

December 1, 2022

CURRICULUM VITAE  
SUNIL K. SHAW, PhD

Business or Mailing Address      Department of Pediatrics  
Women & Infants Hospital  
Kilguss-210  
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EDUCATION

Undergraduate                      Hindu College/Delhi University, India,  
Zoology, B.Sc (hons)              1983-1986

POSTGRADUATE TRAINING

Graduate School                    All India Institute of Medical Sciences,  
New Delhi, India, Biotechnology,  
M.Biotech                              1986-1988

Graduate School                    Harvard University, Cambridge, MA,  
Immunology, PhD                    1988-1995

Postdoctoral Training              Brigham and Women's Hospital, Boston  
MA, Research fellow                1995-2001

ACADEMIC APPOINTMENTS

Research Fellow in Pathology, Harvard Medical School              1995-2001  
Instructor in Pathology, Harvard Medical School                      2001-2004  
Assistant Professor of Pediatrics (Research), Brown University      2004-2022  
Associate Professor of Pediatrics (Research), Brown University      2022-present

HOSPITAL APPOINTMENTS

Research Fellow, Brigham and Women's Hospital, Boston              1995-2004  
Research Scientist, Women & Infants Hospital of Rhode Island      2004-present  
Associate Director, Kilguss Research Core                              2004-2013  
Director, Kilguss Research Core    2013-present  
Chemical Hygiene Officer, Kilguss Research Institute                  2006-present

HOSPITAL COMMITTEES

Kilguss Lab Safety Committee, chair                                      2006-present  
Kilguss Advisory Committee, member                                      2013-present

CNE/Lifespan Institutional Biosafety Committee, member 2018-present  
Radiation Safety Committee, member 2020-present

#### UNIVERSITY COMMITTEES

Brown Biomedical Imaging Committee, member 2014-present  
Brown Genomics Core Advisory Committee 2019-present

#### REGIONAL GRANT REVIEWS

Brown University Research Seed Awards 2017

#### EDITORIAL BOARDS

Ad hoc reviewer, *Journal of Immunology*  
Ad hoc reviewer, *Journal of Cell Biology*  
Ad hoc reviewer, *Virulence*  
Ad hoc reviewer, *Fungal Genetics and Biology*  
Ad hoc reviewer, *Frontiers in Immunology*  
Ad hoc reviewer, *American Journal of Reproductive Immunology*  
Guest Editor, Special Issue on Multifunctional Fungal Proteins, 2023, *Journal of Fungi*

#### MEMBERSHIP IN SOCIETIES

American Association for the Advancement of Science, member  
American Association of Immunologists, member  
American Society for Biochemistry and Molecular Biology, member  
American Society for Microbiology, member  
Association of Biomolecular Research Facilities, member  
National Association of IDeA Principal Investigators, member

#### ORIGINAL PUBLICATIONS IN PEER REVIEWED JOURNALS

1. Milstone DS, **Shaw SK**, Parker KL, Szyf M, Seidman JG. An element regulating adrenal-specific steroid 21-hydroxylase expression is located within the *slp* gene. *J Biol Chem*. 1992 Oct 25;267(30):21924-7. PubMed PMID: 1400503. (28 citations – Google Scholar)
2. Parker CM, Cepek KL, Russell GJ, **Shaw SK**, Posnett DN, Schwarting R, Brenner MB. A family of beta 7 integrins on human mucosal lymphocytes. *Proc Natl Acad Sci U S A*. 1992 Mar 1;89(5):1924-8. PubMed PMID: 1542691; PubMed Central PMCID: PMC48566. (324 citations)
3. **Shaw SK**, Cepek KL, Murphy EA, Russell GJ, Brenner MB, Parker CM. Molecular cloning of the human mucosal lymphocyte integrin alpha E subunit. Unusual structure and restricted RNA distribution. *J Biol Chem*. 1994 Feb 25;269(8):6016-25. PubMed PMID: 8119947. (133 citations)
4. Smith TJ, Ducharme LA, **Shaw SK**, Parker CM, Brenner MB, Kilshaw PJ, Weis JH. Murine M290 integrin expression modulated by mast cell activation. *Immunity*. 1994 Aug;1(5):393-403. PubMed PMID: 7882170. (68 citations)
5. Cepek KL, **Shaw SK**, Parker CM, Russell GJ, Morrow JS, Rimm DL, Brenner MB. Adhesion between epithelial cells and T lymphocytes mediated by E-cadherin and the alpha E beta 7 integrin. *Nature*. 1994 Nov 10;372(6502):190-3. PubMed PMID:7969453. (1262 citations)

6. Higgins JM, Mandlebrot DA, **Shaw SK**, Russell GJ, Murphy EA, Chen YT, Nelson WJ, Parker CM, Brenner MB. Direct and regulated interaction of integrin alphaEbeta7 with E-cadherin. *J Cell Biol.* 1998 Jan 12;140(1):197-210. PubMed PMID: 9425167; PubMed Central PMCID: PMC2132596. (250 citations)
7. **Shaw SK**, Hermanowski-Vosatka A, Shibahara T, McCormick BA, Parkos CA, Carlson SL, Ebert EC, Brenner MB, Madara JL. Migration of intestinal intraepithelial lymphocytes into a polarized epithelial monolayer. *Am J Physiol.* 1998 Sep;275(3 Pt 1):G584-91. PubMed PMID: 9724272. (40 citations)
8. Shibahara T, Si-Tahar M, **Shaw SK**, Madara JL. Adhesion molecules expressed on homing lymphocytes in model intestinal epithelia. *Gastroenterology.* 2000 Feb;118(2):289-98. PubMed PMID: 10648457. (40 citations)
9. **Shaw SK**, Bamba PS, Perkins BN, Luscinskas FW. Real-time imaging of Vascular Endothelial-cadherin during leukocyte transmigration across endothelium. *J Immunol.* 2001 Aug 15;167(4):2323-30. PubMed PMID: 11490021. (353 citations)
10. **Shaw SK**, Perkins BN, Lim YC, Liu Y, Nusrat A, Schnell FJ, Parkos CA, Luscinskas FW. Reduced expression of junctional adhesion molecule and platelet/endothelial cell adhesion molecule-1 (CD31) at human vascular endothelial junctions by cytokines tumor necrosis factor-alpha plus interferon-gamma Does not reduce leukocyte transmigration under flow. *Am J Pathol.* 2001 Dec;159(6):2281-91. PubMed PMID: 11733377; PubMed Central PMCID: PMC1850595. (134 citations)
11. Ancuta P, Rao R, Moses A, Mehle A, **Shaw SK**, Luscinskas FW, Gabuzda D. Fractalkine preferentially mediates arrest and migration of CD16+ monocytes. *J Exp Med.* 2003 Jun 16;197(12):1701-7. PubMed PMID: 12810688; PubMed Central PMCID: PMC2193954. (650 citations)
12. Warke RV, Khaja K, Martin KJ, Fournier MF, **Shaw SK**, Brizuela N, de Bosch N, Lapointe D, Ennis FA, Rothman AL, Bosch I. Dengue virus induces novel changes in gene expression of human umbilical vein endothelial cells. *J Virol.* 2003 Nov;77(21):11822-32. Erratum in: *J Virol.* 2004 May;78(9):4947-8. PubMed PMID: 14557666; PubMed Central PMCID: PMC229255. (193 citations)
13. Rao RM, Betz TV, Lamont DJ, Kim MB, **Shaw SK**, Froio RM, Baleux F, Arenzana-Seisdedos F, Alon R, Luscinskas FW. Elastase release by transmigrating neutrophils deactivates endothelial-bound SDF-1alpha and attenuates subsequent T lymphocyte transendothelial migration. *J Exp Med.* 2004 Sep 20;200(6):713-24. PubMed PMID: 15381727; PubMed Central PMCID: PMC2211969. (71 citations)
14. Cullere X\*, **Shaw SK\***, Andersson L, Hirahashi J, Luscinskas FW, Mayadas TN. Regulation of vascular endothelial barrier function by Epac, a cAMP-activated exchange factor for Rap GTPase. *Blood.* 2005 Mar 1;105(5):1950-5. Epub 2004 Sep 16. PubMed PMID: 15374886. \*Joint first authorship (394 citations)

15. **Shaw SK\***, Ma S\*, Kim MB, Rao RM, Hartman CU, Froio RM, Yang L, Jones T, Liu Y, Nusrat A, Parkos CA, Luscinskas FW. Coordinated redistribution of leukocyte LFA-1 and endothelial cell ICAM-1 accompany neutrophil transmigration. *J Exp Med*. 2004 Dec 20;200(12):1571-80. PubMed PMID: 15611287; PubMed Central PMCID: PMC2212000.  
\* Joint first authorship (260 citations)
16. Yang L, Kowalski JR, Yacono P, Bajmoczy M, **Shaw SK**, Froio RM, Golan DE, Thomas SM, Luscinskas FW. Endothelial cell cortactin coordinates intercellular adhesion molecule-1 clustering and actin cytoskeleton remodeling during polymorphonuclear leukocyte adhesion and transmigration. *J Immunol*. 2006 Nov 1;177(9):6440-9. PubMed PMID: 17056576. (135 citations)
17. Morin N, Owolabi SA, Harty MW, Papa EF, Tracy TF Jr, **Shaw SK**, Kim M, Saab CY. Neutrophils invade lumbar dorsal root ganglia after chronic constriction injury of the sciatic nerve. *J Neuroimmunol*. 2007 Mar;184(1-2):164-71. Epub 2007 Feb 1. PubMed PMID: 17275921. (89 citations)
18. Rabodzey A, Yao Y, Luscinskas FW, **Shaw SK**, Dewey CF Jr. Early response of endothelial cells to flow is mediated by VE-cadherin. *Cell Commun Adhes*. 2007 Sep-Oct;14(5):195-209. PubMed PMID: 18163230. (4 citations)
19. Singh RK, Lange TS, Kim KK, **Shaw SK**, Brard L. A novel indole ethyl isothiocyanate (7Me-IEITC) with anti-proliferative and pro-apoptotic effects on platinum-resistant human ovarian cancer cells. *Gynecol Oncol*. 2008 May;109(2):240-9. doi: 10.1016/j.ygyno.2008.01.042. Epub 2008 Mar 7. PubMed PMID: 18329084; PubMed Central PMCID: PMC2747483. (22 citations)
20. **Shaw SK**, Owolabi SA, Bagley J, Morin N, Cheng E, LeBlanc BW, Kim M, Harty P, Waxman SG, Saab CY. Activated polymorphonuclear cells promote injury and excitability of dorsal root ganglia neurons. *Exp Neurol*. 2008 Apr;210(2):286-94. doi: 10.1016/j.expneurol.2007.11.024. Epub 2007 Dec 4. PubMed PMID: 18201702; PubMed Central PMCID: PMC2397441. (36 citations)
21. Warke RV, Martin KJ, Giaya K, **Shaw SK**, Rothman AL, Bosch I. TRAIL is a novel antiviral protein against dengue virus. *J Virol*. 2008 Jan;82(1):555-64. Epub 2007 Oct 3. PubMed PMID: 17913827; PubMed Central PMCID: PMC2224358. (80 citations)
22. Silbert O, Wang Y, Maciejewski BS, Lee HS, **Shaw SK**, Sanchez-Esteban J. Roles of RhoA and Rac1 on actin remodeling and cell alignment and differentiation in fetal type II epithelial cells exposed to cyclic mechanical stretch. *Exp Lung Res*. 2008 Dec;34(10):663-80. doi: 10.1080/01902140802339615. PubMed PMID: 19085564. (22 citations)
23. Murphy SP, Hanna NN, Fast LD, **Shaw SK**, Berg G, Padbury JF, Romero R, Sharma S. Evidence for participation of uterine natural killer cells in the mechanisms responsible for spontaneous preterm labor and delivery. *Am J Obstet Gynecol*. 2009 Mar;200(3):308.e1-9. doi: 10.1016/j.ajog.2008.10.043. Epub 2008 Dec 27. PubMed PMID: 19114277; PubMed Central PMCID: PMC3893044. (111 citations)

24. Kang H, Wang J, Longley SJ, Tang JX, **Shaw SK**. Relative actin nucleation promotion efficiency by WASP and WAVE proteins in endothelial cells. *Biochem Biophys Res Commun*. 2010 Oct 1;400(4):661-6. doi: 10.1016/j.bbrc.2010.08.123. Epub 2010 Sep 9. PubMed PMID: 20816932; PubMed Central PMCID: PMC2951009. (16 citations)
25. Zhang W, Yano N, Deng M, Mao Q, **Shaw SK**, Tseng YT.  $\beta$ -Adrenergic receptor-PI3K signaling crosstalk in mouse heart: elucidation of immediate downstream signaling cascades. *PLoS One*. 2011;6(10):e26581. doi: 10.1371/journal.pone.0026581. Epub 2011 Oct 19. PubMed PMID: 22028912; PubMed Central PMCID: PMC3197531. (59 citations)
26. Brem AS, Morris DJ, Li X, Ge Y, **Shaw S**, Gong R. Adrenalectomy amplifies aldosterone induced injury in cardiovascular tissue: an effect attenuated by adrenally derived steroids. *Steroids*. 2013 Mar;78(3):347-55. doi: 10.1016/j.steroids.2012.12.007. Epub 2012 Dec 31. PubMed PMID: 23287650. (3 citations)
27. Kavar N, Maclaughlan S, Horan TC, Uzun A, Lange TS, Kim KK, Hopson R, Singh AP, Sidhu PS, Glass KA, **Shaw S**, Padbury JF, Vorsa N, Arnold LA, Moore RG, Brard L, Singh RK. PT19c, Another Nonhypercalcemic Vitamin D2 Derivative, Demonstrates Antitumor Efficacy in Epithelial Ovarian and Endometrial Cancer Models. *Genes Cancer*. 2013 Nov;4(11-12):524-34. doi: 10.1177/1947601913507575. PubMed PMID: 24386512; PubMed Central PMCID: PMC3877664. (13 citations)
28. Shintaku T, Glass KA, Hirakawa MP, Longley SJ, Bennett RJ, Bliss JM, **Shaw SK**. Human endothelial cells internalize *Candida parapsilosis* via N-WASP-mediated endocytosis. *Infect Immun*. 2013 Aug;81(8):2777-87. doi: 10.1128/IAI.00535-13. Epub 2013 May 20. PubMed PMID: 23690407; PubMed Central PMCID: PMC3719575. (Selected for cover image) (13 citations)
29. Glass KA, Longley SJ, Bliss JM, **Shaw SK**. Protection of *Candida parapsilosis* from neutrophil killing through internalization by human endothelial cells. *Virulence*. 2015;6(5):504-14. doi: 10.1080/21505594.2015.1042643. PubMed PMID: 26039751; PubMed Central PMCID: PMC4601288. (6 citations)
30. Nayak PS, Wang Y, Najrana T, Priolo LM, Rios M, **Shaw SK**, Sanchez-Esteban J. Mechanotransduction via TRPV4 regulates inflammation and differentiation in fetal mouse distal lung epithelial cells. *Respir Res*. 2015 May 27;16:60. doi: 10.1186/s12931-015-0224-4. PubMed PMID: 26006045; PubMed Central PMCID: PMC4446903. (33 citations)
31. Xu Y, Gray A, Hardie DG, Uzun A, **Shaw S**, Padbury JF, Phornphutkul C, Tseng YT. A novel, de novo mutation in PRKAG2 gene: infantile-onset phenotype and signaling pathway involved. *Am J Physiol Heart Circ Physiol*. 2017 May 26;ajpheart.00813.2016. doi: 10.1152/ajpheart.00813.2016. [Epub ahead of print] PubMed PMID: 28550180. (16 citations)
32. Neale MN, Glass KA, Longley SJ, Kim DJ, Laforce-Nesbitt SS, Wortzel JD, **Shaw SK\***, Bliss JM\*. Role of the inducible adhesin, CpAls7, in binding of *Candida parapsilosis* to extracellular matrix under fluid shear. *Infect Immun*. 2018 Jan 29. pii: IAI.00892-17. doi: 10.1128/IAI.00892-17. PMID: 29378793; PMCID: PMC5865022 (selected for Spotlight award – Research article of significant interest) \*Joint last authors (10 citations)

33. Hemedez C, Trail-Burns E, Mao Q, Chu S, **Shaw SK**, Bliss JM, De Paepe ME. Pathology of Neonatal Non- albicans Candidiasis: Autopsy Study and Literature Review. *Pediatr Dev Pathol.* 2018 Sep 7:1093526618798773. doi: 10.1177/1093526618798773. PMID: 30193562 (3 citation)
34. Bliss JM, Tollefson G, Cuevas A, Longley S, Neale M, Uzun A, **Shaw SK**. Transcription Profiles Associated with Inducible Adhesion in *Candida parapsilosis*. *mSphere* 2021, 10;6(1):e01071-20 doi: 10.1128/mSphere.01071-20.PMID: 33568454 (1 citation)
35. **Shaw SK**, Longley SJ, Laforce-Nesbitt SS, Bliss JM. Adhesion of *Candida parapsilosis* to Bovine Serum Albumin under Fluid Shear. *J Vis Exp* 2021. doi: 10.3791/62648. PMID: 34057434

#### OTHER PEER REVIEWED PUBLICATIONS

1. **Shaw SK**, Brenner MB. The beta 7 integrins in mucosal homing and retention. *Semin Immunol.* 1995 Oct;7(5):335-42. Review. PubMed PMID: 8580465. (119 citations)
2. Luscinskas FW, **Shaw SK**. The biology of endothelial cell-cell lateral junctions. *Microcirculation.* 2001 Jun;8(3):141-2. Review. PubMed PMID: 11498777. (4 citations)
3. Luscinskas FW, Ma S, Nusrat A, Parkos CA, **Shaw SK**. Leukocyte transendothelial migration: a junctional affair. *Semin Immunol.* 2002 Apr;14(2):105-13. Review. PubMed PMID: 11978082. (157 citations)
4. Luscinskas FW, Ma S, Nusrat A, Parkos CA, **Shaw SK**. The role of endothelial cell lateral junctions during leukocyte trafficking. *Immunol Rev.* 2002 Aug;186:57-67. Review. PubMed PMID: 12234362. (93 citations)
5. Liu Y, **Shaw SK**, Ma S, Yang L, Luscinskas FW, Parkos CA. Regulation of leukocyte transmigration: cell surface interactions and signaling events. *J Immunol.* 2004 Jan 1;172(1):7-13. Review. PubMed PMID: 14688302. (188 citations)
6. Rao RM, **Shaw SK**, Kim M, Luscinskas FW. Emerging topics in the regulation of leukocyte transendothelial migration. *Microcirculation.* 2005 Jan-Feb;12(1):83-9. Review. PubMed PMID: 15804976. (20 citations)
7. Ramirez-Ortiz ZG, Warke RV, Pacheco L, Xhaja K, Sarkar D, Fisher PB, **Shaw SK**, Martin KJ, Bosch I. Discovering innate immunity genes using differential display: a story of RNA helicases. *J Cell Physiol.* 2006 Dec;209(3):636-44. Review. PubMed PMID: 17001675. (16 citations)
8. **Shaw SK**. The Center of Biomedical Research Excellence (COBRE) for Perinatal Biology - Accomplishments, Impact, and Long-term Results. *RI Med J* 2021 104(3)32-35

## BOOKS AND BOOK CHAPTERS

1. Luscinskas FW, Allport JR and **Shaw SK**. Endothelial-dependent Mechanisms of Monocyte Recruitment. In: Granger, ND and Schmid-Shonbein, GW, editors. *Molecular Mechanisms of Microvascular Disorders*. Paris: Springer-Verlag. 2003. Chapter 4, 89-102.

## ABSTRACTS

1. **Shaw SK**, Bamba PS, Perkins BN, Luscinskas FW. 2000. Live Time imaging of vascular endothelial -cadherin during leukocyte transmigration across endothelium. *FASEB J*. 15:A391 and A1178.

2. Luscinskas FW, Perkins B, Bamba, PS, **Shaw SK**. 2001. Live Time imaging of vascular endothelial VE-cadherin during leukocyte transmigration across endothelium. XVIII Congress The International Society on Thrombosis and Haemostasis, Paris, France. ATVB

3. Ma S, **Shaw SK**, Yang Y, Jones T, Liu Y, Nusrat A, Parkos CA, Luscinskas FW. Dynamics of Junctional Adhesion Molecule1 (JAM1) during leukocyte transendothelial migration under flow in vitro. *Experimental Biology* 2003, San Diego

4. **Shaw SK**, Cuevas AM, Tollefson GA, Longley SJ, Bliss JM, Uzun A. Phr1 controls adhesion of *Candida parapsilosis*. *Candida and Candidiasis 2020*, Montreal, Canada. (Selected for podium presentation, canceled due to COVID quarantine).

5. **Shaw SK**, Cuevas AM, Tollefson GA, Longley SJ, Bliss JM, Uzun A. Phr1 controls adhesion of *Candida parapsilosis*. *Candida and Candidiasis 2021*, online.

## INVITED PRESENTATIONS

### Local

1. Invited Speaker: Pathobiology seminar, Brown University, Providence RI. "Leukocyte Transendothelial Migration: Imaging molecular remodeling in live cells", Jan 13, 2005.
2. Invited Speaker: Rhode Island IDeA symposium, Providence RI. "Kilguss Research Core", May 9, 2005.
3. Invited Speaker: Surgical Research Seminar, Rhode Island Hospital, Providence RI. "Molecular Imaging of Neutrophil Transmigration and Endothelial Cytoskeletal Remodeling during Inflammation", May 16, 2005.
4. Invited Speaker: Stem Cell COBRE, Roger Williams Medical Center, Providence RI. "Leukocyte transendothelial migration: Imaging molecular remodeling in live cells", July 20, 2005.
5. Invited Speaker: Pediatrics Colloquium, Women & Infants Hospital, Providence RI. "Inflammation Locomotion: Live cell imaging of leukocyte transmigration", December 8, 2006.

6. Invited Speaker: Pediatrics Colloquium, Women & Infants Hospital, Providence RI. "Stopping Leaks – Endothelial barrier and the actin cytoskeleton. February 20, 2009.
7. Invited Speaker: COBRE in Perinatal Biology External Advisory Committee meeting, Providence RI. "Uterine NK homing from the peripheral circulation". May 14, 2009.
8. Invited Speaker: COBRE in Perinatal Biology External Advisory Committee meeting, Providence RI. "Uterine NK homing from the peripheral circulation". October 6, 2010.
9. Invited Speaker: Pediatrics Colloquium, Women & Infants Hospital, Providence RI. "Dancing (cyto)skeletons: How endothelial cells regulate their movement, barrier and transport", December 10, 2010.
10. Invited Speaker: Pathobiology seminar, Brown University, Providence RI. "Endothelial barrier and the cytoskeleton". February 3, 2011.
11. Invited Speaker: Pediatrics Colloquium, Women & Infants Hospital, Providence RI. "Yeast Invaders: Adhesion and Invasion of endothelial cells by *Candida parapsilosis*". February 3, 2012.
12. Invited Speaker: Pathobiology Retreat, Brown University, Providence RI. "Kilguss Research Core". August 27, 2013.
13. Invited Speaker: Pediatrics Colloquium, Women & Infants Hospital, Providence RI. "Intruder Alert: How *Candida parapsilosis* is internalized by endothelial cells". October 11, 2013.
14. Invited Speaker: Advances in Genome Science, Brown University, Providence RI. "*Candida parapsilosis* as an intracellular pathogen in human endothelial cells – RNA-seq of mixed yeast and human RNA". June 10, 2014.
15. Invited Speaker: Pediatrics Colloquium, Women & Infants Hospital, Providence RI. "Surveillance and Evasion: Intravascular Immunity to *Candida parapsilosis*". November 6, 2015.
16. Invited Speaker: Pediatrics Colloquium, Women & Infants Hospital, Providence RI. "Endothelial Internalization as a virulence mechanism for *Candida parapsilosis*". September 30, 2016.
17. Invited Speaker: IDeA symposium, Brown University, Providence RI. "Spinning Disk confocal microscopy at the Kilguss Research Core". June 2, 2017.
18. Invited Speaker: Pediatrics Colloquium, Women & Infants Hospital, Providence RI. "Fantastic Yeasts and where to find them: Virulence mechanisms for *Candida parapsilosis*". March 9, 2018.
19. Invited Speaker: Pediatrics Colloquium, Women & Infants Hospital, Providence RI. "Fatal Attraction: Neutrophil chemotaxis towards *Candida parapsilosis*". September 28, 2018.
20. Invited Speaker: Pediatrics Colloquium, Women & Infants Hospital, Providence RI. "Transcriptional Regulation of Yeast Adhesion in *Candida parapsilosis*". September 27, 2019.
21. Invited speaker: RI-INBRE virtual seminar. "Transcriptional regulation of adhesion in *Candida parapsilosis*". June 4, 2020.
22. Invited speaker: Pediatrics Colloquium, Women & Infants Hospital, Providence, RI. "Adhesion pathways in *Candida parapsilosis*". September 25, 2020.

### National

1. Speaker: American Society for Investigative Pathology, Experimental Biology, Orlando FL. "Live Time imaging of vascular endothelial-cadherin during leukocyte transmigration across endothelium" April 1, 2001.



2. Special Seminar: Center for Cardiovascular and Respiratory Sciences, West Virginia University, Morgantown WV. "Molecular Mechanisms of Leukocyte Transmigration" April 30, 2004
3. Invited Speaker: Cardiovascular Research Department, Columbus Children's Research Institute Columbus, OH. "Live cell imaging of leukocyte transmigration" June 7, 2004.
4. Invited Speaker: Northeast Regional Idea Conference, Bretton Woods, NH. "Virulence mechanisms of *Candida parapsilosis*". August 16, 2019.
5. Session chair: Microbiology and Immunology. Northeast Regional Idea Conference, Bretton Woods, NH. August 16, 2019.
6. Session chair: National IDeA Symposium of Biomedical Research Excellence mini-symposium on Translational Research, Washington DC. June 22, 2020. (Canceled due to COVID quarantine).
7. Invited Speaker: American Chemical Society, Fall 2022, Chicago IL. "Attachment of fungal cell wall proteins to the carbohydrate cell wall". August 23, 2022, online.

## RESEARCH GRANTS

1. **1996-1998** NIDDK/NIH (PI) Individual National Research Service Award (Postdoctoral) F32DK009427: Co-culture of Epithelial cells and Mucosal Lymphocytes. \$60,673 total
2. **2000-2002** NIDDK/NIH (PI) K01 Mentored Scientist Research Award K01DK002798: Vascular-Endothelial Cadherin Function in Inflammation. \$285,120 total.
3. **2004-2013** NCRR/NIH (Associate Core Director) COBRE for Perinatal Biology P20RR018728: Molecular Biology and Histology Core \$14,721,484 total
4. **2007** Rhode Island Foundation (PI). Cytoskeletal remodeling in leukocyte transendothelial migration. \$20,000 total
5. **2008-2010** NCRR/NIH (PI) P20RR018728: COBRE Pilot Project. Uterine NK cell homing from the peripheral circulation. \$392,655 total
6. **2009-2012** NHLBI/NIH (PI) R21HL093561: Cytoskeletal Regulation of endothelial barrier function by WAVE2. \$408,100 total
7. **2015-2016** NIGMS/NIH (Core Director) P30GM114750. Imaging and Molecular Core for the COBRE for Perinatal Biology. \$739,838 direct \$328,289 indirect \$1,068,127 total
8. **2015-2016** Oh-Zopfi Award (PI). Adhesion mechanisms of *Candida parapsilosis* to blood vessel walls. \$20,000 direct

9. **2016-2017** Oh-Zopfi Award (PI). Endothelial internalization of *Candida parapsilosis* during bloodstream infections.  
\$25,000 direct
10. **2017-2022** NIGMS/NIH (Program Director) P30GM114750. COBRE for Perinatal Biology.  
\$2,568,254 direct \$1,353,644 indirect \$3,391,041 total
11. **2017-2018** Oh-Zopfi Award (PI). Phagocytosis mechanisms for *Candida parapsilosis*.  
\$15,000 direct
12. **2018-2019** Oh-Zopfi Award (PI). Bioinformatic approach to identifying potential virulence pathways of *Candida parapsilosis*.  
\$20,000 direct
13. **2019-2020** Oh-Zopfi Award (PI). Bioinformatic and glycomic approach to identifying potential virulence pathways of *Candida parapsilosis*.  
\$20,000 direct.

#### UNIVERSITY TEACHING ROLES

Bio 283 Biology of the Cell, Guest Lecturer, 2008, 2011

Bio 1870 Techniques and Clinical Applications in Pathobiology, Guest Lecturer, 2017, 2019

Kilguss Research Core Director, 2004-present. I have taught over 250 undergraduates, graduate students, pre-clinical, medical students, residents, postdocs, technicians and Principal Investigators over the past 18 years at Brown. I teach an average of 6 undergraduate students and 1-2 graduate students every year. Teaching includes use of core equipment, experimental design, setting scientific and career goals and general mentoring. I have developed an immersive 8 week summer laboratory course in practical CRISPR gene engineering for undergraduates.

Research Mentor for Clinical Fellows:

Diana Vargas, MD 2011-2014

Pritha Nayak, MD 2012-2015

PhD Thesis Committees:

Hyeran Kang 2009-2010 (Biomedical Engineering)

Jingjing Wang 2009-2011 (Biomedical Engineering)

Noelle Hutchins 2009-2013 (Pathobiology)

Jennifer Linden 2008-2012 (Pathobiology)

Research Mentor for undergraduates and dental student:

Stephen Betit 2007-2008 Brown UTRA program and Honors Thesis

Connie Trieu 2010-2011 Brown Undergraduate Honors Thesis  
Denny Kim 2013-2014 Brown SRA program and Honors Thesis  
Kyle Glass 2015 Boston University Dental School Intensive Research Elective Course  
Evan Chernov 2017-2018 Brown UTRA program and Honors Thesis  
Brenden Vadenais 2018 summer student University of Rhode Island  
Abigail Cuevas 2018-2019 Brown UTRA program and Undergraduate Honors Thesis  
Howida Tarabzooni 2019 Brown Graduate Biotech  
Lauren Jacoby 2020-2022 Brown Undergraduate Honors Thesis  
Anna Rezk 2021-2022 UTRA program and Honors Thesis  
Julian Ramprashad 2022 UTRA Summer Student  
Onyx Richards 2022 UTRA summer student  
Aseel Rafat 2022 summer undergraduate student

#### HOSPITAL TEACHING ROLES

As Chemical Hygiene Officer for the Kilguss Institute, I run the Lab Safety Program. This included writing an Institute-wide Chemical Hygiene Plan, and teaching Lab Safety in 4-6 Annual Training sessions for between 15 and 20 students per year. Sessions last around 90 minutes each, comprising of a presentation, question and answer session, and multiple-choice quiz. Additionally, I provide an annual lab safety exam and ongoing certification to 35-50 researchers at the Kilguss Institute.