

## Kamran Badizadegan, M.D.

*Physician leader · Translational Scientist · Academic Pathologist · Data-Driven Manager*

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**Citizenship:** USA



### LEADERSHIP HIGHLIGHTS

#### **Vice President, Kid Risk, Inc. (2019-present)**

Kid Risk, Inc. is a non-profit organization focused on improving children's lives by understanding, characterizing, and communicating about the risks that children face around the world. Kid Risk, Inc. provides analytical insights that empower policy makers, parents, children and others to make the best decisions based on the best available information.

#### **Chief of Pathology and Laboratory Medicine, Nationwide Children's Hospital; Professor of Pathology, The Ohio State University (2016-19)**

Reorganization of Laboratory Services including expansion of subspecialty practice and recruitment of 14 new faculty; Development and implementation of multiple quality improvement initiative and personnel development programs; Startup of a new service lines in Diagnostic Immunology; Development of analytics team and laboratory informatics program; CAP/CLIA medical directorship of Nationwide Children's Laboratory Services (~350 FTE) and the Institute for Genomic Medicine Clinical Laboratory (~50 FTE) collectively producing more than 3.2 million billable tests per year.

#### **Founding Chair of Pathology and Laboratory Medicine & Founding Member of Medical Staff, Nemours Children's Hospital; Professor of Pathology, University of Central Florida (2011-16)**

Startup and accreditation of new hospital laboratory with ~45 FTE recruited and onboarded by mid-2016; founding membership of the medical executive committee and several quality committees; Designation as the Roche Center for Molecular Excellence (in collaboration with UCF); Startup of Nemours-wide pathology consultation practice spanning multiple sites in Florida & Delaware; Recipient of physician excellence award for quality in 2014.

#### **Multiple Positions, Harvard Medical School & Massachusetts Institute of Technology (1997-2011)**

Subspecialty practice with increasing responsibility at Children's Hospital Boston and Massachusetts General Hospital; Core Faculty member at the Harvard-MIT Division of Health Sciences and Technology and directorship of graduate level course in pathology at Harvard and MIT; Member of *The Academy* at Harvard Medical School; Associate Director and Principal Research Scientist at MIT Spectroscopy Laboratory including co-leadership of NIH and NSF funded grants.

## **CURRENT POSITIONS**

9/2019- Vice President, Kid Risk, Inc.

## **EDUCATION**

5/1988 B.S. (Chemical Engineering) Massachusetts Institute of Technology (MIT)  
6/1993 M.D. Harvard Medical School and the Harvard-MIT Division of Health Sciences and Technology

## **CLINICAL RESIDENCY AND FELLOWSHIP**

1993-95	Resident in Anatomic Pathology	Brigham & Women's Hospital, Harvard Medical School
1995-96	Clinical Fellow in Pediatric Pathology	Boston Children's Hospital, Harvard Medical School
1996-97	Senior Resident in Surgical Pathology	Brigham & Women's Hospital, Harvard Medical School

## **BOARD CERTIFICATIONS**

1994 Diplomate (lifetime), National Board of Medical Examiners  
1997 Diplomate (lifetime), American Board of Pathology - Anatomic Pathology  
1999 Diplomate (lifetime), American Board of Pathology - Pediatric Pathology  
2015-25 Diplomate, American Board of Pathology - Clinical Informatics

## **MEDICAL LICENSURE**

1997-12 MA - Board of Registration in Medicine (#151157; voluntary non-renewal)  
2011-present FL - Department of Health (#ME111484)  
2016-present OH - State Medical Board (#35.129581)  
NPI 1972585586

## **ACADEMIC APPOINTMENTS**

2017-19	Professor of Pathology (Clinical)	The Ohio State University
2012-16	Professor of Pathology	University of Central Florida
2009-11	Associate Professor of Health Sciences and Technology	Harvard-MIT Division of Health Sciences and Technology
2009-11	Associate Professor of Pathology	Harvard Medical School
2007-09	Principal Research Scientist, Spectroscopy Laboratory	School of Science, MIT
2001-08	Assistant Professor of Pathology	Harvard Medical School
1999-09	Affiliated Core Faculty	Harvard-MIT Division of Health Sciences & Technology
1998-07	Visiting Scientist, Spectroscopy Laboratory	MIT
1997-01	Instructor in Pathology	Harvard Medical School

## **HOSPITAL/CLINICAL APPOINTMENTS**

2016-19	Chief of Pathology and Laboratory Medicine	Nationwide Children's Hospital
2016-19	CAP/CLIA Laboratory Medical Director (~350 technical FTEs and 24 doctoral faculty)	Nationwide Children's Hospital (NCH) Laboratory Services
2016-19	CAP/CLIA Laboratory Medical Director (~50 technical FTEs and 6 doctoral faculty)	NCH Institute for Genomic Medicine Clinical Laboratory
2016-19	President	Pediatric Pathology Associates of Columbus, Inc.
2011-16	Founding Chair of Pathology and Laboratory Medicine (from startup in 2011 to 40 technical FTEs and 5 clinical faculty by 2016)	Nemours Children's Hospital
2011-16	Director of Nemours Pathology Network	Nemours Healthcare (Florida)

2014-16	Founding Director for <i>Roche Center for Molecular Excellence</i> (with UCF Medicine)	Nemours Children's Hospital
2003-11	Associate Pathologist in Gastrointestinal Pathology and Head of Pediatric Pathology	Massachusetts General Hospital
1999-05	Adjunct Associate Pathologist	Brigham & Women's Hospital
1997-03	Assistant Pathologist and Director of Gastrointestinal Pathology	Children's Hospital Boston

### EXECUTIVE EDUCATION

2011-12	<i>Leadership Development Institute</i> , Nemours Healthcare (continuous improvement, daily management systems, and human resource management)	
2011-12	<i>Accountability Now!</i> Living the Ten Principles of Personal Leadership, workshops and personal coaching by Mark Sasscer and Associates, Leadquest Consulting	
2013-14	The <i>Extraordinary Leader</i> development program, Zonger-Folkman Associates, with personal coaching by Larry Kaye, senior fellow of the International Consortium for Executive Development Research	
2014	<i>Becoming Conflict Competent</i> , Craig Rundle, JD, Eckerd College Center for Conflict Dynamics short course	
2017	<i>Quality Improvement Essentials: A Guide for Driving Improvement</i> , Nationwide Children's Hospital, Columbus, OH	
2018	<i>Leadership Communications</i> , Beckman Consulting and Nationwide Children's Hospital, Columbus, OH	

### FORMAL RESEARCH TRAINING

1985-88	Undergraduate Research Opportunities Program (Mentor: Martin Yarmush, MD, PhD, Professor of Surgery & Bioengineering)	Dept. of Chemical Engineering, MIT
1989-90	Howard Hughes Medical Institute Medical Student Research Fellow (Mentor: Martin	Dept. of Surgery, Massachusetts General Hospital

Yarmush, MD, PhD, Professor of Surgery &  
Bioengineering)

1997-01	Research Associate in GI Cell Biology (Mentor: Wayne Lencer, MD, Professor and Chief of Pediatric Gastroenterology)	Harvard Digestive Disease Center at Boston Children's Hospital
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#### **LOCAL/INSTITUTIONAL SERVICE**

2001-11	Graduate Education Committee	Harvard-MIT Division of Health Sciences and Technology
2003-11	Medical Education Committee (ad hoc)	Harvard Medical School & Harvard- MIT Division of Health Sciences and Technology
2003-04	Admissions Committee	Harvard Medical School
2003-09	Premedical Advising Team	MIT
2007-11	MD Honors Committee	Harvard-MIT Division of Health Sciences and Technology
2010	Accreditation Council for Graduate Medical Education (ACGME) review committee	Medicine-Pediatrics Residency, Massachusetts General Hospital
2011	Course & Clerkship Review Committee	Harvard Medical School
2012	LCME Site Visit Preparatory Committee	UCF College of Medicine
2012-16	Medical Executive Committee	Nemours Children's Hospital
2012-16	Transfusion Committee (Co-Chair)	Nemours Children's Hospital
2012-16	Point of Care Testing Committee (chair)	Nemours Children's Hospital
2012-14	Graduate Medical Education Committee	UCF College of Medicine
2012-16	Committee on Research Integrity	Nemours Healthcare (combined Delaware and Florida Operations)

2013-16	Co-chair, Laboratory Information Systems Steering Committee	Nemours Healthcare (combined Delaware and Florida Operations)
2016-19	Quality Management Committees (multiple), Nationwide Children's Laboratory Services	Nationwide Children's Hospital
2018-19	Executive Leadership Team, multiple Laboratory Information Systems upgrades; Data Innovations Implementation; LabVantage Implementation	Nationwide Children's Hospital

**NATIONAL SERVICE**

2002	National Center for Research Resources site visit committee, UC Irvine	National Institutes of Health
2008-2009	The Oral, Dental and Craniofacial Sciences [ODCS] study section (ad hoc)	National Institutes of Health
2009	Challenge Grants Panel #23	National Institutes of Health
2009	SBIB-L Diversity Fellowships	National Institutes of Health
2010	Biological Chemistry and Macromolecular Biophysics IRG-A(51)R Transformative R01 Roadmap Review (ad hoc)	National Institutes of Health
2011	Special Emphasis Panel - Clinical and Translational Imaging Apps (ZRG1 DTCS-U)	National Institutes of Health
2011-12	Emerging Technologies Team for In Vivo Microscopy	CAP Presidential Task Force on Transformative Projects
2013	Biomedical Imaging Technology Study Section (ad hoc)	National Institutes of Health
2013-17	In Vivo Microscopy (IVM) Committee; Chair of subcommittee for Awareness & Education	College of American Pathology
2016-19	Children's Pathology Chairs Committee	Consortium of United States and Canadian Children's Hospitals

2017-19	Informatics Committee	College of American Pathology
2017-19	Member and SoMe committee member	Association of Pathology Chairs
2018-19	Finance Committee	Society for Pediatric Pathology
2018-present	Maintenance of Certification (MOC) Committee	American Medical Informatics Association
2019	Accreditation Inspection Team Leader, Children's Mercy Hospitals & Clinics	College of American Pathology

## **EDITORIAL ACTIVITIES**

Ad hoc Reviewer for:

*American Journal of Pathology, Archives of Pathology and Laboratory medicine, Gastroenterology, Hepatology, Inflammatory Bowel Disease, Journal of Pediatric and Developmental Pathology; Journal of Pediatric Gastroenterology and Nutrition, Journal of Pathology Informatics, Laboratory Investigation, Neoplasia, PLoS ONE, Physics in Medicine and Biology.*

## **PROFESSIONAL SOCIETIES**

1998-present	USCAP (United States/Canadian Academy of Pathology)
1998-16	AGA (American Gastroenterological Association)
1998-11	ASIP (American Society for Investigative Pathology)
2000-19	SPP (Society for Pediatric Pathology)
2001-16	GIPS (Gastrointestinal Pathology Society)
2011-present	CAP (College of American Pathology)
2015-present	AMIA (American Medical Informatics Association)
2017-present	Association for Pathology Informatics
2017-19	Association of Pathology Chairs

## HONORS AND AWARDS

1988	Robert T. Haslam Award, Massachusetts Institute of Technology	<i>For “outstanding professional promise in chemical engineering”</i>
1988-16	Sigma Xi membership, various chapters	<i>Recognition for “Excellence in scientific investigation”</i>
1989-90	Medical Student Research Fellowship Award, Howard Hughes Medical Institute	<i>For research on “Design &amp; characterization of a hybrid bioartificial liver”</i>
2006 & 2007	Nomination for Irving London teaching award, HST Society	<i>Recognition for teaching excellence in HST.120 Gastrointestinal Pathophysiology</i>
2009-11	Member of <i>The Academy</i> at Harvard Medical School	<i>Recognition for commitment to teaching and learning at Harvard Medical School”</i>
2012	College of American Pathology presidential recognition	<i>For “Outstanding service and lasting contributions to the future of pathology as a member of the Transformation Case for Change team”</i>
2014	Nemours Physician Excellence Award for Quality	<i>Recognition for promoting clinical quality, safety and patient satisfaction</i>

## EXTRAMURAL RESEARCH FUNDING

1998-00	Structure of detergent-insoluble membranes in intestinal epithelia NIH/NIDDK P30-DK34845 Harvard Digestive Diseases Center Pilot/Feasibility Grant Role: PI Direct: \$50,000 The goal of this project is to dissect the chemical structure of detergent-insoluble membranes responsible for cholera toxin action.
1998-99	Biology of caveolae and caveolins in intestinal epithelia Wilkes Tumor Research Grant (Children's Hospital Boston) Role: PI Direct: \$25,000 The goals of this project are to characterize the structure and function of caveolae-like structures in the intestinal epithelia.



- 2000-02 Real-time in vivo diagnosis of dysplasia by fluorescence  
NIH/NCI R01-CA53717 (subcontract to BWH)  
Role: Site-PI  
Direct: \$75,000  
The major goal of this subcontract is to conduct clinical studies of the use of reflectance and fluorescence spectra in detection of dysplasia in the gastrointestinal tract.
- 2001-03 Role of structural-functional heterogeneity in membrane microdomains in pathogenesis of secretory diarrhea  
Charles H. Hood Foundation Child Health Research Grant  
Role: PI  
Direct: \$100,000  
The major goal of this project is to characterize the cytoskeletal associations of detergent-insoluble membranes that are responsible for cholera toxin action
- 2000-06 Heterogeneity of caveolae in intestinal epithelia  
NIH/NIDDK K08-DK02907  
Role: PI  
Direct: \$500,000  
The goals of this project are to characterize the structure of detergent-insoluble membranes and their cytoskeletal associations in the intestinal epithelia.
- 2003-09 Spectroscopic imaging and diagnosis of neoplasia  
NIH Bioengineering Research Partnership NCI R01-CA097966  
Role: Co-PI for the entire grant; Project leader for diagnostic pathology  
Direct: \$7,200,000  
The goal of this project is to develop and test spectroscopic markers and instrumentation for in vivo imaging and diagnosis of neoplastic mucosal lesions.
- 1997-11 MIT Laser Biomedical Research Center  
NIH/NCRR P41-RR002594  
Role: Core Investigator (funded through 2011; voluntarily ended in 2009)  
Direct (cumulative center funding between 1997 and 2009): >\$10,000,000  
The major goals of this project are to perform technological research and development in spectral diagnosis, imaging technologies and instrumentation, and biophysics.
- 2008-11 IDBR: Field-Based Tomographic Microscopy Instruments  
NSF DBI 0754339  
Role: Co-PI (funded through 2011; voluntarily ended in 2009)  
Direct: \$465,772

The goal of this project is to develop an interferometric phase microscope capable of real-time 3-D quantitative phase imaging of live cells with no exogenous contrast.

- 2009-11      Optical spectroscopic scanner for comprehensive assessment of surgical margins  
NIH/NRRC P41-RR002594-S1  
Role: Project PI (funded through 2011; voluntarily ended in 2009)  
Direct: \$300,592  
The goal of this project is to develop and ex vivo spectroscopic imaging instrument for comprehensive mapping of resection margins in surgically excised tissue
- 2015-17      NAV3-18: A prospective open label multicenter study comparing Lymphoseek and vital blue dye as a lymphoid tissue targeting agent in pediatric patients with melanoma, rhabdomyosarcoma or other solid tumors  
Role: PI  
Direct: \$56,000  
The goal of this project is to provide centralized diagnostic services for NAV3-18 clinical trial
- 2015-16      Implementation of Pharmacogenomic Testing in Nemours Children's Health System  
Role: Investigator  
Direct: N/A (clinically funded at the present; external funding is under review)  
The goal of this project is to implement CYP2C19 testing for children undergoing proton pump inhibition to provide treatment guidance in various gene-drug combinations

#### **OTHER FUNDING**

- 2003      Harvard-MIT Division of Health Sciences and Technology:  
Web-based interactive laboratories in pathology education  
Direct: \$10,000
- 2010      Massachusetts General Hospital Department of Pathology:  
Characterization of novel intramucosal neurons in the gastrointestinal tract  
Direct: \$1,200

#### **INVITED PRESENTATIONS** *(does not include numerous clinical and teaching presentations targeted primarily at students, resident and/or fellows at various hospitals)*

- 1998      Pediatric intestinal biopsies. Surgical Pathology Update, Brigham and Women's Hospital, Boston, MA

- 1999 Structure and function of lipid rafts in intestinal epithelia. Harvard Digestive Diseases Center research seminar, Boston, MA
- 2001 Neoplasia. Lester Wolf Workshop in Laser Biomedicine, Massachusetts General Hospital, Boston, MA
- 2002 Shedding light on human disease using OCT and diagnostic spectroscopy. Harvard Medical School Combined Pathology Grand Rounds, Boston, MA (joint presentation with Gary Tearney, MD, PhD)
- 2002 Diagnostic spectroscopy. Department of Pathology, Massachusetts General Hospital, Boston, MA
- 2004 Lipid rafts, cholera toxin and beyond. Wellman Photomedicine Lecture Series, Massachusetts General Hospital, Boston, MA
- 2004 Optical technologies for in vivo imaging. Fifth National Forum on Biomedical Imaging in Oncology. NIH and Foundation for Advanced Education in the Sciences, Bethesda, MD
- 2004 Spectroscopic imaging and diagnosis of neoplasia. Fourth Bioengineering Research Partnership meeting, NIH Bioengineering Consortium, Bethesda, MD
- 2007 Imaging red cell dynamics by quantitative phase microscopy. Red Blood Cell Conference, Harvard Medical School, Boston, MA
- 2008 From Virchow to Raman: Spectroscopic tools for in vivo diagnosis. Seminar series in experimental life sciences, Department of Pathology, Massachusetts General Hospital, Boston, MA
- 2008 Field-based microscopy for dynamic imaging of live cells. Pathology Grand Rounds, Massachusetts General Hospital, Boston, MA
- 2009 Millennial Landmarks in Modern Diagnostic Medicine. Lester Wolf Workshop in Laser Biomedicine, Massachusetts Institute of Technology, Cambridge, MA
- 2009 Raindrops on water: Quantitative phase microscopy for analysis of cell structure and dynamics. New England Cytometry Users Group Annual Meeting, Boston, MA
- 2010 The enteric nervous system: Development, disease and discovery. Massachusetts General Hospital Inter-Laboratory Pathology Seminar Conference (joint presentation with Allan Goldstein, Department of Pediatric Surgery), Boston, MA
- 2010 Spectroscopy and quantitative microscopy in pathology imaging. Pathology Informatics 2010, Boston, MA
- 2007-9 Gastrointestinal Biopsies in the Pediatric Patient. Current Concepts in Surgical Pathology, Harvard Medical School Department of Continuing Education, Boston, MA

- 2010-11 Pediatric Inflammatory Bowel Disease: Presentation and Differential Diagnosis. Current Concepts in Surgical Pathology, Harvard Medical School Department of Continuing Education, Boston, MA
- 2011 Hirschsprung Disease and other motility disorders. Liver and Pancreatic Pathology, Harvard Medical School Department of Continuing Education, Boston, MA
- 2011 Mucosal biopsies in evaluation of pediatric intestinal disease, The Contribution of Anatomic Pathology to the Health of Women and Children, Addis Ababa, Ethiopia
- 2011 Pediatric Motility Disorders. The Contribution of Anatomic Pathology to the Health of Women and Children, Addis Ababa, Ethiopia
- 2012 Five Easy Pieces - Lost in Translation, University of Central Florida, College of Optics and Photonics (CREOL), Orlando, FL
- 2013 The enteric nervous system. Pathology Grand Rounds, Stanford University Department of Pathology, Stanford, CA
- 2013 Technology Transfer in Surgical Pathology: When will the future come? Special Lecture, Stanford University Department of Pathology, Stanford, CA
- 2013 Ex Vivo Applications of In Vivo Microscopy (IVM): Shedding a different light on cells and tissues, College of American Pathology (Webinar)
- 2014 In vivo imaging of cell and tissue dynamics: Towards biologically relevant diagnostic models in surgical pathology. 21st Annual Molecular Medicine Tri-conference. San Francisco, CA
- 2016 Intramucosal Neuroglial Cells: Lessons from Hirschsprung Disease in the development of the enteric nervous system, Nationwide Children's Hospital, Columbus, OH
- 2017 Diagnostic microscopy in the 21st Century: Clinical opportunities and translational challenges, Pediatric Grand Rounds, Nationwide Children's Hospital, Columbus, OH
- 2017 Predictive Analytics, Annual Meeting of Children's Pathology Chiefs, San Antonio, TX
- 2017 Diagnostic Errors in Pathology: How to avoid predictable surprises, Pediatric Surgery Grand Rounds, Nationwide Children's Hospital Columbus, OH
- 2017 Pediatric Inflammatory Bowel Disease, The Ohio State University Department of Pathology Update Course, Columbus, OH
- 2017 Advanced Hirschsprung Disease: Post Pull Through Problems, invited panelist, International Colorectal Symposium, Columbus, OH
- 2018 Informatics in Pathology and Lab Medicine, Annual Meeting of Children's Pathology Chiefs, Vancouver, BC

2018 Management of Hirschsprung Disease in the General Practice: How to Avoid Predictable Errors, The Ohio State University Department of Pathology Update Course, Columbus, OH

**FORMAL TEACHING OF STUDENTS** *(does not include ad hoc teaching of numerous rotating students during core or elective clerkships in various hospitals)*

1988	Separation Processes 50 undergraduate students	MIT Department of Chemical Engineering Teaching assistant, 5 hrs/wk for 13 weeks
1991-1992	Gastrointestinal Pathophysiology 30 medical and 5 graduate students	Harvard Medical School Teaching assistant, 5 hrs/wk for 6 weeks
1992	Future Medical Technologies 10 medical and 10 graduate students	Harvard Medical School Teaching assistant, 5 hrs/wk for 6 weeks
1993-1996	Gastrointestinal Pathophysiology 30 medical and 5 graduate students	Harvard Medical School Laboratory instructor, Five 3-hour laboratory sessions
1996	Human Systems - Gastrointestinal Pathology, 30 medical students	Harvard Medical School Laboratory instructor, One 3-hour session
1997-2001	Gastrointestinal Pathophysiology 30 medical and 5 graduate students	Harvard Medical School Core faculty, 5 lectures & 5 lab sessions
1998-2011	Human Pathology 30 medical and 5 graduate students	Harvard Medical School Lecturer on epithelial pathobiology, One 1-hour session
2003-2011	Principles and Practice of Human Pathology 35 graduate students	Harvard-MIT Division of HST Founding course director, 14 lectures, and 10 laboratory sessions
2013-2016	Gastrointestinal and Renal Systems 80-100 medical students	University of Central Florida Lecture on Intestinal Neoplasms One 90-minute lecture
2015-2016		Nemours Children's Hospital

	Clerkship in Pediatric Pathology and Laboratory Medicine (4 <sup>th</sup> year elective) 1 student per month	Clerkship Director Daily supervision and 10-12 one-on-one didactic sessions per month
2016	Medicine Foundations 2 180-200 medical students	Ohio State University Lecture on Benign vs Malignant One 60-minute lecture

**FORMAL TEACHING OF RESIDENTS, FELLOWS AND JUNIOR FACULTY** (*does not include ad hoc teaching of numerous residents, fellows and junior faculty during clinical coverage in various hospitals*)

1998-2001	Gastroenterology Didactic Conference 8-10 attending staff, 8-10 residents/fellows	Brigham and Women’s Hospital 1-2 presentations per year
2003-2011	Pediatric Surgery Pathology Conference 4-8 attending staff, 8-10 residents/fellows	Massachusetts General Hospital 10 presentations per year
2003-2011	Surgical Pathology Didactic Conference 20-30 residents/fellows	Massachusetts General Hospital 1-2 sessions per year
2018	FASTPath Lecture Series: <i>The Art of the Interview</i> , 7 junior faculty	Department of Pathology, The Ohio State University, 1 session

**ORGANIZED CLINICAL TRAINING RESPONSIBILITIES**

1997-2003	Gastrointestinal Pathology Sessions with Pediatric Pathology and Clinical Fellows Children’s Hospital Boston	1-2 hours per week, 20-26 weeks/yr
2003-2011	Pediatric and Gastrointestinal Pathology Case Conferences Massachusetts General Hospital	30 minute sessions, 6-10 sessions/yr
2012-2016	Gastrointestinal Pathology Conference with Students, Fellows and Staff Nemours Children’s Hospital	1 hour per week, 20 weeks/yr
2016-present	Gastrointestinal Pathology Conference with Fellows and Staff	1 hour per week, 12-14 weeks/yr

Nationwide Children's Hospital

**FORMALLY SUPERVISED RESEARCH TRAINEES** (*Graduate students and post-doctoral associates with direct advisory responsibility over an extended period of time*)

*Period of Interaction:*      *Name; title; current position; and outcome of supervisory interaction*

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|-----------|---|
| 1997-2000 | Vadim Backman, Ph.D.<br>Current Position: Walter Dill Scott Professor of Biomedical Engineering, Northwestern University<br>Publication of multiple joint manuscripts; 1 joint NIH grant                      |
| 1998-2002 | Changhuei Yang, Ph.D.<br>Current Position: Thomas G. Myers Professor of Electrical Engineering and Bio-Engineering, California Institute of Technology (Caltech)<br>Publication of multiple joint manuscripts |
| 1999-2002 | Irene Georgakoudi, Ph.D.<br>Current Position: Professor of Biomedical Engineering, Tufts University<br>Publication of multiple joint manuscripts; 1 joint NIH grant   |
| 1999-2002 | Adam Wax, Ph.D.<br>Current Position: Theodore Kennedy Professor of Biomedical Engineering, Duke University<br>Publication of multiple joint manuscripts   |
| 2002-2005 | James Tunnell, Ph.D.<br>Current Position: Associate Professor of Biomedical Engineering, UT Austin<br>Publication of multiple joint manuscripts   |
| 2002-2007 | Gabriel Popescu, Ph.D.<br>Current Position: Professor, Beckman Institute for Advanced Science and Technology, University of Illinois<br>Publication of multiple joint manuscripts                             |
| 2002-2009 | Jelena Mirkovic, Ph.D., M.D.<br>Current Position: Assistant Professor of Pathology, Sunnybrook Health Sciences Centre, Toronto, Ontario<br>Pathology student; Publication of multiple joint manuscripts       |

- 2002-2009 Sasha McGee, Ph.D., M.P.H.  
Current Position: Senior Infections Disease Epidemiologist, District of Columbia  
Department of Health  
Pathology student; Publication of multiple manuscripts
- 2002-2009 Maxim Kalashnikov, Ph.D.  
Current Position: Senior Research Scientist, Center for Manufacturing Innovation, Boston  
University  
Publication of multiple research manuscripts; PhD thesis defense supervision
- 2005-2009 Condon Lau, Ph.D.  
Current Position: Assistant Professor of Biomedical Engineering, City Univ. of Hong Kong  
Publication of multiple joint manuscripts
- 2005-2009 Wonshik Choi, Ph.D.  
Current Position: Associate Professor & Director of Bioimaging Lab, Korea University  
Publication of multiple joint manuscripts,  
Collaboration on an NSF instrumentation grant for biomedical research (funded)
- 2005-2009 Christopher M. Fang-Yen, Ph.D.  
Current Position: Associate Professor of Neuroscience, Perelman School of Medicine,  
University of Pennsylvania  
Publication of multiple joint manuscripts
- 2005-2009 YongKeun Park, Ph.D.  
Current Position: Associate Professor of Physics, Korea Advanced Institute of Science  
and Technology  
Publication of multiple joint manuscripts

**FORMALLY SUPERVISED CLINICAL TRAINEES** (*Pediatric pathology and gastrointestinal  
pathology residents/fellows with direct supervisory interaction over an extended period of time*)

*Period of*            *Name; title; and current position*

*Interaction:*

- 1997-00 James Southern, M.D., Ph.D. (pediatric pathology fellow, Boston Children's)  
Current Position: Associate Professor of Pathology, Medical College of Wisconsin
- 1997-98 Jodi Blaisdell, M.D. (pediatric pathology fellow, Boston Children's)  
Current Position: Pathologist, Kapi'olani Medical Center for Women and Children,  
Honolulu



- 1999-00 Philip Katzman, M.D. (pediatric pathology fellow, Boston Children's)  
Current Position: Professor of Pathology, University of Rochester
- 1999-00 Silvio Litovsky, M.D. (pediatric pathology fellow, Boston Children's)  
Current Position: Associate Professor of Pathology, University of Alabama Medical School
- 2000-01 Y. Albert Yeh, M.D., Ph.D. (pediatric pathology fellow, Boston Children's)  
Current Position: Pathologist, CAMC Health Systems, Charleston, WV
- 2000-01 Keith Stringer, M.D. (pediatric pathology fellow, Boston Children's)  
Current Position: Associate Professor of Pathology, Cincinnati Children's Hospital
- 2001-03 Vinay Prasad, M.D. (pediatric pathology fellow, Boston Children's)  
Current Position: Associate Professor of Pathology and Director of Gastrointestinal Pathology, Nationwide Children's Hospital
- 2006-07 Alireza Sepehr, M.D. (GI pathology fellow, MGH)  
Current Position: Assistant Professor of Pathology, Harvard Medical School and Beth Israel Deaconess Hospital
- 2007-08 Alton Brad Farris, III, M.D. (GI pathology fellow, MGH)  
Current Position: Assistant Professor of Pathology, Emory University School of Medicine
- 2009-10 Joseph Lennerz, M.D., Ph.D. (GI pathology fellow, MGH)  
Current Position: Assistant Professor of Pathology, Massachusetts General Hospital
- 2010-11 Omer Yilmaz, M.D., Ph.D. (GI pathology fellow, MGH)  
Current Position: Assistant Professor of Biology, Massachusetts Institute of Technology, and Assistant Pathologist, Massachusetts General Hospital
- 2016-17 Melissa Stalling, M.D. (pediatric pathology fellow, Nationwide Children's Hospital)  
Current Position: Pediatric Pathologist, Akron Children's Hospital
- 2016-17 Geok Chin Tan, MD (internation fellow, Nationwide Children's Hospital)  
Current Position: Associate Professor of Pathology, The National University of Malaysia
- 2018-19 Alexander Feldman, MD (pediatric pathology fellow, Nationwide Children's Hospital)  
Current Position: Neuropathology Fellow; Northwestern University

**PEER REVIEWED PUBLICATIONS:**

**Citation indices** (data derived from Google Scholar® accessed on 9/18/2019):

**Total Citations:** 13054

**h-index** ( $h$  papers with at least  $h$  citations): 50

**i10- index** (number of publications with at least 10 citations): 74

1. Badizadegan K, Perez-Atayde AR. Focal glycogenesis of the liver in disorders of ureagenesis: its occurrence and diagnostic significance. *Hepatology* 1997; 26(2): 365-73.
2. Badizadegan K, Perez-Atayde AR. Pathology of lung allografts in children and young adults. *Human Pathol* 1997; 28(6): 704-13.
3. Granter SR, Badizadegan K, Fletcher CDM. Myofibromatosis in adults, glomangiopericytoma, and myopericytoma: a spectrum of tumors showing perivascular myoid differentiation. *Am J Surg Pathol* 1998; 22(5): 513-25.
4. Jonas MM, Ott MJ, Nelson SP, Badizadegan K, Perez-Atayde AR. Interferon-alpha treatment of chronic hepatitis C virus infection in children. *Ped Infect Dis J* 1998; 17(3): 241-6.
5. Badizadegan K, Jonas MM, Ott MJ, Nelson SP, Perez-Atayde AR. Histopathology of the liver in children with chronic hepatitis C viral infection. *Hepatology* 1998; 28(5): 1416-23.
6. Backman V, Gurjar R, Badizadegan K, Dasari R, Itzkan I, Perelman LT, Feld MS. Polarized light scattering spectroscopy for quantitative measurement of epithelial cellular structures in situ. *IEEE J Select Top Quant Electron* 1999; 5(4): 1019-1026.
7. Dickinson BL, Badizadegan K, Wu Z, Ahouse JC, Zhu X, Simister NE, Blumberg RS, Lencer WI. Bidirectional FcRn-dependent IgG transport in a polarized human intestinal epithelial cell line. *J Clin Invest* 1999; 104(7): 903-911.
8. Willett CG, Badizadegan K, Ancukiewicz M, Shellito PC. Prognostic factors in stage T3N0 rectal cancer: do all patients require postoperative pelvic irradiation and chemotherapy? *Dis Colon Rectum* 1999; 42(2): 167-73.
9. Backman V, Perelman LT, Arendt JT, Gurjar R, Muller MG, Zhang Q, Zonis G, Kline E, McGillican T, Valdez T, Van Dam J, Wallace M, Badizadegan K, Crawford JM, Fitzmaurice M, Kabani S, Levin H, Seiler M, Dasari RR, Itzkan I, Feld MS. Detection of pre-invasive cancer cells. *Nature* 2000; 406(6791): 35-6.
10. Badizadegan K, Dickinson BL, Wheeler HE, Blumberg RS, Holmes RK, Lencer WI. Heterogeneity of detergent insoluble membranes from human intestine containing caveolin-1 and ganglioside GM1. *Am J Physiol* 2000; 278(6): G895-914.

11. Wallace MB, Perelman LT, Backman V, Crawford JM, Fitzmaurice M, Seiler M, Badizadegan K, Shields SJ, Itzkan I, Dasari R, Van Dam J, Feld MS. Endoscopic detection of dysplasia in patients with Barrett's esophagus: A prospective study. *Gastroenterology* 2000; 119(3): 677-82.
12. Yang C, Wax A, Georgakoudi I, Hanlon E, Badizadegan K, Dasari RR, Feld MS. Interferometric phase dispersion microscopy. *Optics Lett* 2000; 25: 1526-1528.
13. Badizadegan K, Wolf A, Rodighiero C, Jobling M, Hirst TR, Holmes RK, Lencer WI. Floating cholera toxin into epithelial cells: functional association with caveolae-like detergent-insoluble membrane microdomains. *Int J Med Microbiol* 2000; 290(4-5): 403-8.
14. Georgakoudi I, Jacobson BC, Van Dam J, Backman V, Wallace MB, Muller MG, Zhang Q, Badizadegan K, Sun D, Thomas G, Feld MS. Fluorescence, reflectance and light scattering spectroscopies for evaluating dysplasia in patients with Barrett's esophagus. *Gastroenterology* 2001; 120(7): 1620-9.
15. Yang C, Wax A, Hahn MS, Badizadegan K, Dasari RR, Feld MS. Phase-referenced interferometer with subwavelength and subhertz sensitivity applied to the study of cell membrane dynamics. *Optics Letters* 2001; 26(16): 1271-3.
16. Gurjar RS, Backman V, Perelman LT, Georgakoudi I, Badizadegan K, Itzkan I, Dasari RR, Feld MS. Imaging human epithelial properties with polarized light-scattering spectroscopy. *Nature Med* 2001; 7(11):1245-8.
17. Backman V, Gopal V, Kalashnikov M, Badizadegan K, Gurjar RS, Wax A, Georgakoudi I, Mueller MG, Boone CW, Dasari RR, Feld MS. Measuring cellular structure at submicrometer scale with light scattering spectroscopy *IEEE J Select Top Quant Electron* 2001; 7(6):887-893.
18. Georgakoudi I, Jacobson BC, Muller MG, Badizadegan K, Sheets EE, Crum CP, Carr-Locke DL, Dasari RR, Feld MS. NADH and collagen as quantitative fluorescent biomarkers for endoscopic detection of pre-cancers. *Cancer Res* 2002; 62(3):682-687.
19. Georgakoudi I, Sheets EE, Muller MG, Backman V, Crum CP, Badizadegan K, Dasari RR, Feld MS. Trimodal spectroscopy for detection and characterization of cervical pre-cancers *in vivo*. *Am J Obstet Gynecol* 2002; 186(2):374-382.
20. Kneipp K, Haka A, Kneipp H, Badizadegan K, Yoshizawa N, Boone CW, Shafer K, Motz J, Dasari RR, Feld MS. Surface-enhanced Raman spectroscopy in single living cells using gold nanoparticles. *Applied Spectroscopy* 2002; 56(2):150-154.
21. Wax A, Yang C, Backman V, Badizadegan K, Boone CW, Dasari RR, Feld MS. Cellular organization and substructure measured using angle-resolved low-coherence interferometry. *Biophys J* 2002; 82(4):2256-64.
22. Teitelbaum J, Fox VL, Nurko S, Twargo FJ, Antonioli D, Gleich G, Badizadegan K, Furuta GT. Eosinophilic esophagitis in children: Immunological analysis and response to fluticasone propionate. *Gastroenterology* 2002; 122:1216-1225.

23. Fox VL, Nurko S, Teitelbaum JE, Badizadegan K, Furuta GT. High resolution endosonography in children with eosinophilic “allergic” esophagitis. *Gastrointest Endosc* 2003; 57:30-36.
24. Badizadegan K, Backman V, Boone CW, Crum CP, Dasari RR, Georgakoudi I, Keefe K, Munger K, Shapshay SM, Sheets EE and Feld MS. Spectroscopic diagnosis and imaging of invisible pre-cancer. *Faraday Discuss* 2004; 126:265-279.
25. Nurko S, Teitelbaum JE, Husain K, Buonomo C, Fox VL, Antonioli D, Fortunato C, Badizadegan K, Furuta GT. Association of Schatzki ring with eosinophilic esophagitis in children. *J Pediatr Gastroenterol Nutr* 2004; 38:436-41.
26. Popescu G, Deflores LP, Badizadegan K, Vaughan JC, Iwai H, Dasari RR, Feld MS. Fourier phase microscopy for investigation of biological structure & dynamics. *Optics Lett* 2004; 29(21):2503-5.
27. Iwai H, Fang-Yen C, Popescu G, Wax A, Badizadegan K, Dasari RR, Feld MS. Quantitative phase imaging using actively stabilized phase shifting low-coherence interferometry. *Optics Lett* 2004; 29(20):2399-401.
28. Fogt F, Brown CA, Badizadegan K, Zimmerman RL, Odze R. Low prevalence of loss of heterozygosity and SMAD4 mutations in sporadic and familial juvenile polyposis syndrome-associated juvenile polyps. *Am J Gastroenterol* 2004; 99(10):2025-31.
29. Badizadegan K, Wheeler HE, Fujinaga, Lencer WI. Trafficking of cholera toxin-ganglioside GM1 complex into the Golgi and the induction of toxicity depend on the actin cytoskeleton. *Am J Physiol - Cell Physiol* 2004; 287(5):C1453-62.
30. Ahn A, Yang C, Wax A, Popescu G, Fang-Yen C, Badizadegan K, Dasari RR, Feld MS. Harmonic phase-dispersion microscope with a Mach-Zehnder interferometer. *Appl Optics* 2005; 44(7):1188-90.
31. Desai TK, Stecevic V, Chang CH, Goldstein NS, Badizadegan K, Furuta GT. Association of eosinophilic esophagitis with esophageal food impaction in adults. *Gastrointest Endosc* 2005; 61(7): 795-801.
32. Andrews DC, Anupindi S, Badizadegan K. A 4-week old male with jaundice, thrombocytopenia, and abdominal distension. Case Records of the Massachusetts General Hospital. *New Eng J Med* 2005; 353(2): 189-98.
33. Chung DC, Korzenik J, Digumarthy S, Badizadegan K. A 43-year-old man with lower gastrointestinal bleeding. Case Records of the Massachusetts General Hospital. *New Eng J Med* 2005; 353(17): 1836-44.
34. Popescu G, Ikeda T, Badizadegan K, Dasari RR, Feld MS. Erythrocyte structure and dynamics quantified by Hilbert phase microscopy. *J Biomed Optics* 2005; 10(6):060503.
35. Popescu G, Badizadegan K, Dasari RR, Feld MS. Observation of dynamic subdomains in red blood cells. *J Biomed Optics* 2006; 11(4):040503.

36. Lue N, Popescu G, Ikeda T, Dasari RR, Badizadegan K, Feld MS. Live cell refractometry using microfluidic devices. *Optics Lett* 2006; 31(18):2759-61.
37. Hunter M, Backman V, Popescu G, Kalashnikov M, Boone CW, Wax A, Gopal V, Badizadegan K, Stoner GD, Feld MS. Tissue Self-Affinity and Polarized Light Scattering in the Born Approximation: A New Model for Precancer Detection. *Phys Rev Lett* 2006; 97(13):138102.
38. Yu C-C, Lau C, Tunnell J, Hunter M, Kalashnikov M, Fang-Yen C, Fulgum S, Badizadegan K, Dasari RR, Feld MS. Assessing epithelial cell nuclear morphometry using azimuthal light scattering spectroscopy. *Optics Lett* 2006; 31(21):3119-21.
39. Park Y, Popescu G, Badizadegan K, Dasari RR, Feld MS. Diffraction phase and fluorescence microscopy. *Opt Express* 2006 Sep 4;14(18):8263-8.
40. Kradin RL, Badizadegan K, Auluck P, Korzenik J, Lauwers GY. Iatrogenic *Trichuris suis* infection in a patient with Crohn's disease. *Arch Pathol Lab Med* 2006;130(5):718-20.
41. Popescu G, Ikeda T, Goda K, Best CA, Laposata M, Manley S, Dasari RR, Badizadegan K, Feld MS. Optical measurement of cell membrane tension. *Phys Rev Lett* 2006; 24;97(21):218101.
42. Lue N, Choi W, Popescu G, Ikeda T, Dasari RR, Badizadegan K, Feld MS. Quantitative phase imaging of live cells using fast Fourier phase microscopy. *Appl Optics* 2007; 46(10):1836-42.
43. Park Y, Popescu G, Badizadegan K, Dasari RR, Feld MS. Fresnel particle tracing in three dimensions using diffraction phase microscopy. *Optics Lett* 2007; 32(7):811-3.
44. Lue N, Bewersdorf J, Lessard MD, Badizadegan K, Dasari RR, Feld MS, Popescu G. Tissue refractometry using Hilbert phase microscopy. *Optics Lett* 2007; 32(24):3522-4.
45. Choi W, Fang-Yen C, Badizadegan K, Oh S, Lue N, Dasari RR, Feld MS. Tomographic phase microscopy. *Nature Methods* 2007; 4(9):717-9. Epub 2007 Aug 12.
46. Amin MS, Park Y, Lue N, Dasari RR, Badizadegan K, Feld MS, Popescu G. Microrheology of red blood cell membranes using dynamic scattering microscopy. *Opt Express* 2007; 15(25):17001-9.
47. Popescu G, Park Y, Badizadegan K, Dasari RR, Feld MS. Coherence properties of red blood cell membrane motions. *Phys Rev E* 2007; 76(3 Pt 1):031902. Epub 2007 Sep 7.
48. Choi W, Fang-Yen C, Badizadegan K, Dasari RR, Feld MS. Extended depth of focus in tomographic phase microscopy using a propagation algorithm. *Optics Lett* 2008; 33(2):171-3.
49. Popescu G, Park Y, Choi W, Dasari RR, Feld MS, Badizadegan K. Imaging red blood cell dynamics by quantitative phase microscopy. *Blood Cells Mol Dis* 2008; 41(1):10-6.
50. Choi W, Yu CC, Fang-Yen C, Dasari RR, Badizadegan K, Feld MS. Field-based angle-resolved light scattering study of single live cells. *Optics Lett* 2008; 33(14):1596-8.
51. Popescu G, Park Y, Lue N, Best-Popescu C, Deflores L, Dasari RR, Feld MS, Badizadegan K. Optical imaging of cell mass and growth dynamics. *Am J Physiol - Cell Physiol* 2008; 295(2):C538-44.

52. McGee S, Mirkovic J, Mardirossian V, Elackattu A, Yu CC, Kabani S, Gallagher G, Pistey R, Galindo L, Badizadegan K, Wang Z, Dasari R, Feld MS, Grillone G. Model-based spectroscopic analysis of the oral cavity: The impact of anatomy. *J Biomed Optics* 2008; 13:064034.
53. Lue N, Choi W, Badizadegan K, Dasari RR, Feld MS, Popescu G. Confocal diffraction phase microscopy of live cells. *Optics Lett* 2008; 33(18):2074-6.
54. Yu CC, Lau C, O'Donoghue G, Mirkovic J, McGee S, Galinado L, Elackattu A, Stier E, Badizadegan K, Dasari RR, Feld MS. Quantitative spectroscopic imaging for non-invasive early cancer detection. *Optics Express* 2008; 16(20):16227-39.
55. Lue N, Choi W, Popescu G, Badizadegan K, Dasari RR, Feld MS. Synthetic aperture tomographic phase microscopy for 3D imaging of live cells in translational motion. *Optics Express* 2008; 16(20):16240-6.
56. Choi W, Fang-Yen C, Oh S, Lue N, Dasari RR, Feld MS, Badizadegan K. Tomographic phase microscopy: Quantitative 3D Imaging of Refractive Index in Live Cells. *Imaging & Microscopy* 2008, 10(1): 48-50.
57. Lau C, Mirkovic J, Yu C-C, O'Donoghue G, Badizadegan K, McGee S, Elackattu A, Stier E, Grillone G, de las Morales A, Dasari R, Feld MS. Early Cancer Diagnosis Using Quantitative Spectroscopic Imaging: A Feasibility Study. *Biomed Optics* 2008, 3/18, BTuD6.
58. Sung Y, Choi W, Fang-Yen C, Badizadegan K, Dasari RR, Feld MS. Optical diffraction tomography for high resolution live cell imaging. *Optics Express* 2009; 17(1):266-77.
59. Yaqoob Z, Choi W, Oh S, Lue N, Park Y, Fang-Yen C, Dasari RR, Badizadegan K, Feld MS. Improved phase sensitivity in spectral domain phase microscopy using line-field illumination and self phase-referencing. *Optics Express*. 2009;17(13):10681-7.
60. Park Y, Choi W, Yaqoob Z, Dasari R, Badizadegan K, Feld MS. Speckle-field digital holographic microscopy. *Opt Express*. 2009 Jul 20; 17(15):12285-92.
61. Mirkovic J, Lau C, McGee S, Yu CC, Nazemi J, Galindo L, Feng V, Darragh T, de Las Morenas A, Crum C, Stier E, Feld M, Badizadegan K. Effect of anatomy on spectroscopic detection of cervical dysplasia. *J Biomed Opt*. 2009 Jul-Aug;14(4):044021.
62. Lue N, Choi W, Popescu G, Yaqoob Z, Badizadegan K, Dasari RR, Feld MS. Live Cell Refractometry Using Hilbert Phase Microscopy and Confocal Reflectance Microscopy. *J Phys Chem A*. 2009 Nov 26; 113(47):13327-30.
63. Kalashnikov M, Choi W, Yu CC, Sung Y, Dasari RR, Badizadegan K, Feld MS. Assessing light scattering of intracellular organelles in single intact living cells. *Opt Express* 2009 Oct 26; 17(22):19674-81.
64. McGee S, Mardirossian V, Elackattu A, Mirkovic J, Pistey R, Gallagher G, Kabani S, Yu CC, Wang Z, Badizadegan K, Grillone G, Feld MS. Anatomy-based algorithms for detecting oral

- cancer using reflectance and fluorescence spectroscopy. *Ann Otol Rhinol Laryngol*. 2009 Nov; 118(11):817-26.
65. Park Y, Best CA, Badizadegan K, Dasari RR, Feld MS, Kuriabova T, Henle ML, Levine AJ, Popescu G. Measurement of red blood cell mechanics during morphological changes. *PNAS USA*. 2010 Apr 13; 107(15):6731-6.
66. Garay J, D'Angelo JA, Park Y, Summa CM, Aiken ML, Morales E, Badizadegan K, Fiebiger E, Dickinson BL. Crosstalk between PKA and Epac regulates the phenotypic maturation and function of human dendritic cells. *J Immunol*. 2010 Sep 15; 185(6):3227-38. Epub 2010 Aug 20.
67. Badizadegan K, Thompson KM. Value of information in non-focal colonic biopsies in children. *J Ped Gastro Nutr*. 2011 Dec; 53(6):679-83.
68. Mirkovic J, Lau C, McGee S, Crum C, Badizadegan K, Feld M, Stier E. Detecting high-grade squamous intraepithelial lesions in the cervix with quantitative spectroscopy and per-patient normalization. *Biomed Opt Express*. 2011 Oct 1; 2(10):2917-25.
69. Goldstein AM, Melendez E., Sagar P, Badizadegan K. An infant with vomiting, diarrhea and abdominal distension. *New Engl J Med*, 2012 Jan 26; 366(4):361-72.
70. Kaplan JL, Goldstein AM, Shenoy-Bhangle A, Badizadegan K. Neuromuscular and Vascular Hamartoma of the Small Intestine in a Child. *J Pediatr Gastroenterol Nutr*. 2012 Mar 8. [Epub ahead of print]
71. Zella GC, Gee MS, and Badizadegan K. A 15-Year-Old Boy with Hematochezia, Anemia, and Abdominal Pain. *N Engl J Med*, 2012 Aug 16; 367(7):659-67.
72. Khor TS, Badizadegan K, Ferrone C, Fernández-Del Castillo C, Desai GS, Saenz A, Le L, Lauwers GY, Deshpande V. Acinar cystadenoma of the pancreas: a clinicopathologic study of 10 cases including multilocular lesions with mural nodules. *Am J Surg Pathol* 2012 Nov; 36(11):1579-91.
73. Thompson KM, Duintjer Tebbens RJ, Chaignat C-L, Hill A, Badizadegan K, Costa AJ, Namgyal P, Hutubessy RC. Managing Cholera as a preventable global threat. *J Vaccines Vaccin* 2013 April; 4: 1000183.
74. Badizadegan K, Thomas A, Nagy N, Ndishabandi D, Miller SA, Belkind-Gerson J, Goldstein A. Presence of intramucosal neuroglial cells in normal and aganglionic human colon. *Am J Physiol Gastrointest Liver Physiol*. 2014 Nov 15; 307(10):G1002-12.
75. Sykes JA, Badizadegan K, Gordon P, Sokol D, Escoto M, Ten I, Vyas S, Torres A, Levine AM. Simultaneous Acquired Self-limited Hemophagocytic Lymphohistiocytosis and Kikuchi Necrotizing Lymphadenitis in a 16-year-old. *Pediatr Emerg Care*. 2016 Nov; 32(11):792-798.
76. Thompson KM, Simons EA, Badizadegan K, Reef SE, Cooper LZ. Characterization of the Risks of Adverse Outcomes Following Rubella Infection in Pregnancy. *Risk Analysis*. 2016 Jul; 36(7):1315-31.

77. Pavlick D, Schrock AB, Malicki D, Stephens PJ, Kuo DJ, Ahn H, Turpin B, Badizadegan K, Ross JS, Miller VA, Wong V, Ali SM. Identification of NTRK fusions in pediatric mesenchymal tumors. *Pediatr Blood Cancer*. 2017 Aug; 64(8). doi: 10.1002/pbc.26433. Epub 2017 Jan 18.
78. Badizadegan ND, Greenberg S, Lawrence H, Badizadegan K. Radiofrequency Interference in the Clinical Laboratory: Case report and review of the literature. *Am J Clin Path*. 2019; 151(5):522-528. doi: 10.1093/ajcp/aqy174. PMID: 30668626
79. Rose GS, Arnold CA, Badizadegan K, Carter CM, Conces MR, Kahwash SB, Nicol KK, Arnold MA. Cytoplasmic Fibrillar Aggregates in Gallbladder Epithelium are a Frequent Mimic of Cystoisospora in Pediatric Cholecystectomy Specimens. *Arch Path Lab Med*. 2019 Apr 10. doi: 10.5858/arpa.2018-0335-OA. [Epub ahead of print] PMID: 30969156.
80. Vanlandingham DM, Hampton W, Thompson KM, Badizadegan K. Predictive Modeling of Anatomic Pathology Workload and Complexity. *Risk Analysis*. 2019 Sep 2. doi: 10.1111/risa.13393. [Epub ahead of print] PMID: 31476083.
81. Badizadegan K, Goodson JL, Rota PA, Thompson KM. The potential role of using vaccine patches to induce immunity: Platform and pathway challenges to innovation. (manuscript in submission)
82. Badizadegan K, Vanlandingham DM, Hampton W, Thompson KM. Value of information in duodenal biopsies in patients with high titer tissue transglutaminase levels. (manuscript in preparation)

#### **Reviews, Book Chapters, Monographs, and Online Content:**

1. Backman V, Gurjar R, Badizadegan K, Zonis G, Itzkan I, Dasari RR, Crawford JM, Van Dam J, Perelman LT, Feld MS. Light scattering spectroscopy for early cancer diagnosis. In: Laser Spectroscopy. Blatt R,, Eschner J, Leibfried D, Schmidt-Kaler F, editors. London: World Scientific; 1999. p. 286-95.
2. Badizadegan K, Collier RJ, Lencer WI. Membrane Translocation by Bacterial AB Toxins. In: Sansonetti P, Zychlinsky A, editors. Methods in microbiology volume 31: Molecular cellular microbiology. London: Academic Press; 2001. p. 277-96.
3. Yang, C., Wax, A., Badizadegan, K., Dasari, R. R., Feld, M. S., "Phase-referenced interferometer with subwavelength and subhertz sensitivity," Optics and Photonics News 12, p. 36 (2001).
4. Backman V, Gurjar R, Perelman LT, Gopal V, Kalashnikov M, Badizadegan K, Wax A, Georgakoudi I, Mueller M, Boone CW, Itzkan I, Dasari RR, and Feld MS. Imaging and Measurement of Cell Structure and Organization with Submicron Accuracy Using Light Scattering Spectroscopy. In: Alfano R.R. editor. Proceedings of the International Society for Optical Engineering volume 4613: Optical Biopsy IV. SPIE Press; p. 101-10, 2002.
5. Yang C, Wax A, Badizadegan K, Dasari RR, Feld MS. Cell dynamics with a novel phase referenced low-coherence interferometer with sub-wavelength and sub-hertz sensitivity. In



- Coherence Domain Optical Methods in Biomedical Science and Clinical Applications VI, Valery V. Tuchin, Joseph A. Izatt, James G. Fujimoto, Editors, Proceedings of SPIE Vol. 4619, 2002.
6. Popescu G, Fang-Yen C, Deflores L, Chu M, Iwai H, Hunter M, Kalashnikov M, Backman V, Badizadegan K, Boone C, Stoner G, Dasari RR, Feld MS, Seeing Small Biological Structures with Light, in *Laser Spectroscopy - Proceedings of the XVI International Conference (ICOLS 2003)*, P. Hannaford, A. Sidorov, H. Bachor, and K. Baldwin eds., World Scientific Publishing, Singapore, p. 375-382, 2003.
  7. Badizadegan K and Wolf JL. Liver pathology in pregnancy. In: Odze RD, Goldblum JR, Crawford JM, editors. *Surgical Pathology of the Gastrointestinal Tract, Liver, Biliary Tract and Pancreas*. Philadelphia: W.B. Saunders; 2004. p. 967-78.
  8. Popescu G, Badizadegan K, Dasari RR, Feld MS. Motility of live cancer cells quantified by Fourier phase microscopy. In Depeursinge CD, editor. *Novel Optical Instrumentation for Biomedical Applications II*, Proc. of SPIE-OSA Biomedical Optics, SPIE Vol. 5864, 2005.
  9. Popescu G, Ikeda T, Badizadegan K, Dasari RR, Feld MS. Nanometer fluctuations of erythrocytes imaged by Hilbert phase microscopy. In *Novel Optical Instrumentation for Biomedical Applications II*, edited by Christian D. Depeursinge, Proc. of SPIE-OSA Biomedical Optics, SPIE Vol. 5864, 2005.
  10. Badizadegan K. Other Intestinal Tumors. In Kleinmann R *et al.*, editors. *Pediatric Gastrointestinal Disease*. Philadelphia: B.C. Decker; 2008.
  11. Badizadegan K and Wolf JL. Liver pathology in pregnancy. In: Odze RD and Goldblum JR, editors. *Surgical Pathology of the Gastrointestinal Tract, Liver, Biliary Tract and Pancreas*. 2nd ed. Philadelphia: W.B. Saunders; 2009.
  12. Park YK, Choi W, Yaqoob Z, Dasari RR, Badizadegan K, Feld MS. Speckle-field digital holographic microscopy. In Farkas DL, Nicolau DV, Leif RC, editors. *Imaging, Manipulation, and Analysis of Biomolecules, Cells, and Tissues VIII*, Proc. of SPIE Vol. 7568, 75681O ; 2010.
  13. Lauwers GY and Badizadegan K. New Endoscopic Techniques: Challenges and Opportunities for Surgical Pathologists. In: Goldblum JR, editor. *Surgical Pathology Clinics: Current Concepts in Gastrointestinal Pathology*. W B Saunders; 2010.
  14. Badizadegan K and Wolf JL. Liver pathology in pregnancy. In: Odze RD and Goldblum JR, editors. *Surgical Pathology of the Gastrointestinal Tract, Liver, Biliary Tract and Pancreas*. 3rd ed; Elsevier Saunders; 2015.
  15. Birusingh RJ and Badizadegan K. Intestinal Tumors: Other Neoplasms. In Sherman PM *et al.*, editors. *Pediatric Gastrointestinal Disease: Physiology, Diagnosis, Management*. PMPH-USA Limited Publisher; 2016.
  16. De Baca ME, Spinosa JC, Aller R, Badizadegan K, Blouin AG, Castellani W, Chen P, Gilbertson J, Harrison J, Henricks W, Kennedy M, Knapik C, Pantanowitz L, Reichard RR, Robb J, Stram M.

CAP Pathology Resource Guide: Clinical Informatics. Version 1.2.0.0. Northfield, IL: College of American Pathologists; 2018.

17. Badizadegan, K. Interfaces and Middleware: Laboratory Information System (LIS) Connectivity Options that Can Improve and Streamline Laboratory Operations. Online Systems-Based Practice Learning Module. College of American Pathologists; 2018.

## MAJOR EDUCATIONAL MATERIALS

1. As a core faculty for *HST.120/121 Gastrointestinal Pathophysiology* between 1997 and 2001, I revised and updated the entire pathology curriculum for this second-year MD course at the Harvard-MIT Division of Health Sciences and Technology. In addition to developing six entirely new lectures in gastrointestinal and liver pathology, I restructured five wet pathology laboratories, and developed multiple new problem sets for the course, including multiple mini-cases with clinicopathological correlations.
2. As the founding course director for *HST.034/035 Principles and Practice of Human Pathology*, I developed an entire course syllabus for this full-semester, graduate level course in pathology. In addition to developing up to fourteen entirely new didactic lectures related to diagnostic pathology and mechanisms of disease, I developed twenty hours of web-based laboratory sessions, twenty clinical mini-cases including radiological-pathological correlations, and 8 homework assignments. Each year I organize the course syllabus, update and revise laboratories, mini-cases and homework assignments as necessary, and coordinate participation of more than twenty guest faculty to deliver state-of-the-art lectures on topics related to diagnostic pathology and mechanisms of disease.

This has been a required course for students enrolled in Graduate Education in Medical Sciences program at MIT, Biomedical Enterprise Program at MIT, and the Leder Human Biology and Translational Medicine program at Harvard Medical School. In addition, the course was approved by the Harvard Medical School as an alternative to the MD curriculum *Human Pathology* course for students enrolled or cross-registered in the MD program.

## Theses

1. Badizadegan K. Studies on the stability and activity of immobilized ligands [BS thesis]. Cambridge (MA): Massachusetts Institute of Technology; 1988 (Advisor: Martin L. Yarmush, MD, PhD. Helen Andrus Benedict Professor of Surgery and Biotechnology, Harvard Medical School).
2. Badizadegan K. Design and partial characterization of a continuous flow bioreactor for isolated rat hepatocytes [MD thesis]. Boston (MA): Harvard-MIT Division of Health Sciences and Technology, Harvard Medical School, 1993 (Advisor: Martin L. Yarmush, MD, PhD. Helen Andrus Benedict Professor of Surgery and Biotechnology, Harvard Medical School).