

Sargurunathan Subashchandraboese

Assistant Professor
Department of Veterinary Pathobiology
College of Veterinary Medicine and Biomedical Sciences
Texas A&M University
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EDUCATION

PhD Comparative Medicine and Integrative Biology *August 2006 – May 2011*
College of Veterinary Medicine, Michigan State University, East Lansing, MI
Mentor: Dr. Martha Mulks, Professor

BVSc Bachelor of Veterinary Science (equivalent to **DVM**) *October 2000 – December 2005*
Madras Veterinary College, Tamil Nadu Veterinary and Animal Sciences University, Chennai, India

EMPLOYMENT

Assistant Professor *August 2018 – Present*
Department of Veterinary Pathobiology, College of Veterinary Medicine and Biomedical Sciences
Texas A&M University, College Station, TX

Assistant Professor *October 2015 – July 2018*
Department of Microbiology and Immunology, Wake Forest School of Medicine, Winston-Salem, NC

TRAINING

Post-doctoral Fellow in the laboratory of Dr. Harry Mobley *June 2011 – September 2015*

Research Scholars Fellow, American Urological Association *June 2012 – June 2014*

Department of Microbiology and Immunology, University of Michigan Medical School, Ann Arbor MI

Graduate Research Assistant in the laboratory of Dr. Martha Mulks *January 2007 – May 2011*

Department of Microbiology and Molecular Genetics, Michigan State University, East Lansing, MI

ACADEMIC AND PROFESSIONAL HONORS

- 2018 ASM Outstanding Abstract Award for my **trainee, Amanda Hyre**
- 2016 **Daryl and Marguerite Errett Discovery Award** in Biomedical Research
- 2014 Travel Award, American Urological Association
- 2013 Travel Award, American Urological Association
- 2012 **Research Scholars Fellow**, American Urological Association
- 2011 **Best Poster Award**, Midwest Microbial Pathogenesis Conference
- 2010 Best Oral Presentation, American Society for Microbiology MI Branch
- 2010 **Kadner Institute Fellow**, American Society for Microbiology
- 2010 Dissertation Fellowship, Michigan State University

- 2010 **Rudolf Hugh Fellowship**, Michigan State University
- 2010 Best Oral Presentation, Michigan State University
- 2009 Summer Research Fellowship, Michigan State University
- 2008 **Student Travel Award**, International Pasteurellaceae Society, Italy
- 2008 Student Travel Award, Michigan State University
- 2006 **Valedictorian**, 26 gold medals for academic excellence in **BVSc** program, Tamil Nadu Veterinary and Animal Sciences University, India
- 2006 Best outgoing student award in the class of 2005, Tamil Nadu Veterinary and Animal Sciences University, India
- 2000 **Merit Scholarship**, 2005 – 2005
Tamil Nadu Veterinary and Animal Sciences University, India

PUBLICATIONS

Primary Research

1. Nagpal R, Wang S, Ahmadi S, Hayes J, Gagliano J, **Subashchandrabo** S, Kitzman DW, Becton T, Read R and Yadav H. 2018. Human-origin probiotic cocktail increases short-chain fatty acid production via modulation of mice and human gut microbiome. *Sci. Rep.* doi:10.1038/s41598-018-30114-4
2. Packiriswamy N, Gandy J, Smith SN, Mobley HL, Sordillo LM, and **Subashchandrabo** S. 2017. Distinct Signature of Oxylipid Mediators of Inflammation During Infection and Asymptomatic Colonization by *E. coli* in the Urinary Bladder. *Mediators Inflamm.* doi: 10.1155/2017/4207928.
3. Sintsova A, Smith SN, **Subashchandrabo** S, and Mobley HL. 2017. Role of Ethanolamine Utilization Genes in Host Colonization During Urinary Tract Infection. *Infect. Immun.* doi: 10.1128/IAI.00542-17.
4. **Subashchandrabo** S, Filho ERP, Donati GL. 2017. Trace Element Analysis of Urine by ICP-MS to Identify Urinary Tract Infection. *J. Anal. At. Spectrom.* doi: 10.1039/C7JA00141J.
5. Hyre AN, Kavanagh K, Kock ND, Donati GL, and **Subashchandrabo** S. 2017. Copper Is a Host Effector Mobilized to Urine during Urinary Tract Infection to Impair Bacterial Colonization. *Infect. Immun.* doi: 10.1128/IAI.01041-16
6. **Subashchandrabo** S, Smith SN, DeOrnellas V, Crepin S, Zahdeh C, Kole MM, and Mobley HL. 2015. *Acinetobacter baumannii* Genes Required for Bacterial Survival During Bloodstream Infection. *mSphere.* doi: 10.1128/mSphere.00013-15.
7. Brumbaugh AR, Smith SN, **Subashchandrabo** S, Himpsl SD, Hazen TH, Rasko DA, and Mobley HL. 2015. Blocking Yersiniabactin Attenuates Extraintestinal Pathogenic *Escherichia coli* in Cystitis and Pyelonephritis and is a Novel Target to Prevent Urinary Tract Infection. *Infect. Immun.* doi: 10.1128/IAI.02904-14.
8. ***Subashchandrabo** S, Hazen TH, Brumbaugh AR, Himpsl SD, Smith SN, Ernst RD, Rasko DA, and Mobley HL. 2014. Host-specific Induction of *Escherichia coli* Fitness Genes During Human Urinary Tract Infection. *Proc. Natl. Acad. Sci. USA.* doi: 10.1073/pnas.1415959112.
*Highlighted in *Nat. Rev. Urology.* doi: 10.1038/nrurol.2014.366.

9. **Subashchandrabo** S, Smith SN, Spurbeck RR, Kole MM, and Mobley HL. 2013. Genome-wide Detection of Fitness Genes in Uropathogenic *Escherichia coli* During Systemic Infection. *PLoS Pathog.* doi: 10.1371/journal.ppat.1003788.
10. **Subashchandrabo** S, Hazen TH, Rasko DA, and Mobley HL. 2013. Draft Genome Sequences of Five Recent Human Uropathogenic *Escherichia coli* Isolates. *Pathog. Dis.* doi: 10.1111/2049-632X.12059.
11. **Subashchandrabo** S, Leveque RM, Kirkwood RN, Kiupel M, and Mulks MH. 2013. The RNA Chaperone Hfq Promotes Fitness of *Actinobacillus pleuropneumoniae* During Porcine Pleuropneumonia. *Infect. Immun.* doi: 10.1128/IAI.00392-13.
12. **Subashchandrabo** S, Leveque RM, Kirkwood RN, Kiupel M, and Mulks MH. 2009. Branched-chain Amino Acids are Required for the Survival and Virulence of *Actinobacillus pleuropneumoniae* in Swine. *Infect. Immun.* doi: 10.1128/IAI.00671-09.

Book Chapters and Reviews

1. **Subashchandrabo** S and Mobley HL. 2015. Back to the Metal Age: Battle for Metals at the Host-Pathogen Interface During Urinary Tract Infection. *Metallomics.* doi: 10.1039/C4MT00329B.
2. ***Subashchandrabo** S and Mobley HL. 2015. Virulence and Fitness Determinants of Uropathogenic *E. coli*. *Microbiology Spectrum.* doi: 10.1128/microbiolspec.UTI-0015-2012.
*Also published as a chapter in *Urinary Tract Infections – Molecular Pathogenesis and Clinical Management* 2nd edition, ASM Press 2017, Edited by Mulvey, Klumpp and Stapleton (Chapter 12, pages 235-262)

RESEARCH SUPPORT

Current

Title. Copper is a Host Effector Involved in Protection Against Urinary Tract Infection
PI. Sargurunathan Subashchandrabo
Agency. NIDDK, NIH (DK114224A1)
Mechanism. R01
Direct Cost. 228,000/year
Duration. 12/2017-11/2022

Title. Harnessing Copper to Impede Uropathogen Colonization
PI. Sargurunathan Subashchandrabo
Agency. NIAID, NIH (AI135645)
Mechanism. R21
Direct Cost. 275,000/2 years
Duration. 05/2018-04/2020

Completed

Title. Developing a Vervet Monkey Model of Urinary Tract Infection
PI. Sargurunathan Subashchandrabo
Agency. CTSI, Wake Forest School of Medicine 2016

Title. Copper Dagger: A Novel Weapon Against Urinary Tract Infection
PI. Sargurunathan Subashchandrabo
Agency. Errett Fisher Foundation 2016-2017

Title. Impact of SGLT2 Inhibitor Treatment on the Urine Microbiome and Urinary Tract Health
PI. Sargurunathan Subashchandrabo
Agency. Center for Diabetes, Obesity and Metabolism 2016-2017

Title. Genome-wide Identification of Fitness Genes in *Acinetobacter baumannii* During Systemic Infection
PI. Harry Mobley
Role. Developed the project and the R21 application
Agency. NIAID, NIH 2014-2016
 Could not be a Co-I due to the postdoctoral fellowship requirement on not having concurrent grants.

Title. Identification of Genes Expressed in Uropathogenic *E. coli* During Human Infections
Role. PI, Research Scholars Fellow
Agency. American Urological Association 2012-2014
 This highly competitive and prestigious postdoctoral fellowship provided salary support (100%) and travel expenses for meetings and career development events. I have published two primary research articles and a review article during this funding cycle.

Title. Role of the RNA chaperone Hfq in *Actinobacillus pleuropneumoniae* infection
PI. Martha Mulks
Role. Co-PI (developed the research proposal)
Agency. Michigan State University CVM Endowed Research Funds 2010-2011
 I wrote the grant, designed experiments, analyzed data, wrote the manuscript and published the findings.

SERVICE

GRANT REVIEWER-NIH

2018 DKUS G 90, Urology and Urogynecology SBIR STTR, November Meeting
 2018 DKUS G 90, Urology and Urogynecology Applications, June Meeting
 2018 DKUS G 90, Urology and Urogynecology Applications, February Meeting
 2017 DKUS G 90, Urology and Urogynecology Applications, October Meeting

INSTITUTIONAL COMMITTEES

2019 Member, Infectious Diseases Faculty Search Committee, Texas A&M University
 2019 Interviewer for DVM Program Applicants, Texas A&M University
 2019 Interviewer for BIMS Graduate Program Applicants, Texas A&M University
 2018-Present Member, Pathobiology Faculty Mentoring Program Committee, Texas A&M University
 2017-Present Member, Bacteriology Faculty Recruitment Committee, Wake Forest School of Medicine
 2017-Present Member, Animal Care and Use Committee, Wake Forest School of Medicine

- 2017 Chair, Faculty Retreat Organizing Committee, Wake Forest School of Medicine
2016-Present Member, Faculty Representative Council, Wake Forest School of Medicine
2016 Member, Faculty Retreat Organizing Committee, Wake Forest School of Medicine

JOURNAL CLUB ORGANIZER

2019-Present Bacteriology Journal Club at Texas A&M University

Forum to discuss current articles on bacterial pathogenesis, host response, and antimicrobial resistance for trainees and Faculty working in related areas.

OTHER SERVICE TO COLLEGE AND UNIVERSITY

2019 Judge, BIMS Graduate Student Poster Presentations, Texas A&M University

2019 HATCH grant reviewer for Dr. Vishal Gohil,
Department of Biochemistry and Biophysics, Texas A&M University

REVIEWER FOR JOURNALS

Journal of Clinical Microbiology, Frontiers in Microbiology, Future Microbiology, Scientific Reports, Journal of Clinical Investigation Insight, Journal of Virology, PLoS ONE

EDITORIAL BOARDS

Frontiers in Microbiology

TEACHING EXPERIENCE

Course Director, **Bacteria in Health and Disease** VTMI 689
Spring 2019, Texas A&M University

Course Director, **Fundamentals of Bacteriology** MCB 732
Spring 2018, Wake Forest School of Medicine

Lecturer, **Bacterial Genetics** MCB 701
Fall 2017, Wake Forest School of Medicine

Discussion Leader, **Advanced Topics** MICR 749
Fall 2016 & 2017, Spring 2018 Wake Forest School of Medicine

Lecturer, **Bacteriology** MCB 702
Spring 2016, 2017 & 2018, Wake Forest School of Medicine

Lecturer, **Fundamentals of Bacteriology** MCB 732
Spring 2016 & 2017, Wake Forest School of Medicine

Guest lecturer in **Bacterial Pathogenesis** course
Fall 2014, Eastern Michigan University

Guest lecturer in **Use and Care of Animals in Research Module** PIBS 503
Fall 2014, University of Michigan

Graduate Teaching Assistant for **Advanced Microbial Genomics Laboratory** MMG434
Spring 2010 Michigan State University

Graduate Teaching Assistant for **Introduction to Cells and Molecules Laboratory** BS111L
Fall 2007 and Spring 2009, Michigan State University

Graduate Teaching Assistant for **Medical School Microbiology Laboratory Courses** at Michigan State University

Microbiology and Immunology for I Year MMG522 (Spring 2008, 2009, 2010)

Infectious Diseases for II Year HM511 (Fall 2007, 2008, 2010)

Pulmonary Domain for II Year HM525 (Spring 2008, 2009, 2010)

Digestive Domain for II Year HM528 (Spring 2007, 2008, 2010)

MENTORING EXPERIENCE

Graduate Students

Doctoral Degree

2019-Present Kaitlin Casanova, PhD student, Texas A&M University

2016-Present Amanda Hyre, PhD student, Wake Forest School of Medicine

Masters' Degree

2018-Present Aswin Hanagal, MS student, Texas A&M University

2013-2014 Carina Zahdeh, MS student, University of Michigan

Post-doctoral Fellow

2017-2018 Jamie Jennings-Gee PhD, Wake Forest School of Medicine

Staff Scientist

2019-present Panatda Saenkham PhD, Texas A&M University

Residents and Visiting Clinicians

2016-2018 Negar Motayaghani, MD, Visiting Clinician, Wake Forest School of Medicine

2015-2016 W. Keith Ballentine, MD, Resident, Wake Forest School of Medicine

Medical Students

2018 Summer Aman Irfanullah, Wake Forest School of Medicine

Rotation Students

2019 Spring Kaitlin Casanova, Rotation Student, Texas A&M University

2018 Fall Christian Mitchell, Rotation Student, Texas A&M University

2017 Fall	Allison Meyers, Rotation Student, Wake Forest School of Medicine
2017 Spring	Kacy Yount, Rotation Student, Wake Forest School of Medicine
2016 Fall	Meghan Ariel Spurrier, Rotation Student, Wake Forest School of Medicine

Undergraduate Students and Interns

2018-present	Chaitali Botcha, Undergraduate Student, Texas A&M University
2017-2018	Claudia Costa, Undergraduate Student, Wake Forest University
2017-2018	Ethan SESCO, Undergraduate Student, Wake Forest University
2017 January	Katherine Banick, Intern, Salem College
2016 Summer	Kevin Zhou, Undergraduate Student, University of North Carolina, Chapel Hill
2015-2018	Peter Michael, Undergraduate Student, Wake Forest University
2015-2018	Noah Eggers, Undergraduate Student, Wake Forest University
2013-2015	Maria Konja, Pre-Med Undergraduate student, University of Michigan
2012-2013	Monica Kole, Pre-Med Undergraduate student, University of Michigan
2010-2011	Karin Dionne, Pre-Vet Undergraduate student, Michigan State University
2009-2010	Tim Stachelski, Pre-Med Undergraduate student, Michigan State University

Peer Mentoring. Founding member of a group for research fellows at the University of Michigan to discuss career development in academia.

SCIENTIFIC PRESENTATIONS

Invited Seminars

- 2019 Clinical and Scientific Advances in Urinary Tract Infection
Columbus, OH *Scheduled*
- 2019 Department of Microbiology
University of Tennessee, Knoxville, TN
- 2018 Department of Microbial Pathogenesis and Immunology
Texas A&M University, College Station, TX
- 2018 ASM Microbe 2018 (Previously ASM General Meeting)
Atlanta, GA
- 2018 FASEB Conference on Trace Elements in Biology and Medicine
Lake Tahoe, CA
- 2018 Department of Population Health and Pathobiology
North Carolina State University, Raleigh, NC
- 2018 Section on Comparative Medicine, Department of Pathology
Wake Forest School of Medicine, Winston-Salem, NC

- 2018 *Student Invited speaker*
Department of Pathology, Microbiology and Immunology
Vanderbilt University Medical Center, Nashville, TN
- 2017 Department of Veterinary Pathobiology
College of Veterinary Medicine, Texas A&M University, College Station, TX
- 2017 Non-human Primates in Mucosal Immunology Research Symposium
Wake Forest School of Medicine, Winston-Salem, NC
- 2017 Gordon Research Conference on Cell Biology of Metals
West Dover, VT (selected from submitted abstracts)
- 2017 Section on Molecular Medicine, Department of Internal Medicine
Wake Forest School of Medicine, Winston-Salem, NC
- 2016 Grand Rounds, Department of Urology
Wake Forest School of Medicine, Winston-Salem, NC
- 2015 Department of Microbiology and Immunology
Wake Forest School of Medicine, Winston-Salem, NC
- 2015 Department of Plant Pathology and Microbiology
University of California, Riverside, CA
- 2015 Department of Microbiology and Immunology
Wake Forest School of Medicine, Winston-Salem, NC
- 2015 Department of Cell Biology, Microbiology and Molecular Biology
University of South Florida, Tampa, FL
- 2014 American Urological Association-North Central Section
Chicago, IL
- 2012 American Society for Microbiology General Meeting
San Diego, CA (selected from submitted abstracts)
- 2008 International Pasteurellaceae Society Meeting
Sorrento, Italy (selected from submitted abstracts)

Oral Presentations

- 2015 Wake Forest Primate Research Center, Winston-Salem, NC
- 2015 Dept. of Microbiology and Immunology, University of Michigan, Ann Arbor, MI
- 2014 Dept. of Microbiology and Immunology, University of Michigan, Ann Arbor, MI
- 2012 Dept. of Microbiology and Immunology, University of Michigan, Ann Arbor, MI
- 2011 Dept. of Microbiology and Immunology, University of Michigan, Ann Arbor, MI
- 2010 ***College of Veterinary Medicine, Michigan State University, East Lansing, MI**
- 2010 Dept. of Microbiology and Molecular Genetics, Michigan State University, East Lansing, MI
- 2010 Kadner Institute, American Society for Microbiology, East Lansing, MI
- 2010 ***American Society for Microbiology-Michigan branch Meeting, East Lansing, MI**

- 2009 Graduate Program Retreat, Michigan State University, East Lansing, MI
2009 Dept. of Microbiology and Molecular Genetics, Michigan State University, East Lansing, MI
2007 College of Veterinary Medicine, Michigan State University, East Lansing, MI

Poster Presentations

- 2016 American Society for Microbiology General Meeting, Boston, MA
2015 American Society for Microbiology General Meeting, New Orleans, LA
2014 American Urological Association Annual Meeting, Orlando, FL
2013 American Urological Association Annual Meeting, San Diego, CA
2013 American Society for Microbiology General Meeting, Denver, CO
2011 **Midwest Microbial Pathogenesis Conference, Ann Arbor*, MI**
2010 American Society for Microbiology General Meeting, San Diego, CA
2009 College of Veterinary Medicine, Michigan State University, MI
2008 College of Veterinary Medicine, Michigan State University, MI
2008 **International Pasteurellaceae Society Meeting, Italy***
2008 Midwest Microbial Pathogenesis Conference, Madison, WI

*Best Abstract/Poster/Presentation Award

MEMBERSHIP IN PROFESSIONAL SOCIETIES

- 2007-Present American Society for Microbiology
2005-Present Indian Veterinary Society