

Rush Mentoring Programs Sixth Annual Symposium

Sept. 9-10, 2020

Virtual Podium Presentations (Zoom): Noon to 3:30 p.m.

Virtual Poster Session (VoiceThread - Asynchronous): Sept. 9 at 3:30 p.m. to Sept. 10 at 5 p.m.

Office of Faculty Affairs
Office of Mentoring Programs

Noon - 12:05 p.m. Introductory Remarks

Susan Chubinskaya, PhD

Vice Provost

Office of Faculty Affairs

12:05 - 12:35 p.m. Keynote Speaker

Joshua J. Jacobs, MD

William A. Hark, MD/Susanne G. Swift Professor and Chairman

Department of Orthopedic Surgery

Vice Dean for Research

Rush Medical College

2020 Cohn Fellow Presentations

12:35 - 12:50 p.m. Opioid and Pancreatic Cancer

Faraz Bishehsari, MD, PhD

Associate Professor of Medicine and the Graduate College

Director, GI Translational Unit

Division of Digestive Diseases

Rush University Medical Center

12:50 - 1:05 p.m. Secretion of the Epithelial Sodium Channel Chaperone PCSK9 From the Cortical Collecting Duct Links Sodium Retention With Hypercholesterolemia in Nephrotic Syndrome

Lionel C. Clement, PhD

Assistant Professor

Department of Internal Medicine

Rush Medical College

1:05 - 1:20 p.m. Computerized Cognitive Training for Individuals At Risk for Psychosis

Kristen Haut, PhD

Assistant Professor

Department of Psychiatry and Behavioral Sciences

Rush Medical College

1:20 - 1:35 p.m. A Photon Scatter Imaging System to Guide Radiation Therapy of Lung Cancer

Kevin C. Jones, PhD

Assistant Professor

Department of Radiation Oncology

Rush Medical College

1:35 - 1:50 p.m. A Telehealth Delivered Intervention to Influence Adaptive Behavior Among Children with Autism

Lauren M. Little, PhD, OTR/L

Associate Professor

Department of Occupational Therapy

College of Health Sciences

1:50 - 2:05 p.m. Identifying and Addressing Mental Health Disparities in the Era of COVID-19

Dominika A. Winiarski, PhD

Assistant Professor

Department of Psychiatry and Behavioral Sciences

Rush Medical College

2:05 - 2:20 p.m. Award Announcements (2020 Mentee, Mentor and Postdoctoral Mentor of the Year)

2:20 - 2:30 p.m. Break

Abstract Winner Presentations

2:30 - 2:45 p.m.

Brain and Dietary Copper, Cognitive Decline and Alzheimer's Disease Neuropathology: A Community-Based Study

Puja Agarwal, PhD

Assistant Professor

Department of Internal Medicine

Rush Medical College

2:45 - 3 p.m.

Diabetes Alters Trabecular Bone Structure In A Rat Femoral Implant Model

Kyle D. Anderson, MS

Graduate Student in Dr. Ryan Ross's Laboratory

Department of Cell and Molecular Medicine

Rush Medical College

3 - 3:15 p.m.

Intramembranous Bone Regeneration is Accelerated in Constitutively Active LRP5 Mutant Mice

Frank C. Ko, PhD

Assistant Professor

Department of Cell and Molecular Medicine

Rush Medical College

3:15 - 3:30 p.m.

Accelerated suPAR Mediated Kidney Disease in the Solitary Functioning Kidney

Xuexiang Wang, MD, PhD

Postdoctoral Fellow/Medical Resident

Department of Internal Medicine

Rush Medical College

Virtual Poster Session – VoiceThread (Asynchronous)

3:30 p.m. (Sept. 9) to 5 p.m. (Sept. 10)



Award Winners



2020 Mentee of the Year

Shannon Halloway, PhD, RN

Assistant Professor

Department of Community Systems and Mental Health Nursing

College of Nursing

Awarded by the Rush Research Mentoring Program in recognition of excellence in scholarly work, leadership and involvement in the Mentoring Program

From nominator JoEllen Wilbur, PhD, APN, FAAN:

It is my pleasure to very highly recommend Dr. Shannon Halloway for the Mentee of the Year. Shannon's outstanding scholarly accomplishments as a young scholar make her an ideal candidate for this award.

Dr. Halloway has been incredibly committed to Rush University, starting from her doctoral studies as a BSN-to-PhD student in the College of Nursing, where she served as a research and teaching assistant. She has shown enormous contributions to the University as a postdoctoral fellow and now as an assistant professor. Dr. Halloway's commitment to Rush goes beyond her scholarly efforts, with involvement in many levels of service. She is an effective leader and successfully manages her growing research team to implement her studies. She brings commitment to the health of older women, excellent writing and organizational skills, and in-depth knowledge of integrative reviews, community-based research and lifestyle health behaviors in older women.

Her impressive trajectory so far can truly be complemented by additional education, experience, and networking focused on conducting research with the older adult population, in particular as a way to establish relations with the National Institute on Aging and aging experts. Thus, she is well-suited to receive the Mentee of the Year Award. She is truly a rising star destined to be a leader in health behavior change of older women, shaping practice, research and policy.



2020 Mentor of the Year

Ali Keshavarzian, MD, FRCP, FACP, MACG, AGAF

Josephine M. Dyrenforth Chair of Gastroenterology

Professor of Medicine and the Graduate College

Director, Division of Digestive Diseases and Nutrition

Director, Institute for Advanced Study of the Gut, Chronobiology and

Inflammation Interim Section Chief of the Section of Community Epidemiology

Physician-Scientist, Section of Gastroenterology

Awarded by the Rush Research Mentoring Program in recognition of outstanding contributions to mentees success, commitment and involvement in the Mentoring Program

From nominator Niranjan S. Karnik, MD, PhD:

Dr. Keshavarzian or Kesh, as many of his mentees refer to him, is an outstanding example of an excellent mentor. In addition to being an excellent clinician, he has been funded by the NIH since 1987 (some of his trainees hadn't even been born). He juggles his roles as clinician, scientist and mentor with humor and great energy. At a time in his life when he could easily retire to a life of comfort, he recently said, "Oh, no. I could not do that — I still have another R01 in me," and on he goes. I always marvel at the way that he can give critical feedback while making the trainee feel supported and cared for. This is an incredibly important skill. I have learned and am continuing to learn from Kesh on how to be a successful mentor and to help my trainees achieve success.

His trainees have gone on to academic careers at Rush and other peer institutions. This is perhaps his greatest achievement. One of his recent trainees, who is doing a collaborative project with myself and Kesh, told me that it is impossible to say no to him because he is truly such a nice person.

From nominator Mahboobeh Mahdavinia, MD, PhD, FAAAAI:

Dr. Keshavarzian is a passionate researcher and mentor. He gets excited about any scientific phenomenon and makes me feel the same. This has been the key in my continuous scientific and academic endeavors. He has introduced me to all my other mentors, collaborators and consultants. He read all the 20 plus research proposals I have written in past few years meticulously.



2020 Postdoctoral Mentor of the Year

Vineet Gupta, PhD

*The Charles Arthur Weaver Chair of Cancer Research
Vice Chair for Innovation, Department of Internal Medicine
Director, Drug Discovery Center*

Awarded by the Rush Postdoctoral Mentoring Program in recognition of outstanding contributions to the postdoctoral fellow's success, commitment and involvement in the Mentoring Program

From nominator Anugraha Rajagopalan, PhD:

Dr. Gupta has a unique style of mentorship. He motivates his lab members by empowering them and letting us own our projects. Dr. Gupta's mentorship is helping me write a full-fledged grant based on my project. He fosters work-life balance, offering support as I juggle work and raising a baby son.

Class of 2020 Cohn Fellows

From left: Lauren M. Little, PhD, OTR/L; Lionel C. Clement, PhD; Kristen Haut, PhD; Faraz Bishehsari, MD, PhD; Dominika A. Winiarski, PhD; and Kevin C. Jones, PhD



Rush Mentoring Programs

Class of 2021 Cohn Fellows

Cohn Fellowship Fosters Faculty Research

The Cohn Family Foundation provides grant funding every year to support junior faculty at Rush University who are mentees in the Rush Research Mentoring Program. The funding allows mentees to gather preliminary data for research proposals.

The following faculty were selected as 2021 Cohn Fellows after a competitive review process:



Vaskar Das, PhD, was recently promoted to assistant professor in the Department of Anesthesiology at Rush Medical College and is participating in research with Asokumar Buvanendran, MD; Jeffrey Kroin, PhD; and Robert J. McCarthy, PharmD.

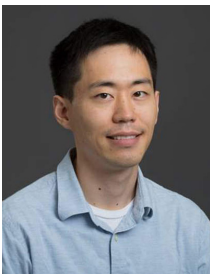
He is currently working on National Institutes of Health-funded pain research as a co-investigator. His research has focused on new non-opioid treatments for acute and chronic pain by following the key energy sensor AMPK (adenosine mono-phosphate activated kinase) and the pain-relieving effect of the ketamine metabolite (2R,6R)-hydroxynorketamine.

His Cohn research will expand to assess the pain-relieving efficiency and mechanisms of AMPK activators in peripheral tissue injury pain. One immediate outcome of this research will be much-needed pharmacological understanding of AMPK activators for low back pain and post-surgical pain.



Klodian Dhana, MD, PhD, is an assistant professor in the Department of Internal Medicine at Rush Medical College. He joined Rush University in July 2018 after completing his postdoctoral training at the Harvard T.H. Chan School of Public Health.

His research focuses on epidemiology and the prevention of chronic diseases. Particularly, he investigates the role of clinical and lifestyle risk factors on cognitive health and Alzheimer's disease. The Cohn Fellowship will allow him to develop a risk prediction model for identifying stroke patients at high risk of cognitive decline and Alzheimer's dementia who can benefit from tailored preventive strategies.



Frank C. Ko, PhD, is an assistant professor in the Department of Cell and Molecular Medicine at Rush Medical College. His research interest is in the musculoskeletal system, with particular emphasis in determining the source and mechanisms of bone regeneration.

He uses the state-of-the-art imaging and genetic approaches to trace several anatomically distinct skeletal stem cells during bone healing. His Cohn research will further expand on this work, which he hopes will enhance our understanding of bone regeneration and lead to the development of novel therapies to improve orthopedic care, such as joint replacement or fracture healing.



Colleen Stiles-Shields, PhD, is an assistant professor in the Section of Community Behavioral Health and the Department of Psychiatry and Behavioral Sciences at Rush Medical College. Her research focuses on using digital mental health technology to improve mental and behavioral health for the pediatric population, particularly for those in underserved communities.

Her Cohn research will focus on determining the unmet mental and behavioral health needs of teenagers living on the West Side of Chicago and assessing their use of smartphones and mobile health tools. The results of this research will inform clinical recommendations and research efforts focusing on adolescents from underserved populations.

continued



Lai Wang, MD, PhD, is an assistant professor in the Division of Rheumatology in the Department of Internal Medicine at Rush Medical College. Her research interest focuses on combining genetic, biochemical, cell and molecular biology approaches to explore underlying mechanisms and innovative interventions in musculoskeletal disorders and injuries.

Her current research in the Laboratory for Translational Research in Osteoarthritis focuses on molecular pathways osteoarthritis pain, as well as the role of intra-articular sensory innervation in onset and progression of osteoarthritis. Her Cohn research project will investigate whether peripheral neuronal Notch signaling contributes to joint pain in a murine surgical model of osteoarthritis.

Rush Mentoring Programs

2020 Graduating Mentees



Faraz Bishehsari, MD, PhD

*Associate Professor of Medicine and the Graduate College
Director, GI Translational Unit
Division of Digestive Diseases
Rush University Medical Center*



Mahboobeh Mahdavinia, MD, PhD, FAACI

*Associate Professor of Medicine and the Graduate College
Chief of the Allergy and Immunology Division
Department of Internal Medicine
Research Director, Rush Center for Sinusitis, Allergies and Asthma
Rush University Medical Center*



Amanda L. Persons, PhD

*Associate Professor
Department of Physician Assistant Studies
College of Health Sciences
Director, Academic Education*



Jitesh Pratap, PhD

*Associate Professor
Department of Cell and Molecular Medicine
Rush Medical College*

Poster Presentations

Rush Medical College

ANESTHESIOLOGY

1. **Das, V. et al.** Adenosine Mono-Phosphate Activated Kinase (AMPK) Activation as a Novel Analgesic Target for Chronic Low Back Pain

CELL AND MOLECULAR MEDICINE

2. **Ferrigno, C. et al.** Individuals With Medial Knee OA Can Improve Knee Loads With Gait Retraining Using Plantar Pressure Based Auditory Feedback — A Longitudinal Feasibility Study
3. **Moran, M. et al.** A Novel Method for Intra-Articular Particle Administration in an In Vivo Model of Osteolysis
4. **Pratap, J. et al.** Novel Regulatory Mechanism of Cytoskeletal Dynamics via Runx2 in Metastatic Breast Cancer Cells
5. **Ross, R. et al. (#1)** The Effect of Sclerostin-Antibody on Dental Pathologies in Hyp Mice
6. **Ross, R. et al. (#2)** Changes in Bone and Fat Derived Hormones Are Correlated With BMD and Body Fat at 12 Months After Initiation of Antiretroviral Therapy in Men With HIV
7. **Wilson, B. et al.** A Proteomic Approach to Identify Novel Serum Biomarkers of Peri-Implant Osteolysis in a Rat Model

INTERNAL MEDICINE

8. **Clement, L. et al.** Secretion of the Epithelial Sodium Channel Chaperone PCSK9 From the Cortical Collecting Duct Links Sodium Retention With Hypercholesterolemia in Nephrotic Syndrome
9. **Geraghty, T. et al.** Immune Characterization of the Dorsal Root Ganglia During Osteoarthritis
10. **Mohamed, M. et al.** Pseudomonas Aeruginosa Exotoxin T Inhibits Inflammatory Responses in Wound by Blocking the Phosphorylation Cascade Through the NLRC4 Inflammasome

MICROBIAL PATHOGENS AND IMMUNITY

11. **Schneider, J. et al.** Enhanced Protection at the Site of Challenge of Rhesus Macaques That Receive PGT121 One Week Prior to Intravaginal Challenge With SHIV-SF162P3

NEUROLOGICAL SCIENCES

12. **Dutta, D. et al.** Reduction of α -Synuclein Spreading via Targeting TLR2/MyD88/NF- κ B Pathway
13. **Oveisgharan, S. et al. (#1)** Association of White Matter Hyperintensity With Late-Life Parkinsonism
14. **Oveisgharan, S. et al. (#2)** Association of Low Systolic Blood Pressure With Postmortem Amyloid- β and Tau
15. **Oveisgharan, S. et al. (#3)** Association of Early Life Cognitive Enrichment With Alzheimer's Disease Pathologic Changes and Cognitive Decline

NEUROSURGERY

16. **David, B. et al.** The Characterization of Age-Related Differences in Inflammatory and Behavioral Responses Following Spinal Cord Contusion in Rats

ORTHOPEDIC SURGERY

17. **Gustafson, J. et al.** Is Assembly Technique or Implant Design Vital to Stability of Modern Total Hip Arthroplasty?
18. **Neto, M. et al.** Microstructural Comparison of Additive Manufactured and Conventional Implants Components Made of Ti6Al4V
19. **Obeidat, A. et al.** Anatomical Distribution of Mrgprd-Expressing Nonpeptidergic C-Fibers in the Mouse Knee
20. **Pourzal, R. et al.** Speciation Analysis of Intra-cellular Metallic Implant Debris Using Synchrotron XRF-Imaging
21. **Radice, S. et al.** Tribocorrosion of a Nickel-Free High Nitrogen Steel vs. LC-CoCrMo in Simulated Synovial Fluids
22. **Samelko, L. et al.** Sex Differences Associated with Th17/IL-17 Serum Biomarker Expression in Orthopedic Populations

PREVENTIVE MEDICINE

23. **Lange-Maia, B. et al.** Impact of Chronic Condition Development on Physical Function Among Women From Mid- to Early Late-Life

PSYCHIATRY AND BEHAVIORAL SCIENCES

24. **Stiles-Shields, C. et al.** User Needs of Teens with Socially Complex Needs: mHealth Experiences of Teens and Caregivers From the West Side Communities of Chicago

Rush Mentoring Programs

Special Thanks

The Cohn Family

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Office of Faculty Affairs

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