



Kaitlin Sundling, MD, PhD.

she/her

Board-certified pathologist with 5+ years of experience in educational leadership, medical directorship, anatomic and clinical pathology, cytopathology, informatics, digital pathology, machine learning, and cancer biomarker research

EDUCATION

2017-2018	Cytopathology Fellowship, Brigham and Women's Hospital and Harvard Medical School, Boston, MA
2013-2017	Pathology Residency, Anatomic and Clinical Pathology, University of Wisconsin Hospital and Clinics, Madison, WI
2008-2011	Biotechnology Training Program, University of Wisconsin, Madison, WI
2008	Mathematical Biosciences Institute summer program, The Ohio State University, Columbus, OH
2007-2012	Biophysics Ph.D. Program, University of Wisconsin, Madison, WI Thesis: Mathematical modeling and experimental analysis of gene regulation Major advisor: Dr. Gheorghe Craciun, Minor advisor: Dr. David Brow
2005-2013	M.D. degree program, University of Wisconsin School of Medicine and Public Health, Madison, WI
2005-2013	Medical Scientist Training Program (M.D./Ph.D. combined degree program, NIH T32 funded), University of Wisconsin, Madison, WI
2004	Summer Institute for Training in Biostatistics, North Carolina State University, Raleigh, NC
2001-2005	B.S. Biochemistry and Mathematics, Comprehensive Honors, University of Wisconsin, Madison, WI

PRESENT APPOINTMENTS/POSITIONS

2020-present

Assistant Professor (CHS)

Joint Appointment, Wisconsin State Laboratory of Hygiene and University of Wisconsin School of Medicine and Public Health, Department of Pathology, Madison, WI

- Instructor of Record for Cytotechnology Program courses: Genetics 470, 570, 571, 572, 573, 471, 568, 569, 574, 575, 576, 577, 670, 672, 673, 578, and 671
- Co-directed Pathology 404, a 3-credit undergraduate pathology survey course, including a transition from hybrid to fully online format and development of new lectures
- Developed, implemented, and directed a fully virtual clinical rotation in cytopathology for pathology residents early in the COVID-19 pandemic
- Mentorship of at least nine undergraduate students (Biology 152, Undergraduate Research Scholars Program, and Pathology 399/699) in digital pathology and quality improvement work using virtual collaboration
- Extensive virtual education and mentoring experience including development and implementation of:
 - Flipped clinical case review experience with pathology residents and fellows
 - Pathology resident cytopathology didactics
 - Small group Zoom case review for pre-medical students
 - Virtual observership experience for a prospective pathology resident
 - Cellular and Molecular Pathology graduate student course Pathology 802 lectures in digital pathology, machine learning, and advances in pathology technology
 - Mentoring graduate students in pathology independent study to support their research (Pathology 990)
 - American Society of Cytopathology's Cytopathology Crash Course: Gynecologic cytopathology session for the 2023 and 2024 online educational boards preparation events

2021-present

Medical Director

CAAHEP accredited

University of Wisconsin Cytotechnology Program, Madison, WI

Providing academic and clinical oversight as well as pathologist-level expertise to prepare cytotechnology students for clinical practice in multidisciplinary teams.

Areas of emphasis:

- Extensive use of virtual collaboration for instructional team management

- Continuous improvement of instructional materials and approaches to reflect current clinical practices, innovations in pathology, and evidenced-based teaching and learning methods
- Coaching and mentorship of cytotechnologist instructional staff for ongoing team professional development
- Supporting students through academic and career advising
- Resolution of student and staff issues involving program and university policies and procedures
- Leading small group virtual sessions to review current clinical cases with students and provide pathologist perspectives and feedback
- Teaching interactive virtual case study sessions integrating microscopic findings with clinical history and advanced studies such as immunohistochemistry and molecular testing

2021-present

Director

Cytology Section, Disease Prevention Division, Wisconsin State Laboratory of Hygiene, Madison, WI

CAP/CLIA accredited

Our cytopathology and surgical pathology laboratory focuses on cervical cancer screening and gynecologic samples for clinics serving high-risk populations across the state of Wisconsin, in collaboration with the Wisconsin Department of Health in our public health laboratory setting. The majority of clinical testing consists of Pap tests (ThinPrep and conventional), gynecologic biopsies, and HPV tests. I serve as technical supervisor under delegated authority from the CLIA director.

2020-present

Co-Director

University of Wisconsin Carbone Cancer Center Circulating Biomarker Core, Madison, WI

I oversee clinical validation of circulating tumor cell testing under NIH UH2/UH3 funding.

2022-present

Pathology Informatics Faculty

University of Wisconsin School of Medicine and Public Health, Department of Pathology, Madison, WI

Under Pathology Informatics Director Dr. Alaa Alsadi, work includes:

- Development and implementation of pathology informatics didactics and workshop for pathology residents
- Development and implementation of a machine learning workshop for informatics fellowship
- Completion of a digital pathology pilot project quantifying Ki-67/CD45 dual stain whole slide images using a custom developed AI workflow within HALO
- Exploration of immunohistochemical biomarker AI analysis commercially available products

2022-present **Laboratory Medical Director**
Memorial Hospital of Lafayette County, Darlington, WI
CMS inspected, CLIA accredited
Memorial Hospital of Lafayette County is a critical access county hospital providing a full range of acute care inpatient and outpatient services, with a full-service hospital-based laboratory providing high-complexity testing. In my role as Laboratory Medical Director, I oversee the laboratory and provide guidance and support to the laboratory manager. I am available to MHLC laboratory staff and clinicians as needed for consultation, and I collaborate with UW Health colleagues to fulfill MHLC laboratory needs.

PAST APPOINTMENTS/POSITIONS

2021 **Interim Program Director**
University of Wisconsin Cytotechnology Program, Madison, WI
CAAHEP accredited
During a gap in cytotechnologist program director coverage, I temporarily filled in as interim program director, providing day-to-day oversight and fulfilling reporting requirements for ongoing accreditation.

2018-2022 **Staff Cytopathologist**
University of Wisconsin School of Medicine and Public Health, Department of Pathology, Madison, WI
Provided cytopathology services including gynecologic and non-gynecologic cytology, rapid on-site evaluations by telepathology, and clinical teaching for pathology residents and cytopathology fellows while on service.

2020-2021 **Associate Director**
Cytology Section, Disease Prevention Division, Wisconsin State Laboratory of Hygiene, Madison, WI
CAP/CLIA accredited
Collaborated with the Medical Director, Dr. Daniel Kurtycz, to provide pathology services and oversight for the WSLH Cytology Laboratory.

2018-2021 **Faculty Director**
University of Wisconsin Cytotechnology Program, Madison, WI
CAAHEP accredited
Provided instruction, oversight, and reporting for ongoing accreditation in collaboration with the Medical Director and Program Director. Areas of emphasis:

- Instructor of Record for Cytotechnology Program courses: Genetics 470, 570, 571, 572, 573, 471, 568, 569, 574, 575, 576, 577, 670, 672, 673, 578, and 671
- Developed and taught two new curriculum areas for the cytotechnology program:
 - Molecular testing and immunohistochemical stains (per organ system)
 - Evidence-based medicine and scientific writing (Genetics 673)
- Developed and updated online lectures and interactive class sessions for all program courses (2019-2021)

2018-2020

Clinical Instructor

Joint Appointment, Wisconsin State Laboratory of Hygiene and University of Wisconsin School of Medicine and Public Health, Department of Pathology, Madison, WI

GRANT SUPPORT

Current grant funding

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| 2022-Present | <p>Evaluation of Community Health Worker-led Cervical Cancer Education with Self-Screening Option on Participation in Screening among Burmese and Hmong Women in Wisconsin</p> <p>The Ride 2021 Grant</p> <p>PI: Jessica Dalby; Collaborators: Tana Chongsuwat, Taja Lozar, Mayhoua Moua, Kaitlin Sundling, Joshua Faulkes, Lisa Phillips</p> |
| 2021-Present | <p>Analytical and Clinical Validation of a Circulating Transcriptomic Biomarker for Treatment Resistance in Metastatic Prostate Cancer</p> <p>NIH UH2/UH3 Contract UH2CA260389-02</p> <p>PI: Joshua Lang, MPI: Andrew Armstrong, Co-I: Susan Halabi, Dana Rathkopf, Kaitlin Sundling</p> |

Previous grant funding

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| 2019-2020 | <p>Development of a Deep Learning Image Analysis System for Improved Cytology Screening, American Society of Cytopathology Young Investigator Award, \$25,000 per year for calendar years 2019 and 2020, PI: Kaitlin Sundling, Mentor: Daniel F. I. Kurtycz</p> |
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PUBLICATIONS

Refereed Articles

- 2024 (accepted) Brow D, Shand E, Sweeney K, **Sundling KE**, McClean M. Two distinct phases of induction of IMPDH expression in a microfluidic model of yeast colony growth.
- 2024 Rydzewski NR, Shi Y, Li C, Chrostek MR, Bakhtiar H, Helzer KT, Bootsma ML, Berg TJ, Harari PM, Floberg JM, Blitzer GC, Kosoff D, Taylor AK, Sharifi MN, Yu M, Lang JM, Patel KR, Citrin DE, **Sundling KE**, Zhao SG. A platform-independent AI tumor lineage and site (ATLAS) classifier. *Commun Biol.* 2024;7(1):314. doi:10.1038/s42003-024-05981-5
- 2024 Kim D, Thrall MJ, Michelow P, Schmitt FC, Vielh PR, Siddiqui MT, Sundling KE, Virk R, Alperstein S, Bui MM, Chen-Yost H, Donnelly AD, Lin O, Liu X, Madrigal E, Zakowski MF, Parwani AV, Jenkins E, Pantanowitz L, Li Z. The current state of digital cytology and artificial intelligence (AI): global survey results from the American Society of Cytopathology Digital Cytology Task Force. *J Am Soc Cytopathol.* Published online April 16, 2024:S2213-2945(24)00039-5. doi:10.1016/j.jasc.2024.04.003
- 2023 Kim D,* **Sundling KE**,* Virk R,* Thrall MJ,* Alperstein S, Bui MM, Chen-Yost H, Donnelly AD, Lin O, Liu X, Madrigal E, Michelow P, Schmitt FC, Vielh PR, Zakowski MF, Parwani AV, Jenkins E, Siddiqui MT, Pantanowitz L, Li Z. Digital Cytology Part 2: Artificial Intelligence in Cytology A Concept Paper with Review and Recommendations from the American Society of Cytopathology Digital Cytology Task Force. *Journal of the American Society of Cytopathology.* Published online December 2023:S2213294523002466. doi:10.1016/j.jasc.2023.11.005
- 2023 Kim D,* **Sundling KE**,* Virk R,* Thrall MJ,* Alperstein S, Bui MM, Chen-Yost H, Donnelly AD, Lin O, Liu X, Madrigal E, Michelow P, Schmitt FC, Vielh PR, Zakowski MF, Parwani AV, Jenkins E, Siddiqui MT, Pantanowitz L, Li Z. Digital Cytology Part 1: Digital Cytology Implementation for Practice A Concept Paper with Review and Recommendations from the American Society of Cytopathology Digital Cytology Task Force. *Journal of the American Society of Cytopathology.* Published online December 2023:S2213294523002478. doi:10.1016/j.jasc.2023.11.006
- 2023 VandenBussche CJ, Nwosu A, Souers R, Sundling KE, Brainard J, Goyal A, Lin X, Masood S, Nguyen L, Roberson J, Tabbara SO, Booth C. The Implementation of Nongynecologic Reporting Systems in Cytopathology Laboratories Is Highly Variable: Analysis of Data From a 2020 Supplemental Survey of Participants in the College of American Pathologists Interlaboratory Comparison Program in Nongynecologic Cytology. *Archives of Pathology & Laboratory Medicine.* Published online August 23, 2023. doi:10.5858/arpa.2023-0010-CP
- 2023 Goyal A, Booth CN, Souers RJ, Tabbara SO, Roberson J, Henry MR, **Sundling KE**, Goodrich K, Nguyen L. Navigating Practice Issues Related to the

- Unsatisfactory Cervicovaginal Papanicolaou Test: Survey Results of Laboratories Participating in the 2020 College of American Pathologists PAP Education Program. *Archives of Pathology & Laboratory Medicine*. Published online April 19, 2023. doi:10.5858/arpa.2022-0330-CP
- 2023 Witt BL, Zhou W, Ambaye AB, Bellizzi A, Booth CN, **Sundling K**, Nguyen L, Russell DK, Schinstine M, Staats PN, Thomsen J, Troxell M, Souers RJ, Dvorak J, Lin X, Kurtycz DFI. Using American Type Culture Collection Cell Lines to Evaluate Interlaboratory Variables for Estrogen Receptor and Human Epidermal Growth Factor Receptor 2 Immunostaining. *Arch Pathol Lab Med*. 2023;147(2):143-148. doi:10.5858/arpa.2021-0152-CP
- 2022 Hsiao V, Massoud E, Jensen C, Zhang Y, Hanlon BM, Hitchcock M, Arroyo N, Chiu AS, Fernandes-Taylor S, Alagoz O, **Sundling K**, LiVolsi V, Francis DO. Diagnostic Accuracy of Fine-Needle Biopsy in the Detection of Thyroid Malignancy: A Systematic Review and Meta-analysis. *JAMA Surg*. 2022;157(12):1105-1113. doi:10.1001/jamasurg.2022.4989
- 2022 Zhao SG, Sperger JM, Schehr JL, McKay RR, Emamekhoo H, Singh A, Schultz ZD, Bade RM, Stahlfeld CN, Gilsdorf CS, Hernandez CI, Wolfe SK, Mayberry RD, Krause HM, Bootsma M, Helzer KT, Rydzewski N, Bakhtiar H, Shi Y, Blitzer G, Kyriakopoulos CE, Kosoff D, Wei XX, Floberg J, Sethakorn N, Sharifi M, Harari PM, Huang W, Beltran H, Choueiri TK, Scher HI, Rathkopf DE, Halabi S, Armstrong AJ, Beebe DJ, Yu M, **Sundling KE**, Taplin ME, Lang JM. A clinical-grade liquid biomarker detects neuroendocrine differentiation in prostate cancer. *J Clin Invest*. 2022;132(21):e161858. doi:10.1172/JCI161858
- 2022 Schehr JL, Sethakorn N, Schultz ZD, Hernandez CI, Bade RM, Eyzaguirre D, Singh A, Niles DJ, Henderson L, Warrick JW, Berry SM, **Sundling KE**, Beebe DJ, Leal TA, Lang JM. Analytical validation and initial clinical testing of quantitative microscopic evaluation for PD-L1 and HLA I expression on circulating tumor cells from patients with non-small cell lung cancer. *Biomark Res*. 2022 Apr 25;10(1):26. doi: 10.1186/s40364-022-00370-8. PMID: 35468853; PMCID: PMC9040226.
- 2021 Horback K, **Sundling KE**, Schmidt RJ, Cibas ES. Developing dashboards for performance improvement in cytopathology. *J Am Soc Cytopathol*. 2021 Nov-Dec;10(6):535-542. doi: 10.1016/j.jasc.2021.07.001. Epub 2021 Jul 18. PMID: 34362716.
- 2021 Craun K, Luethcke KR, Shafer M, Stanton N, Zhang C, Schauer J, Faulkes J, **Sundling KE**, Kurtycz D, Malecki K, Trepanier L. Environmental chemical exposures in the urine of dogs and people sharing the same households. *Journal of Clinical and Translational Science*. 2021;5(1). doi:10.1017/cts.2020.548
- 2020 Kurtycz DFI, **Sundling KE**, Barkan GA. The Paris system of Reporting Urinary Cytology: Strengths and opportunities. *Diagn Cytopathol* 2020 Oct;48(10):890-895. doi: 10.1002/dc.24561
- 2019 **Sundling KE**, Lowe AC. Circulating Tumor Cells: Overview and

- Opportunities in Cytology. *Adv Anat Pathol*. 2019;26(1):8.
- 2019 **Sundling KE**, Kurtycz DFI. Standardized terminology systems in cytopathology. *Diagn Cytopathol*. 2019;47(1):53-63. doi:10.1002/dc.24103
- 2018 **Sundling KE**, Cibas ES, 2018. Ancillary studies in pleural, pericardial, and peritoneal effusion cytology. *Cancer Cytopathol* 126 Suppl 8, 590–598. doi:10.1002/cncy.22021
- 2016 Xu J, Hardin H, Zhang R, **Sundling K**, Buehler D, Lloyd RV, 2016. Stage-Specific Embryonic Antigen-1 (SSEA-1) Expression in Thyroid Tissues. *Endocr. Pathol.* 27, 271–275. doi:10.1007/s12022-016-9448-1
- 2014 Chen X, Müller U, **Sundling KE**, Brow DA, 2014. *Saccharomyces cerevisiae* Sen1 as a model for the study of mutations in human Senataxin that elicit cerebellar ataxia. *Genetics* 198, 577–590. doi:10.1534/genetics.114.167585
- 2014 **Sundling K**, Craciun G, Schultz I, Hook S, Nagler J, Cavileer T, Verducci J, Liu Y, Kim J, Hayton W, 2014. Modeling the endocrine control of vitellogenin production in female rainbow trout. *Math Biosci Eng* 11, 621–639.
- 2009 Liu Y, Verducci J, Schultz I, Hook S, Nagler J, Craciun G, **Sundling K**, Hayton W, 2009. Time course analysis of microarray data for the pathway of reproductive development in female rainbow trout. *Statistical Analysis and Data Mining* 2, 192–208. doi:doi.org/10.1002/sam.10047
- 2009 Aziz MH, **Sundling KE**, Dreckschmidt NE, Verma AK, 2009. Protein kinase Cepsilon inhibits UVR-induced expression of FADD, an adaptor protein, linked to both Fas- and TNFR1-mediated apoptosis. *J. Invest. Dermatol.* 129, 2011–2021. doi:10.1038/jid.2008.458
- 2004 Wheeler DL, **Martin KE**, Ness KJ, Li Y, Dreckschmidt NE, Wartman M, Ananthaswamy HN, Mitchell DL, Verma AK, 2004. Protein kinase C epsilon is an endogenous photosensitizer that enhances ultraviolet radiation-induced cutaneous damage and development of squamous cell carcinomas. *Cancer Res.* 64, 7756–7765. doi:10.1158/0008-5472.CAN-04-1881

Non-Refereed Articles

- 2024 Sundling RJ and **Sundling KE**. Implications of Generative Artificial Intelligence for Cytopathology Education. *The Communicator*, American Society of Cytopathology, Cytopathology Program Directors Committee. February 29, 2024. https://cdn.ymaws.com/cytopathology.org/resource/resmgr/fellowship_program/the_communicator/2024_comm/the_communicator_february_20.pdf
- 2022 Crumley S, Roy-Chowdhuri S, **Sundling KE**. Cytopathology in focus: Special stains in the cytology laboratory. *CAP Today*. January 2022. <https://www.captodayonline.com/cytopathology-in-focus-special-stains-in-the-cytology-laboratory/>
- 2021 **Sundling KE**. Cytopathology in focus: At the center of AI implementation in

- cytopathology. CAP Today. August 2021.
<https://www.captodayonline.com/cytopathology-in-focus-at-the-center-of-ai-implementation-in-cytopathology/>
- 2021 **Sundling KE**, Ambaye AB, Roy-Chowdhuri S. Q&A column. CAP Today. May 2021. <https://www.captodayonline.com/qa-column-0521/>
- 2021 **Sundling KE**, Kraft A. Cytopathology in focus: Virtual education in cytology: pandemic silver lining. CAP Today. January 2021.
- 2020 **Sundling KE**. Cytology Samples Are Increasingly Important in Immunotherapy Predictive Testing in Non-Small Cell Lung Carcinoma. CAP Today.
- 2019 **Sundling KE**. The science of learning in cytology education. *Cancer Cytopathology*. March 2019. doi:10.1002/cncy.22117
- 2019 **Sundling KE**. Cytopathology in focus: Next-generation cytotechnology—new cytotechnologist roles. CAP Today.
- 2019 **Sundling KE** and Brainard J. Cytopathology in focus: Three special reports capture a field in transition. CAP Today.
- 2018 **Sundling KE** and Baruch AC. Cytology social media: Facebook and Twitter as networking tools. CAP Today.
- 2017 **Sundling KE**. Update on Archives of Pathology and Laboratory Medicine Special Section on Molecular Cytopathology. CAP Today.
- 2017 **Sundling KE**. Noninvasive follicular thyroid neoplasm with papillary-like nuclear features: Impact on FNA risk of malignancy. Recommended reading. CAP Today.

Book Chapters

- 2021 **Sundling KE**, Antic T, Pambuccian SE. Pathogenesis of Urothelial Carcinoma. Chapter in: Wojcik EM, Kurtycz DFI, Rosenthal DL (eds) *The Paris System for Reporting Urinary Cytology*. Springer; 2022 (in press).
- 2020 Saieg M, **Sundling KE**, Kurtycz D. Non-diagnostic (ND) and Adequacy. In: Chandra A, Crothers B, Kurtycz D, Schmitt F (eds) *The International System for Serous Fluid Cytopathology*. Springer; 2020.
- 2016 **Sundling KE**, Zhang R, and Matkowskyj KA. Pathologic Features of Primary Colon, Rectal and Anal Malignancies. Chapter in: Bentrem D and Benson AB. *Gastrointestinal Malignancies*. IL: Springer; 2016: 309-330.

Peer-Reviewed Educational Cases

- 2023 Ospina Romera M, **Sundling KE**. Medulloblastoma. CAP Cytopathology Committee. TICP online case 2023, release date December 11, 2023.
- 2022 **Sundling KE**. Lung adenocarcinoma. CAP Cytopathology Committee. TICP online case.
- 2021 Gulliver J, **Sundling KE**. Eosinophilic solid and cystic renal cell carcinoma.

- CAP Cytopathology Committee. TICP online case.
- 2021 **Sundling KE.** Intraductal papillary mucinous neoplasm of the pancreas. CAP Cytopathology Committee. FNA online case.
- 2020 **Sundling KE.** Granular cell tumor of the esophagus. CAP Cytopathology Committee. Touch Imprint/Crush Prep online case.
- 2019 Olson K and **Sundling KE.** Desmoplastic small round cell tumor. CAP Cytopathology Committee. Touch Imprint/Crush Prep online case.
- 2017 **Sundling KE** and Kurtycz DFI. Clear cell renal cell carcinoma. CAP Cytopathology Committee. Touch Imprint/Crush Prep online case.
- 2017 **Sundling KE.** Hyalinizing trabecular tumor. CAP Cytopathology Committee. FNA online case.
- 2016 **Sundling KE,** Buehler DG, and Kurtycz DFI. Paratesticular dedifferentiated liposarcoma. CAP Cytopathology Committee. Touch Imprint/Crush Prep online case, 2016.

Clinical Reporting Template Development

- 2023 Tabbara SO, Cameron SEH, Dvorak J, Goyal A, Huang E, Nguyen L, **Sundling K.** Protocol for the Reporting of Anal Cytology Specimens, Version: 1.0.0.0, Protocol Posting Date: September 2023, College of American Pathologists. https://documents.cap.org/protocols/Cyto.Anal_1.0.0.0.REL_CAPCP.pdf
- 2022 Tabbara SO, Birdsong GG, Booth CN, Brainard J, Cameron SEH, Dvorak H, Goyal A, Nguyen L, **Sundling K.** Protocol for the Reporting of Cervicovaginal Cytology Specimens, Version: 1.0.0.0, Protocol Posting Date: June 2022, College of American Pathologists. https://documents.cap.org/documents/cervicovaginal-cyto_1.0.0.0.REL_CAPCP.pdf

ABSTRACTS

Poster Presentations

- 2023 Rydzewski NR, Li C, Bakhtiar H, Shi Y, Helzer K, Bootsma M, Harari PM, Floberg J, Blitzer G, Kosoff D, Taylor A, Sharifi MN, Yu M, Lang JM, Patel K, Citrin DE, **Sundling K,** Zhao S. Molecular classification of cancer site of origin and lineage. *JCO.* 2023;41(16_suppl):3116-3116. doi:[10.1200/JCO.2023.41.16_suppl.3116](https://doi.org/10.1200/JCO.2023.41.16_suppl.3116) American Society of Clinical Oncology Annual Meeting, Chicago, IL.
- 2019 Witt B, Bellizzi A, Booth C, Kurtycz DFI, Nguyen L, Russel D, Staats P, **Sundling K,** Thomsen J, Ambaye A, Zhou W, Schinstine M, Troxell M, Dvorak J, Hansen M, Sauers R, Crothers B. Using ATCC Cell Lines to Evaluate the Impact of Pre-Analytic Variables for HER2 and ER Immunostaining. *Journal of the American Society of Cytopathology.* 2019;8:S61. doi:[10.1016/j.jasc.2019.08.140](https://doi.org/10.1016/j.jasc.2019.08.140). American Society of Cytopathology Annual Meeting, Salt Lake City, UT.

- 2018 **Sundling KE**, Schmidt R, Kuo F, and Cibas ES. Dashboards for Quality Improvement in Cytopathology. United States and Canadian Academy of Pathologists Annual Meeting, Vancouver, BC.
- 2017 **Sundling KE**, Sundling RJ, Lowe AC, Selvaggi S, Kurtycz DFI, and Buehler DG. Refinement of Convolutional Neural Networks for Urine Cytology Prescreening. American Society of Cytopathology Annual Meeting, Phoenix, AZ.
- 2017 **Sundling KE** and Lloyd RV. Creating Personalized Mathematical Models of Gene Expression in Thyroid Carcinoma. United States and Canadian Academy of Pathologists Annual Meeting, San Antonio, TX.
- 2016 **Sundling KE**, Sundling RJ, Hartley C, Selvaggi S, Kurtycz DFI, and Buehler DG. Convolutional Neural Network Prescreening of Urine Cytology Whole Slide Images. Pathology Visions, San Diego, CA.
- 2016 **Sundling KE**, Aesif SW, Buehler D, Lloyd RV. Mathematical Modeling of Pleural and Lymphovascular Invasion in Lung Adenocarcinoma. American Society of Cytopathology Annual Meeting, New Orleans, LA.
- 2016 **Sundling KE**, Fischer AH, Kurtycz DF, Schinstine M, Swanson P, Witt BL, Souers R, Crothers BA. Toward Standard Controls for Her2 Immunohistochemistry. American Society of Cytopathology Annual Meeting, New Orleans, LA.
- 2016 Fischer AH, Kurtycz DF, Schinstine M, Swanson PE, Dresser K, Eastwood M, Staats PN, **Sundling KE**, Fang T, Witt B, Woda B, Crothers BA. Distinguishing pre-analytical from analytical error in immunohistochemistry (IHC) for estrogen receptor (ER), progesterone receptor (PR), and mammoglobin: A multi-laboratory pilot study using ATCC cell lines. American Society of Cytopathology Annual Meeting, New Orleans, LA.
- 2016 **Sundling KE**, Buehler D, Guo Z, Hardin H, Mandal R, Montemayor-Garcia C, Lloyd RV. Mathematical Modeling of Epithelial-to-Mesenchymal Transition in Thyroid Carcinoma Progression. USCAP annual meeting, Seattle, WA, March 14, 2016.
- 2015 **Sundling KE**, Rush P, Rosenbaum J. A Pathology Resident Wiki as a Mechanism for Continuous Quality Improvement. UW Resident and Student Quality Improvement Symposium, Madison, WI, April 16, 2015.
- 2015 **Sundling KE**, Montemayor-Garcia C, Hardin HA, Buehler D, Asioli S, Righi A, Lloyd RV. Enhancer of Zeste Homolog 2 (EZH2) and Global H3K27 Trimethylation Expression During Progression of Thyroid Cancer. USCAP annual meeting, Boston, MA, March 23, 2015.
- 2005 Aziz MH, **Martin KE**, and Verma AK. PKC ϵ overexpression, which sensitizes skin to ultraviolet-induced development of squamous cell carcinomas, inhibits formation of sunburn cells via downregulation of death domain adaptor protein FADD. American Association for Cancer Research Annual Meeting, Anaheim, CA, April, 2005.

INVITED RESEARCH PRESENTATIONS

National/International

- 2023 NCI UH2/UH3 Assay Validation of High-Quality Markers for Clinical Studies 2023 Annual Program Investigators Meeting. "Validation of predictive liquid biomarkers for patients with metastatic prostate cancer" with Joshua Lang, June 27, 2023.
- 2019 American Society of Cytopathology Annual Meeting, Salt Lake City, UT. "Development of a Deep Learning Image Analysis System for Improved Cytology Screening: An Update from Tank to Ocean"
- 2017 Frontiers in Mathematical Oncology Young Investigators Conference short presentation, College Park, MD. "Creating Personalized Mathematical Models of Gene Expression in Thyroid Carcinoma"

PRESENTATIONS

CME Presentations

UWSMPH/Hospital

- 2023 Pathologist's Night Out presentation, April 11, 2023, "Challenging Gynecologic Cytology Cases."
- 2018 Pathologist's Night Out presentation, October 9, 2018, University of Wisconsin School of Veterinary Medicine, "Challenging Effusions."

State & Regional

- 2022 Wisconsin Society of Cytology Spring Meeting Webinar, Invited Speaker, "HPV testing in cervical cancer screening."
- 2019 Wisconsin Society of Cytology Spring Meeting webinar, Invited Speaker, Madison, WI. "Serous fluids: Current approaches and emerging technologies"
- 2017 Wisconsin Society of Cytology Spring Meeting, Invited Speaker, Wisconsin Dells, WI. "Interesting Body Fluid Cases"
- 2014 American Red Cross, Technical Affairs Committee Meeting, Madison, WI. "Case Study: The Cartwright Antibody"

National/International

- 2017 American Society of Cytopathology Annual Meeting, Workshop, Phoenix, AZ. "Challenging Issues in Gynecologic Cytopathology: Lessons from the Second Bethesda Interobserver Reproducibility Study (BIRST-2)"

Podcast

- 2022 Journal of the American Society of Cytopathology Interview with Dr. Edmund Cibas. January 2022. <https://cytopathpod.podbean.com/e/jasc-interview-with-dr-edmund-cibas/>

SERVICE ACTIVITIES

Professional

- 2023-Present American Society of Cytopathology Optimizing Cytology and Small Biopsy Specimen Processing for Ancillary Studies Task Force
- 2023-Present College of American Pathologists Pathology Electronic Reporting Template Committee Member
- 2023-Present American Society of Cytopathology Program Director Committee member
- 2023 American Society of Cytopathology Digital Pathology Whitepaper Task Force member
- 2020-2023 Journal of the American Society of Cytopathology Social Media editor
- 2016-2023 College of American Pathologists Cytopathology Committee Member
- 2020-2021 American Society of Cytopathology Research and Current Concepts Committee Member
- 2021 College of American Pathologists outbound liaison to the Cytotechnology Program Review Committee and the Commission on Accreditation of Allied Health Educational Programs
- 2019 Poster judge for University of Wisconsin Pathology Department Research Day
- 2017-2018 College of American Pathologists Gene and Jean Herbek Humanitarian Award Selection Committee
- 2017 TEDMED Research Scholar
- 2010-2011 University of Wisconsin MSTP admissions committee student member
- 2005-2009 MEDiC student-run free clinic volunteer

Peer Review

- 2024 10 peer reviews for the Journal of the American Society of Cytopathology, Modern Pathology, Diagnostic Cytopathology, and Biological Imaging
- 2023 NIH Centers of Biomedical Research Excellence (COBRE) study section peer review *ad hoc* member, November 7-8, 2023
- 2023 5 peer reviews for Cancer Cytopathology, Journal of the American Society of Cytopathology, and Diagnostic Cytopathology
- 2022 7 peer reviews for Cancer Cytopathology, Acta Cytologica, and Journal of the American Society of Cytopathology
- 2021 5 peer reviews for Diagnostic Cytopathology, Modern Pathology, and Cancer Cytopathology
- 2020 8 peer reviews for Acta Cytologica, Cancer Cytopathology, Cancer Medicine, and Diagnostic Cytopathology
- 2019 18 peer reviews for Cancer Medicine, American Journal of Clinical

Pathology, Cancer Cytopathology, Diagnostic Cytopathology, and Journal of the American Society of Cytopathology

- 2018 10 peer reviews for Cancer Research, Diagnostic Cytopathology, and Journal of International Medical Research
- 2017 5 peer reviews for Human Pathology and Diagnostic Cytopathology
- 2016 1 peer review for Diagnostic Cytopathology

CERTIFICATION AND LICENSURE

Medical License, Wisconsin, Number 64112-20

Board Certification in Anatomic and Clinical Pathology, American Board of Pathology

Board Certification in Cytopathology, American Board of Pathology

OTHER TRAINING

- 2024 CITI Good Clinical Practice Training
- 2023 University of Wisconsin Fully Prepared 2 Lead: Project Management Basics
- 2023 University of Wisconsin Navigating your Process Improvement Journey
- 2022 University of Wisconsin TeachOnline: Plan & Design Course (Pathology 404)
- 2021 University of Wisconsin Fully Prepared 2 Lead: Time and Self-Management
- 2019 University of Wisconsin Emotional Intelligence @ Work
- 2019 Blend@UW Course Design Program (Genetics 572)
- 2017 Harvard Catalyst Introduction to Omics online course
- 2017 Harvard Catalyst Network Medicine 3-day course
- 2017 Harvard Catalyst Leadership Strategies for the Researcher 2-day course
- 2017 ASCP/APF Lab Management University
- 2016 College of American Pathologists Engaged Leadership Academy
- 2016 BD SurePath liquid-based Pap Test Training Program
- 2013 ThinPrep Pap Test Training Program

PROFESSIONAL SOCIETY MEMBERSHIPS

American Society of Cytopathology

Fellow, College of American Pathologists

United States and Canadian Academy of Pathology

American Society for Clinical Pathology

Digital Pathology Association

CO-FACULTY APPOINTMENT

2022-Present New England Complex Systems Institute

HONORS AND AWARDS

2019-2020 American Society of Cytopathology Young Investigator Shark Tank Award

2016 Digital Pathology Association Travel Award

2016 University of Wisconsin Pathology Research Day Award

2015 American Society of Cytopathology Travel Award

2013 Wisconsin Society of Pathologists Award

2004 Hilldale Fellowship Recipient