Infectious Medicine*
2025	Ad-hoc Reviewer	*BMC Gastroenterology*
2025	Ad-hoc Reviewer	*Pathology – Research and Practice*
2025	Ad-hoc Reviewer	*Surgical and Experimental Pathology*
2025	Ad-hoc Reviewer	*npj Precision Oncology*
2025	Ad-hoc Reviewer	*Nature Communications*
2025	Ad-hoc Reviewer	*Computers in Biology and Medicine*
2025	Ad-hoc Reviewer	*Archives of Dermatological Research*
2025	Ad-hoc Reviewer	*Diagnostic Pathology*
2025	Ad-hoc Reviewer	*Artificial Intelligence in Medicine*
2026	Ad-hoc Reviewer	*Artificial Immunohistochemistry and Molecular Morphology (AIMM)*
2026	Ad-hoc Reviewer	*MedComm – Future Medicine*

Grant Review:

2019	External Reviewer	Mitacs Elevate Postdoctoral Fellowship Award Program
2019	External Reviewer	Ontario Research Fund – Research Excellence Round 10
2020	External Reviewer	Ontario Institute for Cancer Research (OICR) - Ontario Molecular Pathology Research Network (OMPRN) Cancer Pathology Translational Research Grants (CPTRG)
2021	Expert Reviewer	Canada Foundation for Innovation (CFI) - John R. Evans Leaders Fund

2021	Member	NIH Emerging Imaging Technologies and Applications (EITA) Study Section
2021 - 2022	Member	Colorado Clinical and Translational Sciences Institute (CCTSI) Translational Methods (TM-Pilot) Grant Program 2022 Study Section
2022	Expert Reviewer	Swiss National Science Foundation (SNSF) National Roadmap for Research Infrastructures 2023
2022 - 2023	Member	Colorado Clinical and Translational Sciences Institute (CCTSI) Colorado Pilot (CO-Pilot) Grant Program 2023 Study Section
2023	External Reviewer	Swiss National Science Foundation (SNSF) BRIDGE Discovery
2023	Member	NCI Informatics Technologies for Cancer Research (R21 and U01) Special Emphasis Panel Study Section
2025	External Reviewer	Innovation and Technology Commission (ITC), Hong Kong Special Administrative Region of the People's Republic of China

Scientific Meeting Abstract / Proposal Review:

2019	Reviewer	API 2019 Pathology Informatics Summit Abstracts
2020	Reviewer	API 2020 Pathology Informatics Summit Abstracts
2021	Reviewer	SIIM 2022 Annual Meeting Session Proposals
2021	Reviewer	SIIM 2022 Annual Meeting Abstracts
2022	Reviewer	ASCP 2022 Annual Meeting Abstracts
2022	Reviewer	SIIM 2023 Annual Meeting Session Proposals
2022	Reviewer	SIIM 2023 Annual Meeting Abstracts
2023	Reviewer	ASCP 2023 Annual Meeting Abstracts
2023	Reviewer	SIIM 2024 Annual Meeting Session Proposals
2023	Reviewer	SIIM 2024 Annual Meeting Abstracts
2024	Reviewer	SIIM 2025 Annual Meeting Session Proposals
2024	Reviewer	SIIM 2025 Annual Meeting Abstracts
2025	Reviewer	SIIM 2026 Annual Meeting Abstracts

XI. INVITED EXTRAMURAL LECTURES, PRESENTATIONS, AND VISITING PROFESSORSHIPS

Local:

1. "From Pushing Glass to Pushing Bits," presented at Grand Rounds, Department of Pathology, Johns Hopkins School of Medicine, Baltimore, MD, 11/23/2015.

2. "Artificial Intelligence in Histopathology," presented at Grand Rounds, Department of Pathology, University of Colorado, Aurora, CO, 3/4/2022.

3. "Pathology Informatics," presented at the Department of Biomedical Informatics Retreat, University of Colorado, Aurora, CO, 8/30/2022.

Regional:

1. **"**Cultured Cells Respond to Substrate-Attached Synaptic Differentiation Cues," presented at the Midwest Developmental Biology Meeting in Urbana, IL, 2000.

National:

1. "Pancreatic cancer precursors: early detection," presented at Grand Rounds, Department of Pathology, Medical College of Wisconsin, Milwaukee, WI, 8/27/2010.

2. "Summarize the Basic Concepts in Digital Pathology and Image Analysis," 12th Annual Current Topics in Gastrointestinal and Liver Pathology, Johns Hopkins School of Medicine, Baltimore, MD, 11/10/2012.

3. "Test Utilization in GI and Liver Pathology," 12th Annual Current Topics in Gastrointestinal and Liver Pathology, Johns Hopkins School of Medicine, Baltimore, MD, 11/10/2012.

4. "A Practical Introduction to Digital Pathology," 13th Annual Current Topics in Gastrointestinal and Liver Pathology, Johns Hopkins School of Medicine, Baltimore, MD, 10/26/2013.

5. "Test Utilization in GI and Liver Pathology," 13th Annual Current Topics in Gastrointestinal and Liver Pathology, Johns Hopkins School of Medicine, Baltimore, MD, 10/26/2013.

6. "The Promise and Challenges of mPathology," presented at The Emerging Clinical & Laboratory Diagnostics Conference, American Association for Clinical Chemistry, San Jose, CA, 4/24/2014.

7. "Panel Discussion HER2 Testing: Multi-institutional Perspectives," 14th Annual Current Topics in Gastrointestinal and Liver Pathology, Johns Hopkins School of Medicine, Baltimore, MD, 10/11/2014.

8. "Practical Pediatric Gastrointestinal Pathology," 14th Annual Current Topics in Gastrointestinal and Liver Pathology, Johns Hopkins School of Medicine, Baltimore, MD, 10/12/2014.

9. "CAP Digital Pathology Committee Update," presented at Pathology Visions 2014, Digital Pathology Association, San Francisco, CA, 10/20/2014.

10. "Is In-Sourcing for me? -- Selection and Implementation of a Digital Pathology Consultation Platform," presented at Pathology Visions 2014, Digital Pathology Association, San Francisco, CA, 10/21/2014.

11. "Approaches to and Perspectives on Digital Insourcing of Pathology Consultation and Second Opinion," presented at Digital Pathology Congress USA, San Diego, California, 6/23/2015.

12. "From Pushing Glass to Pushing Bits," presented to Department of Pathology, University of Colorado School of Medicine, Aurora, Colorado, 7/9/2015.

13. "Practical Pediatric Gastrointestinal Pathology," 15th Annual Current Topics in Gastrointestinal and Liver Pathology, Johns Hopkins School of Medicine, Baltimore, MD, 10/17/2015.

14. "8003. In-Sourcing Digital Consults: Is it For Me?" American Society for Clinical Pathology (ASCP) Annual Meeting, Long Beach, CA, 10/28/2015.

15. "8005. A Primer on Regulatory and Legal Aspects of Whole Slide Imaging and Telepathology," American Society for Clinical Pathology (ASCP) Annual Meeting, Long Beach, CA, 10/29/2015.

16. "Selection and Implementation of a Digital Pathology System," Key Topics in Pathology Informatics Workshop, Pathology Informatics Summit 2016, Pittsburgh, PA, 5/23/2016.

17. "API4-16. Use of Digital Pathology for Establishing a Consultation Practice," American Society for Clinical Pathology (ASCP) Annual Meeting, Las Vegas, NV, 9/14/2016.

18. "The Current and Future State of Digital Pathology," American Association of Pathologists' Assistants Spring Meeting, Denver, CO, 3/22/2017.

19. "API8-17. Beyond the FDA: Regulations, Requirements, and Reimbursement in Digital Pathology," American Society for Clinical Pathology (ASCP) Annual Meeting, Chicago, IL 9/7/2017.

20. "Computational Pathology," part of "The Role of Artificial Intelligence in Digital Pathology" webinar presented by *The Pathologist*, broadcast to North America, 12/20/2017.

21. "Computational Pathology," Pathology Informatics Bootcamp, Pathology Informatics Summit 2018, Pittsburgh, PA, 5/21/2018.

22. "Revisiting the 'Gold Standard' in the Era of Computational Pathology," presented to the Division of Anatomic Pathology, Department of Laboratory Medicine and Pathology, Mayo Clinic, Rochester, Minnesota, 6/15/2018.

23. "Integrating Our Digital Future," presented to PDAS track, Association of Pathology Chairs Annual Meeting, San Diego, CA, 7/18/2018.

24. "Revisiting the 'Gold Standard' in the Era of Computational Pathology," presented to the Department of Pathology, University of Michigan, Ann Arbor, Michigan, 10/24/2018.

25. "Artificial Intelligence and the Practice of Pathology," presented to the Department of Pathology, University of Utah, Salt Lake City, Utah, 3/4/2019.

26. "From Pushing Glass to Pushing Bits: Building a Truly Digital Pathology Workflow," Association for Pathology Informatics Companion Society Meeting, USCAP Annual Meeting, National Harbor, MD, 3/14/2019.

27. "Buy, Build or Borrow? Filling functional gaps in your LIS," Foundational Topics in Pathology and Clinical Laboratory Informatics, Pathology Informatics Summit 2019, Pittsburgh, PA, 5/6/2019.

28. "KiNet: Single-stage Nuclear Recognition and Classification for Measuring Ki-67 Proliferation Index (PI) in Pancreatic Neuroendocrine Tumors," Histopathology Image Analysis (HIMA) Imaging Science, Pathology Informatics Summit 2019, Pittsburgh, PA, 5/6/2019.

29. "The Application of Artificial Intelligence to the Practice of Pathology," Frontiers in Pathology Imaging Informatics Session, Society for Imaging Informatics in Medicine (SIIM) Annual Meeting 2019, Aurora, CO, 6/28/2019.

30. "An Introduction to Artificial Intelligence in the Practice of Pathology," New Frontiers in Cytopathology Lecture, American Society of Cytopathology (ASC) Annual Meeting 2019, Salt Lake City, UT, 11/15/2019.

31. "Short Course 51: Adopting Digital and Computational Pathology in Clinical Practice: A Practical, Technical, Regulatory and Legal Primer," USCAP Annual Meeting 2020, Los Angeles, CA, 3/2/2020.

32. "Multimedia Interactive Reporting in Pathology" in "Enterprise Imaging – Multimedia Interactive Reporting in Imaging Centric Specialties," Course ID: 1010, Society for Imaging Informatics in Medicine (SIIM) Annual Meeting 2020, Virtual Meeting, 6/24/2020.

33. "Artificial Intelligence in Pathology Practice" in "Artificial Intelligence and Machine Learning in Pathology," Association for Pathology Informatics Virtual Classroom Series 2020, 12/9/2020.

34. "Short Course 51: Adopting Digital and Computational Pathology in Clinical Practice: A Practical, Technical, Regulatory and Legal Primer," USCAP Virtual Annual Meeting 2021, 3/14/2021.

35. "Brief Introduction to AI with Definitions," Association for Pathology Informatics Companion Society Meeting, USCAP Virtual Annual Meeting 2021, 3/16/2021.

36. "Application of Pathology Informatics in Cancer Centers," presented at Moffitt Cancer Center, Tampa, Florida, 4/8/2021.

37. "Short Course 51: Adopting Digital and Computational Pathology in Clinical Practice: A Practical, Technical, Regulatory and Legal Primer," USCAP Annual Meeting 2022, 3/23/2022.

38. "Security Panel Discussion," Pathology Informatics Summit 2022, Pittsburgh, PA, 5/12/2022.

39. "Quantitative Analysis of Ki67, a Prognostic Biomarker in Gastroenteropancreatic Neuroendocrine Tumors," Image Guided Cancer Therapy (IGCT) Seminar Series (Virtual), MD Anderson Cancer Center, Houston, Texas, 5/19/2022.

40. "Digital Pathology: Current State, Next Steps, Future Visions," Session ID: 1021S, Society for Imaging Informatics in Medicine (SIIM) Annual Meeting 2022, Kissimmee, FL, 6/9/2022.

41. "Impact of Digital Pathology and Artificial Intelligence on Routine Pathology Practice: To be or Not to be," Session ID: 2029V, Society for Imaging Informatics in Medicine (SIIM) Annual Meeting 2022, Kissimmee, FL, 6/10/2022.

42. "Bridging Histology and Molecular Pathology with Computational Pathology: An Introduction," Association for Molecular Pathology (AMP) Companion Society Meeting, USCAP Annual Meeting 2023, New Orleans, LA, 3/12/2023.

43. "Digital and Computational Pathology in Routine Diagnosis: The Nuts and Bolts of Adoption" in 2023 Long Course: "Next Generation Pathology: Technological Advances in Anatomical Pathology," USCAP Annual Meeting 2023, New Orleans, LA, 3/23/2023.

44. "Telepathology: Then and Now," presented to the Department of Pathology, Medical College of Wisconsin, Milwaukee, WI, 6/22/2023.

45. "Where Do Imaging Informaticists Fit in the Artificial Intelligence Puzzle?" in the 2024 Society for Imaging Informatics in Medicine (SIIM) National Imaging Informatics Course (NIIC), Fall Term, Virtual, 9/26/2024.

46. "That AI Article Says What?? Publishing, Reviewing, & Evaluating AI Studies in Pathology," Association for Pathology Informatics Companion Society Meeting, Pathology Visions 2024 (Digital Pathology Association Annual Meeting), Orlando, FL, 11/3/2024.

47. "Where Do Imaging Informaticists Fit in the Artificial Intelligence Puzzle?" in the 2025 Society for Imaging Informatics in Medicine (SIIM) National Imaging Informatics Course (NIIC), Spring Term, Virtual, 3/21/2025.

48. "Introduction to Cybersecurity," Association for Pathology Informatics Companion Society Meeting, USCAP Annual Meeting 2025, Boston, MA, 3/23/2025.

49. "Where Do Imaging Informaticists Fit in the Artificial Intelligence Puzzle?" in the 2025 Society for Imaging Informatics in Medicine (SIIM) National Imaging Informatics Course (NIIC), Fall Term, Virtual, 9/26/2025.

50. "Publishing and Reviewing Computational Pathology Manuscripts" USCAP Annual Meeting 2026, San Antonio, TX, 3/24/2026.

51. "Where Do Imaging Informaticists Fit in the Artificial Intelligence Puzzle?" in the 2026 Society for Imaging Informatics in Medicine (SIIM) National Imaging Informatics Course (NIIC), Spring Term, Virtual, 3/27/2026.

52. "Mind the Gap: Commercial AI Coverage Across Pathology Practice," Computational & Digital Pathology Seminar Series, Washington University, St. Louis, Missouri, 4/1/2026.

International:

1. "Pancreatic Cancer? There's an App for that," presented at 20th Congress of Chinese Society of Pathology and 4th Annual Meeting of Chinese Pathologists, Chongqing, Sichuan Province, China, 11/15/2014.

2. "Overcoming Barriers in Adoption of Digital Pathology," panel discussion, presented at Digital Pathology Congress, London, England, 12/4/2014.

3. "Global Insourcing of Pathology Consultation and Second Opinion Using Digital Pathology," presented at Digital Pathology Congress, London, England, 12/5/2014.

4. "Global Insourcing of Pathology Consultation and Second Opinion Using Digital Pathology," presented at Royal College of Pathologists Digital Pathology Symposium, Bradford, West Yorkshire, UK, 9/24/2015.

5. "The Future of Digital Pathology in Asia," panel discussion, presented at Digital Pathology Congress Asia, Kuala Lumpur, Malaysia, 8/22/2016.

6. "WSI Telepathology for International Expert Consultation and Second Opinion," presented at Digital Pathology Congress Asia, Kuala Lumpur, Malaysia, 8/23/2016.

7. "Computational Pathology," part of "The Role of Artificial Intelligence in Digital Pathology" webinar presented by *The Pathologist*, broadcast to Europe, 12/19/2017.

8. "Integrating Our Digital Future," presented at Digital Pathology Congress Asia, Tokyo, Japan, 5/9/2018.

9. "Legal and Regulatory Aspects of Telepathology," presented at International Symposium of Innovation in Transplantation: The Digital Era, Verona, Italy, 6/8/2018.

10. "The Current State of Digital Pathology in Clinical Practice," Artificial Intelligence and Digital Pathology Pre-Course, presented at the 11th Asia Pacific International Association of Pathology (APIAP) Congress, Hefei, China, 10/11/2019.

11. "Buy, Build or Borrow? Filling Functional Gaps in your LIS," XV Health Informatics Conference: JIS Go Live 2020, Virtual Meeting, Buenos Aires, Argentina, 11/2/2020.

12. "AI in Pathology: Where We Are and Where We're Headed," presented at College of American Pathologists (CAP) Saudi Education Day, Riyadh, Saudi Arabia, 10/26/2025.

Industry:

1. "Integrating Our Digital Future," presented to Leica Biosystems (Aperio) Associates, Vista, CA, 7/16/2018.

2. "Crossing the Chasm? Adoption of Digital Pathology and Artificial Intelligence in Mainstream Pathology Practice," presented at Pathology Grand Rounds (Virtual Session), AstraZeneca, Gaithersburg, MD, 11/20/2020.

XII. TEACHING RECORD

Undergraduate:

1994 - 1995   Teaching Assistant, "Chemistry Laboratory" (CHEM 110), Bradley University

Graduate / Medical School:

1995 - 1996	Teaching Assistant, "Biochemistry Laboratory" (BCHM 355), University of Illinois Urbana-Champaign School of Chemical Sciences.
1997 - 1998	Teaching Assistant, "Experimental Techniques in Biochemistry" (BCHM 452), University of Illinois Urbana-Champaign School of Chemical Sciences.
2005 - 2010	Small Group Instructor, 2nd Year Medical Student Pathology Course, Johns Hopkins School of Medicine
2009 - 2016	Lecturer, "Pathology Informatics," Pathology Residency Didactic Lecture Series, Johns Hopkins School of Medicine
2010 - 2016	Pathology Demonstration Instructor in Gross Anatomy (1st year medical students), Johns Hopkins School of Medicine
2010 - 2016	Small Group Instructor in Pathology, Genes to Society Curriculum (2nd year medical students), Johns Hopkins School of Medicine
2010 - 2016	Lecturer, "Small Intestine," Genes to Society Curriculum (2nd year medical students), Johns Hopkins School of Medicine
2011 - 2012	Lecturer, "Digital microscopy and quantitative microscopy for research applications and publication," ME:680.712 Phenotyping for Functional Genetics, Johns Hopkins School of Medicine
2012 - 2016	Small Group Instructor in Histopathobiology, Scientific Foundations of Medicine, Genes to Society Curriculum (1st year medical students), Johns Hopkins School of Medicine
2013	Lecturer, "An introduction to digital whole slide imaging and whole slide image analysis," ME:680.712 Phenotyping for Functional Genetics, Johns Hopkins School of Medicine
2014	Visiting Lecturer, "Pancreatic Tumors: An Algorithmic Approach to Diagnosis," Zhejiang University School of Medicine, Hangzhou, Zhejiang Province, China.11/17/2014.
2014	Visiting Lecturer, "Pancreatic Cancer Precursors and Early Detection of Pancreatic Cancer," Zhejiang University School of Medicine, Hangzhou, Zhejiang Province, China.11/18/2014.
2014	Visiting Lecturer, "From Pushing Glass to Pushing Bits: An Introduction to Digital Pathology and Image Analysis for Clinical and Research Applications," Zhejiang University School of Medicine, Hangzhou, Zhejiang Province, China.11/18/2014.
2015	Lecturer, "An introduction to digital whole slide imaging and whole slide image analysis," ME:680.712 Phenotyping for Functional Genetics, Johns Hopkins School of Medicine. 7/31/2015.
2016 - 2021	Small Group Facilitator, "Cardiovascular Pulmonary Renal Block: Pathology," 1st Year Medical Curriculum, University of Colorado School of Medicine.
2016 - 2019	Small Group Facilitator, "Disease & Defense Block," 1st Year Medical Curriculum, University of Colorado School of Medicine.
2016 - 2021	Small Group Facilitator, "GI & Liver Block," Digestion, Endocrine and Metabolic Systems Block, IDPT 6002, 2nd Year Medical Curriculum, University of Colorado School of Medicine.
2017	Preceptor, Foundations of Medicine, University of Colorado School of Medicine.
2017	Preceptor, PATH 8600 Research Elective, University of Colorado School of Medicine.
2017 - 2019	Lecturer, "Diseases of the Lower GI Tract," Digestion, Endocrine and Metabolic Systems Block, IDPT 6002, 2nd Year Medical Curriculum, University of Colorado School of Medicine.

2018 - 2021	Lecturer, "Neoplasms of the Lower GI Tract," Digestion, Endocrine and Metabolic Systems Block, IDPT 6002, 2nd Year Medical Curriculum, University of Colorado School of Medicine.
2021 - 2024	Lecturer, "Pathology of GI Polyps & Carcinoma: Part 1, GI Polyps," Plains - Gastrointestinal Systems Course, IDPT 5018-A11P, Medical Sciences (Plains) level, 1st Year Medical Curriculum, University of Colorado School of Medicine.
2021 - 2024	Small Group Facilitator, Plains - Gastrointestinal Systems Course, IDPT 5018-A11P, Medical Sciences (Plains) level, 1st Year Medical Curriculum, University of Colorado School of Medicine.

Resident:

2010	Presenter, "Pancreatic Tumors," slide-based unknowns conference, Medical College of Wisconsin, Milwaukee, WI (8/26/2010)
2013 - 2016	Lecturer, "Pediatric GI Pathology," Pathology Residency Didactic Lecture Series, Johns Hopkins School of Medicine
2018 - 2020	Lecturer, "Introduction to Pathology Informatics," Pathology Residency Didactic Lecture Series, University of Colorado School of Medicine
2021 - 2023	Lecturer, "Introduction to Laboratory Information Systems," Pathology Residency Immersion Block, University of Colorado School of Medicine
2021 - 2023	Lecturer, "Overview of Pathology Informatics," Pathology Residency Didactic Lecture Series, University of Colorado School of Medicine
2024	Lecturer, "Neoplasms of the Upper Gastrointestinal Tract," Pathology Residency Didactic Lecture Series, Medical College of Wisconsin School of Medicine
2025	Lecturer, "Neoplasms of the Lower Gastrointestinal Tract," Pathology Residency Didactic Lecture Series, Medical College of Wisconsin School of Medicine
2025	Lecturer, "High Yield Topics in Pathology Informatics," Pathology Residency Retreat, Medical College of Wisconsin School of Medicine (2/7/2025)
2026	Lecturer, "Informatics Board Prep and Future of Pathology with AI," Pathology Residency Retreat, Medical College of Wisconsin School of Medicine (2/20/2026)

Fellow:

2019	Lecturer, "LIS Implementation/Selection," Lab Management Lecture Series, Pediatric Pathology Fellowship, Children's Hospital Colorado, Aurora, CO (9/18/2019)
2021	Lecturer, "LIS Selection and Implementation," Lab Management Lecture Series, Pediatric Pathology Fellowship, Children's Hospital Colorado, Aurora, CO (1/20/2021)
2021	Lecturer, "LIS Selection and Implementation," Lab Management Lecture Series, Pediatric Pathology Fellowship, Children's Hospital Colorado, Aurora, CO (10/29/2021)

Clinical instruction:

2010 - 2016	Instruction of pathology residents and fellows rotating on the Gastrointestinal Pathology service, Johns Hopkins School of Medicine
2011 - 2016	Instruction of pathology residents on the Autopsy Pathology service, Johns Hopkins School of Medicine
2012 - 2016	Instruction of pathology residents on the Pathology Informatics elective, Johns Hopkins School of Medicine
2016 - present	Instruction of pathology residents and fellows rotating on the Gastrointestinal Pathology service, University of Colorado School of Medicine
2016 - 2017	Course director and instructor, Pathology Informatics Elective, University of Colorado School of Medicine
2018 - 2023	Course director and instructor, Pathology Informatics Rotation, University of Colorado School of Medicine
2026 - present	Course director and instructor, Pathology Informatics Elective, Medical College of Wisconsin

Workshops / Seminars:

2011	Lecturer, "Digital microscopy and quantitative microscopy for research applications and publication," 2011 Mouse Pathobiology and Phenotyping Short Course, (concurrent with ME:680.712), Johns Hopkins School of Medicine, Baltimore, MD (7/29/2011)
2012	Lecturer, "Digital microscopy and quantitative microscopy for research applications and publication," 2012 Mouse Pathobiology and Phenotyping Short Course, (concurrent with ME:680.712), Johns Hopkins School of Medicine, Baltimore, MD (8/3/2012)
2013	Lecturer, "An introduction to digital whole slide imaging and whole slide image analysis," 2013 Mouse Pathobiology and Phenotyping Short Course, (concurrent with ME:680.712), Johns Hopkins School of Medicine, Baltimore, MD (7/19/2013)
2015	Lecturer, "An introduction to digital whole slide imaging and whole slide image analysis," ME:680.712 Phenotyping for Functional Genetics, Johns Hopkins School of Medicine (7/31/2015)
2017	"RT2017THUR Beyond the FDA: Discussing Digital Pathology with Primary Dx," American Society for Clinical Pathology (ASCP) Annual Meeting, Chicago, IL (9/7/2017).
2018	"The Role of the LIS in Digital Pathology: Driver, Passenger or Bystander?" Pathology Visions (Digital Pathology Association Annual Meeting), San Diego, CA (11/5/2018).
2018	"Artificial Intelligence and the Practice of Pathology" Association for Pathology Informatics (API) Digital Pathology and AI Workshop 2.0, Columbus, OH (12/8/2018).
2019	"Artificial Intelligence and Digital Pathology: What Pathologists Need to Know" Association for Pathology Informatics (API) Digital Pathology and AI Workshop 3.0, Pittsburg, PA (12/14/2019).
2020	"How Enterprise Imaging is Leveraged for Patient Care from a Distance," Panelist, HIMSS-SIIM Enterprise Imaging Community Roundtable, Webinar (4/15/2020).
2020	"Brief Introduction to AI with Definitions," Association for Pathology Informatics (API) Digital Pathology and AI Workshop 4.0, Virtual Meeting, New York, NY (10/22/2020).

2023   "Applications of Artificial Intelligence in Histopathology-based Prognosis," MW011: Pathology for Cancer Researchers Methods Workshop, American Association for Cancer Research (AACR) Annual Meeting 2023, Orlando, FL (4/15/2023).

Session / Conference Chair:

2018   Moderator, Informatics Platform Session, USCAP Annual Meeting 2018, Vancouver, BC (3/20/2018)

2018   Moderator / Co-chair, Pathology Informatics Boot Camp, Pathology Informatics Summit 2018, Pittsburgh, PA (5/21/2018)

2018   Moderator, Short Abstract Presentations, Pathology Informatics Summit 2018, Pittsburgh, PA (5/22/2018)

2019   Moderator / Co-chair, Pathology Informatics Boot Camp, Pathology Informatics Summit 2019, Pittsburgh, PA (5/6/2019)

2019   Moderator, Short Abstract Presentations, Pathology Informatics Summit 2018, Pittsburgh, PA (5/8/2019)

2019   Co-chair, Frontiers in Pathology Imaging Informatics Session, Society for Imaging Informatics in Medicine (SIIM) Annual Meeting 2019, Aurora, CO (5/28/2019)

2022   Chair / Moderator, Digital Pathology: Current State, Next Steps, Future Visions, Session 1021S, Society for Imaging Informatics in Medicine (SIIM) Annual Meeting 2022, Kissimmee, FL, 6/9/2021.

2022   Moderator, Association for Pathology Informatics (API) Digital Pathology and AI Workshop 6.0, Virtual Meeting, Philadelphia, PA (11/3/2022).

2024   Moderator, Short Abstract Presentations and Morning Track Sessions, Pathology Informatics Summit 2024, Pittsburgh, PA (5/21/2024, 5/22/2024).

2024   Moderator, Vendor Roundtable, Association for Pathology Informatics (API) Digital Pathology and AI Workshop 8.0, Vaughan, Ontario, Canada (9/17/2024).

2025   Moderator, "WAIT, WHAT? WE'VE BEEN CYBERATTACKED??", Association for Pathology Informatics Companion Society Meeting, USCAP Annual Meeting, Boston, MA (3/23/2025).

2025   Moderator, "Inside Scoop: Developing Your Career at Any Stage," Association for Pathology Informatics (API), Meetup Mondays, Virtual Meeting (3/10/2025).

XIII. GRANT SUPPORT

Current Support:

 None.

Pending Support:

 None.

Previous support:

 Grant Source: NCI (1R21CA274487-01A1)
 Title: Geles: A Novel Imaging Informatics System for Generalizable

Lesion Identification in Neuroendocrine Tumors

Role on Project:	Co-investigator (Xing, PI)
Inclusive Dates:	7/1/2023 to 6/30/2025
Total Direct Costs:	$414,218

Grant Source:	NCI (1R21CA237493-01)
Title:	Development and Dissemination of KiNet: A Novel Imaging Informatics Tool for Gastrointestinal and Pancreatic Neuroendocrine Tumors
Role on Project:	Co-Principal investigator (Xing, co-PI)
Effort:	0.6 calendar months
Inclusive Dates:	4/2/2019 to 3/31/2022
Total Direct Costs:	$108,750

Grant Source:	NCI
Title:	Cancer Center Support Grant
Role on Project:	Co-investigator (Nelson, PI)
Effort:	0.6 calendar months
Inclusive Dates:	5/1/2012 to 4/30/2017
Total Direct Costs:	$4,100,428

Grant Source:	Commonwealth Grand Fund
Title:	Tumor Microenvironment
Role on Project:	Co-investigator (Pardoll, PI)
Effort:	2.4 calendar months
Inclusive Dates:	2014 to 2015

Grant Source:	AACR / Phillip A. Sharp Award
Title:	The Intersection of Epigenetic and Immune Checkpoint Therapy
Role on Project:	Co-investigator (Baylin, PI)
Effort:	0.24 calendar months
Inclusive Dates:	7/1/2014 to 6/30/2015
Total Direct Costs:	$227,275

Grant Source:	NCI
Title:	SPORE in Prostate Cancer
Role on Project:	Co-investigator (Nelson, PI)
Effort:	0.6 calendar months
Inclusive Dates:	9/1/2014 to 8/31/2019
Total Direct Costs:	$1,564,392

Grant Source:	DOD
Title:	SPORE in Prostate Cancer
Role on Project:	Co-investigator (Sfanos, PI)
Effort:	0.6 calendar months
Inclusive Dates:	9/30/2014 to 9/29/2017
Total Direct Costs:	$230,833

Grant Source:	Prostate Cancer Foundation
Title:	Evaluation of PSMA based PET as functional imaging biomarkers
Role on Project:	Collaborator (Cho, PI)
Effort:	0.36 calendar months

Inclusive Dates:	2011 to 2013
Total Direct Costs:	$300,000

Grant Source:	Amy and Jane Goldman (gift)
Title:	Quantitative Study of PanIN volume: implications for the early detection of pancreatic cancer
Role on Project:	Principal Investigator
Effort:	1.2 calendar months
Inclusive Dates:	12/2009 to 12/2010
Total Direct Costs:	$75,000

Grant Source:	Sol Goldman Pancreatic Cancer Research Center
Title:	Quantitative Study of PanIN volume: implications for the early detection of pancreatic cancer
Role on Project:	Principal Investigator
Effort:	1.2 calendar months
Inclusive Dates:	12/2009 to 12/2010
Total Direct Costs:	$50,000

Grant Source:	NIH (5 T32 CA067751-12)
Title:	Ruth L. Kirschenstein National Research
Role on Project:	Trainee
Effort:	9.0 calendar months
Inclusive Dates:	7/2009 to 6/2010
Total Direct Costs:	$46,992

XIV. BIBLIOGRAPHY

Google Scholar (actively maintained):

https://scholar.google.com/citations?user=9uuZu6YAAAAJ&hl=en

NCBI My Bibliography:

https://www.ncbi.nlm.nih.gov/myncbi/toby.cornish.1/bibliography/public/

Peer-Reviewed Scientific Papers:

1. Braun KM, **Cornish T**, Valm A, Cundiff J, Pauly JL, and Fan S. Immunotoxicology of cigarette smoke condensates: Effects on interferon g-inducible macrophage functional capacities. *Toxicol Appl Pharmacol*. 1998; 149:136-143. doi: 10.1006/taap.1997.8346. PMID: 9571981.

2. **Cornish T**, Chi J, Johnson S, Lu Y, and Campanelli JT. Globular domains of agrin are functional units which collaborate to induce acetylcholine receptor clustering. *J Cell Sci*. 1999; 112:1213-1223. PMID: 10085256.

3. **Cornish T**, Branch DW, Wheeler BC, and Campanelli JT. Microcontact printing: a versatile technique for the study of synaptogenic molecules. *Mol Cell Neurosci*. 2002; 20:140-153. doi: 10.1006/mcne.2002.1101. PMID: 12056845.

4. Gurel B, Iwata T, Koh CM, Jenkins RB, Lan F, Van Dang C, Hicks JL, Morgan J, **Cornish TC**, Sutcliffe S, Isaacs WB, Luo J, and De Marzo AM. Nuclear MYC protein overexpression is an early alteration in human prostate carcinogenesis. *Mod Pathol*. 2008; 21(9):1156-67. doi: 10.1038/modpathol.2008.111. PMID: 18567993; PMCID: PMC3170853; NIHMS285485

5. Yegnasubramanian S, Haffner MC, Zhang Y, Gurel B, **Cornish TC**, Wu Z, Irizarry RA, Morgan J, Hicks J, DeWeese TL, Isaacs WB, Bova GS, De Marzo AM, and Nelson WG. DNA hypomethylation arises later in prostate cancer progression than CpG island hypermethylation and contributes to metastatic tumor heterogeneity. *Cancer Res*. 2008; 68(21):8954-67. doi: 10.1158/0008-5472.CAN-07-6088. PMID: 18974140; PMCID: PMC2577392.

6. Halushka MK, Selvin E, Lu J, Macgregor AM, **Cornish TC**. Use of Human Vascular Tissue Microarrays for Measurement of Advanced Glycation End Products. *J Histochem Cytochem*. 2009; 57(6):559-66. doi: 10.1369/jhc.2009.953273. PMID: 19223295; PMCID: PMC2690436.

7. **Cornish TC**, Bagnasco SM, Macgregor AM, Lu J, Selvin E, and Halushka MK. Glomerular protein levels of matrix metalloproteinase-1 and tissue inhibitor of metalloproteinase-1 are lower in diabetic subjects. *J Histochem Cytochem*. 2009; 57(11):995-1001. doi: 10.1369/jhc.2009.954107. PMID: 19506087; PMCID: PMC2762888.

8. **Cornish TC** and Halushka MK. Color Deconvolution for the Analysis of Tissue Microarrays. *Anal Quant Cytol and Histol*. 2009; 31:304-312. PMID: 20701098.

9. Halushka MK, **Cornish TC**, Lu J, Selvin S, and Selvin E. Creation, Validation, and Quantitative Analysis of Protein Expression in Vascular Tissue Microarrays. *Cardiovasc Pathol*. 2010; 19(3):136-46. doi: 10.1016/j.carpath.2008.12.007. Epub 2009 Feb 11. PMID: 19211265; PMCID: PMC2866781.

10. Hillel AT, Taube JM, **Cornish TC**, Sharma B, Halushka M, McCarthy EF, Hutchins GM, and Elisseeff JH. Characterization of human mesenchymal stem cell engineered cartilage: analysis of its ultrastructure, cell density, and chondrocyte phenotype as compared to native adult and fetal cartilage. *Cells Tissues Organs*. 2010; 191(1):12-20. doi: 10.1159/000225985. Epub 2009 Jun 18. PMID: 19546516.

11. Selvin E, Najjar SS, **Cornish TC**, and Halushka MK. A comprehensive histopathological evaluation of vascular medial fibrosis: Insights into the pathophysiology of arterial stiffening. *Atherosclerosis*. 2010; 208(1):69-74. doi: 10.1016/j.atherosclerosis.2009.06.025. Epub 2009 Jun 26. PMID: 19632677; PMCID: PMC2813392.

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14. Park JY, **Cornish TC**, Lam-Himlin D, Shi C, and Montgomery EA. Gastric Lesions in Patients with Autoimmune Metaplastic Atrophic Gastritis (AMAG) in a Tertiary Care Setting. *Am J Surg Pathol.* 2010; 34(11):1591-8. doi: 10.1097/PAS.0b013e3181f623af. PMID: 20975338.

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17. Meriden Z, Shi C, Edil BH, Ellison T, Wolfgang CL, **Cornish TC**, Schulick RD, Hruban RH. Hyaline globules in neuroendocrine and solid-pseudopapillary neoplasms of the pancreas: a clue to the diagnosis. *Am J Surg Pathol*. 2011 Jul;35(7):981-8. doi: 10.1097/PAS.0b013e31821a9a14. PMID: 21677537; PMCID: PMC3283163; NIHMS289549

18. Bai H, Zhang N, Xu Y, Chen Q, Khan M, Potter JJ, Nayar SK, **Cornish T**, Alpini G, Bronk S, Pan D, Anders RA. Yes-associated protein regulates the hepatic response after bile duct ligation. *Hepatology*. 2012 Sep;56(3):1097-107. doi: 10.1002/hep.25769. Epub 2012 Aug 8. PMID: 22886419; PMCID: PMC3431197.

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20. Tobian AR, Grabowski MK, Kigozi G, Redd AD, Eaton KP, Serwadda D, **Cornish TC**, Nalugoda F, Watya C, Buwembo D, Nkale J, Wawer MJ, Quinn TC, Gray RH. Human Papillomavirus Clearance Among Males Is Associated with HIV Acquisition and Increased Foreskin Dendritic Cell Density in Rakai, Uganda. *J Infect Dis*. 2013 Jun;207(11):1713-22. doi: 10.1093/infdis/jit035. Epub 2013 Jan 23. PMID: 23345339; PMCID: PMC3636782.

21. Samols MA, Smith NE, Gerber JM, Vuica-Ross M, Gocke CD, Burns KH, Borowitz MJ, **Cornish TC**, Duffield AS (shared last authors). Software Automated Counting of Ki-67 Proliferation Index Correlates with Pathologic Grade and Disease Progression of Follicular Lymphomas. *Am J Clin Pathol.* 2013 Oct;140(4):579-87. doi: 10.1309/ajcptma1f6lwytqv. PMID: 24045557; PMCID: PMC4010253.

22. Rodic N, Zampella JG, **Cornish TC**, Wheelan SJ, Burns KH. Translocation junctions in TCF3-PBX1 acute lymphoblastic leukemia/lymphoma cluster near transposable elements. *Mob DNA.* 2013 Oct 17;4(1):22. doi: 10.1186/1759-8753-4-22. PMID: 24135088; PMCID: PMC4015642.

23. McCall CM, Shi C, **Cornish TC**, Klimstra DS, Tang LH, Basturk O, Mun LJ, Ellison TA, Wolfgang CL, Choti MA, Schulick RD, Edil BH, Hruban RH. Grading of Well-differentiated Pancreatic Neuroendocrine Tumors Is Improved by the Inclusion of Both Ki67 Proliferative Index and Mitotic Rate. *Am J Surg Pathol.* 2013 Nov;37(11):1671-7. doi: 10.1097/pas.0000000000000089. PMID: 24121170; PMCID: PMC3891823.

24. Pavlovich CP, **Cornish TC**, Mullins JK, Fradin J, Mettee LZ, Connor JT, Reese AC, Askin FB, Luck R, Epstein JI, Burke HB. High-resolution transrectal ultrasound: Pilot study of a novel technique for imaging clinically localized prostate cancer? *Urol Oncol.* 2014 Jan;32(1):34.e27-32. doi: 10.1016/j.urolonc.2013.01.006. Epub 2013 Apr 2. PMID: 23558161.

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