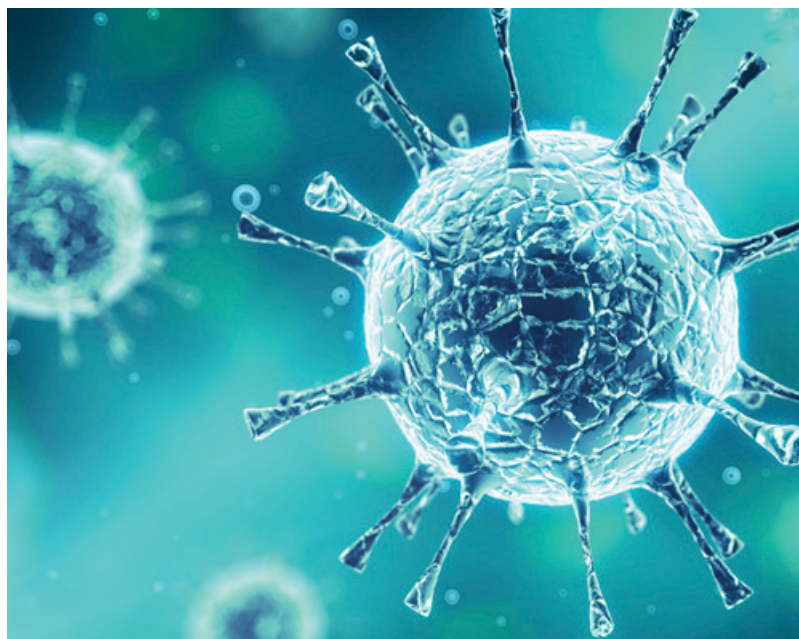




2026 Rush Mentoring Programs Twelfth Annual Symposium

Thursday, Oct. 1, 2026

Podium Presentations

In-Person

Noon to 3:00 p.m.

Brainard

(Searle Conference Center –
5th Floor of Professional
Building)

Networking Reception

In-Person

3:00 p.m. to 5:00 p.m.

Billings/Herrick

(Searle Conference Center –
5th Floor of Professional
Building)

Poster Session

Virtual

Thursday, Oct. 1 at 3:00 p.m.
through Friday, Oct. 2 at 5:00 p.m.

VoiceThread (Asynchronous)

Office of Faculty Affairs
Office of Mentoring Programs

2026 Rush Mentoring Programs

Twelfth Annual Symposium | Oct. 1, 2026

Noon - 12:05 p.m. **Introductory Remarks**

Amarjit S. Virdi, PhD
Director, Rush Mentoring Programs
Office of Faculty Affairs
Rush University

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

Pete S. Batra, MD, FACS, FARS
Henry P. Russe, MD, Dean, Rush Medical College
Senior Vice President
Rush University System for Health

Professor
Department of Otorhinolaryngology - Head & Neck Surgery

2026 Cohn Fellow Presentations

12:35 - 12:50 p.m. **Tracking antimicrobial resistance transmission across multiple high prevalence low- and middle- income settings**

Ahmed Babiker, MBBS, MSc, FIDSA
Assistant Professor
Department of Internal Medicine, Division of Infectious Diseases, Rush Medical College

12:50 - 1:05 p.m. **Evaluation of novel RyR1 stabilizers to improve muscle performance during aging**

Lourdes Carolina Figueroa, PhD
Assistant Professor
Department of Physiology and Biophysics, Rush Medical College

1:05 - 1:20 p.m. **Beyond Daily Cleaning: Evaluating a Continuously Active Disinfectant Against Carbapenemase-Producing Organisms**

Rachel Medernach, MD, MSCI
Assistant Professor
Department of Internal Medicine, Division of Infectious Diseases, Rush Medical College

1:20 - 1:35 p.m. **Salivary Cortisol and Cognitive Decline and Alzheimer Disease in Older Adults**

Ted K.S. Ng, PhD
Assistant Professor
Rush Institute for Healthy Aging, Department of Internal Medicine, Rush Medical College

1:35 - 1:50 p.m. **Award Announcements** **2026 Mentee, Mentor and Postdoctoral Mentor of the Year**

1:50 - 2:00 p.m. **Break**

2026 Abstract Winner Presentations

- 2:00 - 2:15 p.m.** **Therapy-induced AR-B7-H3 axis drives immune exclusion and adaptive resistance in melanoma**
Adrian Mansini, PhD
Assistant Professor
Departments of Dermatology and Urology, Rush Medical College
- 2:15 - 2:30 p.m.** **Lysostaphin-encoding mRNA as a novel tool to target *Staphylococcus aureus***
Adrienn Markovics, MD, PhD
Assistant Professor
Department of Internal Medicine, Division of Rheumatology, Rush Medical College
- 2:30 - 2:45 p.m.** **Design and development of a novel therapeutic peptide targeting $\alpha v \beta 3$ integrin in proteinuric kidney diseases.**
Alexis Paulina Jimenez-Urbe, DVM, MS, PhD
Postdoctoral Fellow
Department of Internal Medicine, Division of Nephrology, Rush Medical College
- 2:45 - 3:00 p.m.** **Depletion of renal cortical collecting duct-secreted PCSK9 in early proteinuria prevents sustained nephrotic syndrome-related hypercholesterolemia**
Itzel Pamela Zavala-Guevara, PhD
Postdoctoral Fellow
Department of Internal Medicine, Division of Nephrology, Rush Medical College
- 3:00 - 5:00 p.m.** **Posters and Networking Reception - In Person (Billings/Herrick)**
- Starts at 3:15 p.m.** **Virtual Poster Session - VoiceThread (Asynchronous)**
Thursday, Oct. 1 at 3:00 p.m. through Friday, Oct. 2 at 5:00 p.m.

Rush Mentoring Programs

Class of 2026 Cohn Fellows

Ahmed Babiker, MBBS, MSc, FIDSA

Assistant Professor
Department of Internal Medicine
Division of Infectious Diseases
Rush Medical College



Rachel Medernach, MD, MSCI

Assistant Professor
Department of Internal Medicine
Division of Infectious Diseases
Rush Medical College



Lourdes Carolina Figueroa, PhD

Assistant Professor
Department of Physiology and
Biophysics
Rush Medical College



Ted K.S. Ng, PhD

Assistant Professor
Rush Institute for Healthy Aging
Department of Internal Medicine
Rush Medical College

2026 Award Winners



2026 Mentee of the Year

Sarah Sansom, DO

Assistant Professor
Department of Internal Medicine
Division of Infectious Diseases
Rush Medical College

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

Nominated by **Mary Hayden, MD, Ahmed Babiker, MBBS, MSc, FIDSA and Rachel Medernach, MD, MSCI:**

Sarah Sansom, DO, is an exemplary mentee. She is smart, curious, focused and open to feedback. These characteristics have helped her research knowledge and skills to improve rapidly.

Over the past four years, she has become proficient in identifying and posing strong hypotheses and designing studies and experiments to test them. She has learned to use bioinformatics pipelines to analyze genomic data and has become proficient in statistical analyses to integrate genomic and clinical data into informative models of infectious diseases transmission.

She also mentors earlier stage investigators, including medical students, residents and infectious diseases fellows. Her mentees have praised her ability to help them complete and publish projects. In the past year alone, Sansom's mentees have accomplished:

- *A resident mentee presented a poster at a national scientific meeting*
- *A medical student mentee – who was also a recipient of an Infectious Diseases Society of America (IDSA) medical student research scholarship – published a paper in a peer review journal*
- *Two fellow mentees each presented oral or poster abstracts at national meetings and converted the abstracts to peer-reviewed publications.*

Sansom has also submitted K23 and R03 applications to NIH. She was co-investigator and major contributor to a NIH R21 application. Sansom is currently a co-investigator on a CDC U01 award and on an NIAID R01 award. She is PI on a current K award through the University of Chicago's CTSA. Sansom has published six original research publications in the last year, including two on which she was first author and two on which she was senior author.

Sansom has been invited to speak at multiple events. This includes the plenary session of the Society for Healthcare Epidemiologists of America annual scientific meeting on the top ten papers published in infection prevention in the past year. She was also invited to speak at the annual meeting of the National Association of Long-Term Hospitals and at IDWeek 2025, the annual national scientific meeting of the IDSA.

Sansom has also continued her inpatient clinical responsibilities and teaches in a didactic lecture series for Rush ID fellows.

Sansom's focus, drive and commitment to research, in addition to her outstanding communication ability and early commitment to training the next generation of researchers, are her most impressive characteristics. Sansom exemplifies the meaning of physician-scientist and embodies the spirit of excellence the Rush Research Mentoring Program strives to foster.

2026 Award Winners



2026 Mentor of the Year

Tricia Johnson, PhD

Professor

Department of Health Systems Management

College of Health Sciences

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

Nominated by **John Martin, PhD:**

As a junior musculoskeletal researcher whose training centers on imaging and deep learning rather than health equity, I came to Tricia Johnson, PhD, with an idea about the social determinants of low back pain and she has helped me navigate a new field of research. I have worked with many mentors in my academic career and Johnson is easily the most generous, dedicated and supportive.

When I first approached Johnson, I was working to understand why the low back pain disparities we observed in our computational models tracked more closely with socioeconomic factors than the canonical biomedical correlates of pain. I did not have a background in health equity research nor a model for how to pursue these findings. Johnson took the time to sit with my half-formed ideas and has been incredibly thoughtful and encouraging. She never makes me feel behind for not knowing the field but treats my outside perspective as an asset and coaches me on the analytic discipline that health equity research requires.

Johnson is very generous. She met me early on whenever I asked with no expectations. She met with my trainees as well. She reads drafts closely and returns insightful comments to help fill in holes in our analysis. She is candid when my framing is weak or the equity terminology I use is incorrect. Because she is supportive and encouraging, I don't feel insecure when mumbling through preliminary ideas. I am fortunate to get her comments so frequently that she has had an influence on every dataset that my research group has produced at Rush, and I am often amazed at how insightful she can be in a quick conversation.

Johnson also taught me a new way of framing chronic diseases like low back pain from the behavioral interventions literature. In developing interventions, she uses a rigorous, mechanistic pathway with diagnostic criteria for each driver of disease and each disease outcome, and then she designs interventions based on these criteria. This forced me to think about all the possible drivers of low back pain from socioeconomic to mental health to spine pathology, find diagnostic criteria to quantify the relationships between each driver and low back pain, and a comprehensive intervention that acted on each. This is different from my academic training where we assumed a straight line from spine pathology to pain. While she has worked out all these details with rigorous preliminary research to support her current interventions in postnatal care, it gave me perspective on how far there is to go for back pain.

She has opened my network to other health equity researchers at Rush and has introduced me to people I haven't met in a group. She introduces me as "biomedical engineer" that studies back pain disparities in a way that makes me proud of my academic background rather than an outsider. She makes time for people outside of her own immediate research orbit, because she believes in building capacity in the people around her. She is a multiplier in that sense.

Rush is fortunate to have a senior researcher like Johnson who treats mentorship as a core part of her academic identity. She is now my formal mentor through the Cohn Fellowship as well as the BMO Institute for Health Equity Scholars Program. My own research on health disparities in musculoskeletal pain is stronger and more rigorous because of her guidance, and she is supporting many other early career Rush disparities researchers through the scholars program. She is an incredible asset to Rush.

2026 Award Winners



2026 Postdoctoral Mentor of the Year

Philip Malloy, PT, PhD

Assistant Professor

Department of Physical Medicine and Rehabilitation

Department of Orthopedic Surgery

Rush University Medical Center

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

Nominated by **Karla Wente, PT, PhD:**

Philip Malloy, PT, PhD, sets an example as a researcher with clinical and educator experience. He draws on his own post-doctoral research mentorship experiences and employs an "open door" policy. He not only allows me enough autonomy to carry out my more independent research line but he has encouraged my mentorship and teaching skills by allowing me to mentor his PhD student in conjunction with him as well. I have learned so much and it has only been just under a year.

I have written and submitted several grant proposals, reviewed grant proposals of our PhD student, peer edited publications of his and gotten excellent feedback from him on mine, and he provides consistent advice regarding research methodology and the execution of research. This has been a fabulous way to transition from my PhD into the actual execution of real-world clinical research.

Dr. Malloy balances being an excellent researcher who is highly trained with being down-to-earth and welcoming. He is hugely collaborative, and values the insights of all in our lab. He has welcomed my suggestions and ideas, and incorporated them into the MARS lab as well.

Class of 2027 Cohn Fellows

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

The following faculty members were selected as the Class of 2027 Cohn Fellows after a very competitive process.



Samantha Addante, PhD, is an assistant professor and licensed clinical psychologist in the Department of Psychiatry and Behavioral Sciences at Rush University Medical Center. Her research focuses on developing and implementing service delivery models to improve identification and treatment of perinatal posttraumatic stress disorder (PPTSD), with an emphasis on translating evidence-based trauma interventions into real-world obstetric and community settings.

Her Cohn Fellowship project centers on developing and testing an integrated care model designed to embed PPTSD screening, referral pathways, and evidence-based trauma treatment into OB clinics. Through stakeholder engagement and implementation science methods, this work aims to identify barriers to care and pilot strategies that improve uptake of trauma-focused services during pregnancy and postpartum. This research will generate critical preliminary data to support scalable, sustainable approaches to perinatal mental health care, with the long-term goal of improving maternal mental health and reducing intergenerational impacts of trauma.



Kevin Buell, MBBS, MS, is an assistant professor in the Department of Internal Medicine, Division of Pulmonary, Critical Care and Sleep Medicine at Rush University Medical Center. His research aims to individualize and improve care for critically ill patients. As a steering member of the Common Longitudinal ICU data Format (CLIF) consortium, he uses a federated approach across 10 U.S. health centers to apply novel biostatistical, data science and machine learning techniques to large, nationally representative observational data from the electronic health record and to study associations between care variations and patient outcomes. By conducting prospective, randomized, pragmatic clinical trials, he also identifies the definitive causal effect of care variations on patient outcomes. His research areas include antimicrobial stewardship, bag-mask ventilation, tracheal intubation and mechanical ventilation.

In this proposal, Buell will quantify the variability and determinants that drive broad-spectrum antibiotic use and prevent antibiotic de-escalation. By defining patient, clinician, and geographic contributions to broad-spectrum antibiotic use and de-escalation, this research will help shift antimicrobial stewardship from a one-size-fits-all approach toward data-driven interventions grounded in objective measures of antibiotic “broadness.” This work will identify key predictors of broad-spectrum antibiotic use and de-escalation, which will subsequently be used to develop and validate real-time clinical decision support tools that incorporate data on dynamic patient trajectories, clinician prescribing patterns and ICU culture.



Philip Malloy, PT, PhD, is an assistant professor in the Department of Physical Medicine and Rehabilitation and Department of Orthopedic Surgery at Rush University Medical Center. He serves as the director of the Movement and Applied Rehabilitation Science Laboratory. His research focuses on understanding the biomechanical factors that may contribute to symptom development or can become altered in people with femoroacetabular impingement syndrome. His long-term research goal is to use human movement biomechanical data to inform rehabilitation treatment progressions for patients electing both non-operative and operative interventions for FAIS.

His Cohn Fellowship will longitudinally assess changes in biomechanics during postoperative rehabilitation in patients with FAIS following hip arthroscopic surgery. This research will build on his prior longitudinal work that measured patients between six and 12 months after surgery by assessing patients at early ($\leq$ three months) postoperative time points, which is when patients are still receiving postoperative rehabilitation. This work will also implement a battery of standardized clinical movement tests to promote clinical translation to rehabilitation treatment progressions after hip surgery for FAIS. Ultimately, this Cohn Fellowship will provide the necessary foundational data for a future rehabilitation intervention clinical trial in people with FAIS.



John Martin, PhD, is an assistant professor in the Department of Orthopedic Surgery at Rush University Medical Center. He is an engineer by training and over the past 15 years has studied degeneration, regeneration and physical function of the musculoskeletal system, primarily the spine. His early work in regenerative medicine included developing injectable therapies and engineered tissues to improve or replace the intervertebral disc of the lumbar spine, a tissue that naturally degenerates with age and is implicated in low back pain. To monitor regeneration, his work progressed to developing in vivo imaging tools to quantify soft tissue structure, composition, function, and physiology. Martin has developed expertise in human MRI, CT and PET imaging analyses and built data science tools to link imaging information with patient factors. As faculty at Rush University, Martin's research group takes a holistic approach to low back pain by integrating the drivers of spine disease with the circumstances of the patient, from degenerative disc disease to the social determinants of health.



Brittany M. Wilson, PhD, is an assistant professor in the Department of Anatomy & Cell Biology at Rush Medical College. Her research focuses on musculoskeletal outcomes associated with disruptions in fetal development and preterm birth. Utilizing a combination of translational animal models and human tissues, along with advanced skeletal imaging modalities and measurement techniques, Wilson aims to deeply characterize bone development and mineral metabolism after preterm birth and other early life development disruptions.

The major goals of this Cohn Fellowship project are to improve the understanding and management of bone mineral balance during early postnatal life after preterm birth and determine if stable Ca isotopes are useful in diagnosing and monitoring metabolic bone disease of prematurity in infants.

Rush Mentoring Programs

2026 Graduating Mentees

Mentees graduate from the Rush Research Mentoring Program and become junior mentors after they have been in the program for five years.



Ana Chee, PhD

*Assistant Professor
Department of Orthopedic Surgery
Rush Medical College*



Sarah Sansom, DO

*Assistant Professor
Department of Internal Medicine
Division of Infectious Diseases
Rush Medical College*



Merdijana Kovacevic, PhD

*Instructor
Department of Psychiatry and
Behavioral Sciences
Rush Medical College*



Jeffrey Schneider, PhD

*Assistant Professor
Department of Microbial Pathogens
and Immunity
Rush Medical College*



Xiaoran Liu, PhD, MSc, FAHA

*Assistant Professor
Department of Internal Medicine
Rush Medical College*



Brittany M. Wilson, PhD

*Assistant Professor
Department of Anatomy & Cell Biology
Rush Medical College*



Liudmila Romanova, PhD

*Assistant Professor
Department of Neurological Sciences
Rush Medical College*

Poster Presentations

1. **Adamczyk, N. S. et al.** Piezo2 nociceptor activation is sufficient to cause neuroimmune changes in the dorsal root ganglia and spinal cord in a murine model of osteoarthritis
2. **Agarwal, P. et al.** Association of Nutrient intake and Complete Blood Count with Brain Iron levels by Alzheimer's Disease Status among Community-dwelling Older Adults
3. **Akhtar, U. et al.** Relationship between Extended High Frequency Hearing, Smoking, Alcohol & Caffeine Use Among Musicians
4. **Alkhatib, D. O. et al.** LRP5 activating mutations do not increase alveolar bone mass in the Hyp mouse model of XLH.
5. **Babiker, A. et al.** Hierarchical de-duplication and genomic characterization of colonizing multidrug-resistant *Klebsiella pneumoniae* (MDR-Kp) across multiple high prevalence resource-limited settings
6. **Boyer, T. et al.** Detection of nerve-containing channels in subchondral bone of OA mice using lightsheet microscopy
7. **Gonzalez, F. F. et al.** Identification and Validation of Distinct Gait Profiles in Medial Meniscus Posterior Root Tears and Repair Using Machine Learning
8. **Gustafson, J. et al.** Quantitative MRI Detects Medial Compartment Cartilage Composition Differences in a Bilateral Medial Meniscus Posterior Root Tear Case
9. **Hall, D. J. et al.** What if microplastics can hijack the blood brain barrier?
10. **Handoklow, L. A. et al.** Intervertebral Disc Pathomics are Associated with MRI Biomarkers of Age-Related Degeneration
11. **Hoffman, D. et al.** Investigating the effects of psychedelics on peripheral neuroplasticity and sensitization
12. **Howell, W. et al.** CD56dimCD16dim Natural Killer Cells Are a Dominant Cytolytic Effector Against HIV-Infected T Cells
13. **Khurana, T. et al.** Loss of Prrx1 Promotes Chondrocyte Hypertrophy and Increases Osteoarthritis Severity via Dysregulated Cartilage Differentiation and Hemoglobin Expression
14. **Korshunov, K. et al.** An automated electrophysiological approach to characterizing nociceptors to better understand nerve conduction in osteoarthritis
15. **Lee, H. et al.** Endothelial-to-Mesenchymal Transition Is Associated with Impaired Bone Regeneration
16. **Makarczyk, M. et al.** An innervated synovium-cartilage chip for modeling knee joint inflammation and associated pain
17. **Malloy, P. et al.** The Comparison Of Marker Based Versus Marker Less Motion Capture Single Leg Squat Joint Kinematics
18. **Markovics, A. et al.** Recombinant Human Proteoglycan 4 Prevents Pathologic Bone Remodeling in a Murine Model of Ankylosing Spondylitis
19. **Obeidat, A. M. et al.** Increased osteochondral innervation in knees obtained after total knee arthroplasty compared to non-osteoarthritic donors
20. **Perrone, M. et al.** Evaluation of a Fine-tuned Vision-Language Model for Automatic Generation of Lumbar Spine MRI Reports
21. **Potter, N. et al.** Volumetric Polyethylene Wear in Anatomical Total Shoulder Replacements
22. **Romay-Tallon, R. et al.** Dynamics of mitochondrial quality control mechanisms in a rodent model of Parkinson's disease
23. **Ronneberg, C. et al.** Emotional Well-being and Support Needs Among Congregants in the Alive Faith Network

-
24. **Ronneberg, C. et al.** From PEARLS to BEACON: A Community-Engaged Cultural Adaptation of an Evidence-Based Depression Intervention for African American Church Settings
 25. **Saygin, D. et al.** Characterizing Mechanisms of Pain in Inflammatory Myopathies
 26. **Sridhar, A. et al.** Early Exposure to Maternal Dolutegravir-Based ART Impacts Bone and Adipose Health in Mice
 27. **Torres-Velázquez, M. et al.** Unsupervised Learning for Identifying Pain Phenotypes in Chicago
 28. **Wang, L. et al.** Non-neuronal NGF-TrkA signaling contributes to joint pain and inflammation in experimental osteoarthritis
 29. **Wang, Y. et al.** Mapping autoantigen reactivity and epitope specificity in autoimmune blistering diseases by molecular indexing of proteins by self-assembly (MIPSA)
 30. **Wente, K. et al.** Pelvic Health Physical Therapists Physical Examination Importance and Prioritization for Diagnosing High-Tone Pelvic Floor Dysfunction
 31. **Zand, M. et al.** Inducible T cell costimulator ligand supports metabolic homeostasis under metabolic stress

Rush Mentoring Programs

Special Thanks

The Cohn Family

Mentors, Mentees and Postdoctoral Fellows

Rush Creative Media

Marketing and Communications

Symposium, Abstract, Award and Poster Reviewers

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