



IMMUNOBIOLOGY NEWSLETTER

Spring 2023

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Faculty Promotions

Mike Kuhns has been promoted to Professor with Tenure. Congratulations!

Dr. Kuhns joined our UA faculty in 2010. His research focuses on the inner workings of the molecular machines that mediate the cell-to-cell interactions central to productive immunity, and ascertain the affect of aging on these mechanisms.



Hats Off to Our Spring 2023 Graduates!!



Danielle Bechtel, PhD

Danielle is continuing in Kristian Doyle's Lab in a postdoctoral position.



Tyler Ripperger, PhD

Tyler is joining Stacey Schultz-Cherry's Lab at St. Jude's Children's Research Hospital.



Kristen Zarrella, PhD

Kristen is joining Tern Morrison's Lab at the University of Colorado.

Awards and Laudatory Notes



Felicia Goodrum, PhD, was awarded the prestigious Executive Leadership in Academic Medicine (ELAM) Fellowship for 2023-2024, and was named the 2022 Edith Sayre Auslander Emerging Visionary by the University of Arizona's Commission on the Status of Women (CSW).

Michael Johnson, PhD, was awarded the Keating Family BIO5 Professorship Award.



In the Public Spotlight

Deepa Bhattacharya, PhD, was featured in:

Oct 21, 2022 The Atlantic, "The Bivalent Shot Might Lay You Out: But Double the Spike Proteins Doesn't Mean Double the Fevers and Chills."

Oct 25, 2022 NPR, "Two New Research Papers Cast Doubt on the New COVID Booster."

Nov 16, 2022 CBC News, "Kids are Getting Hit Hard by Respiratory Viruses. Here's what Scientists Know – and what they Don't."

Dec 17, 2022 Washington Post, "How a Viral Siege is Making Some People Sick for Weeks, Even Months."

Jan 11 The Atlantic, "Are Our Immune Systems Stuck in 2020?"

Jan 23 NPR Morning Edition, "The FDA Considers a Major Shift in the Nation's COVID Vaccine Strategy."

Mar 7 Politifact, "Immunity from COVID-19 Infection is Strong and Lasting, but Carries Risks, Research Finds."

May 2 Associated Press, "Video Repeats False Claims about COVID-19 Vaccines."



Felicia Goodrum, PhD, was featured in:

Jan 12 Arizona Republic, "The 'Crazy Infectious' XBB.1.5 COVID Variant is in Arizona. Here's what we Know."

Jan 19 UAHS "Tomorrow is Here" series, "Researchers Determined to Prevent Viruses from Winning."

Jan 27 NPR, "When is it OK to Make Germs Worse in a Lab? It's a more Relevant Question than Ever."

Jan 29 The Hill, "Virology is Part of the Golden Age of Health: Don't Dismantle it."

Mar 7 Arizona Daily Star, "U of A Experts: Evidence Doesn't Support COVID Lab Leak 'Fervor.'"

Janko Nikolich MD, PhD, was featured in:

Mar 16 UAHS "Tomorrow is Here" series, "Monitoring the Immune System to Unlock New Treatments."



Events

Frontiers in Immunobiology & Immunopathogenesis Symposium



The 18th annual symposium was held on March 10, 2023 and featured plenary speakers **Dr. Nels Elde** and **Dr. Erin Goley**. Four U of A faculty also gave presentations, among whom were **James Alwine, PhD, Anthony Bosco, PhD, and Mike Kuhns, PhD**. We had 34 poster submissions, with six selected for oral presentations, including **Rebekah Mokry, PhD, and Isabelle Tobey**. Thank you to Dr. Johnson, Dr. Jergovic, and their organ-izing committee for making this one of our most suc-cessful symposiums ever!

Graduation Ceremony

The Interdisciplinary Biomedical Sciences Convocation took place on Wednesday, May 10, and honored those graduate trainees from Fall 2022 through Summer 2023. IMB has 6 trainees graduating this year! Congratulations to all!!



Pictured (from left to right): Danielle Becktel, Chris Coplen, Tyler Ripperger, Henrik O'Brien, Kristen Zarrella. Not pictured: Emily Merritt.

Publications

Alwine JC, Casadevall A, Enquist LW, **Goodrum FD**, Imperiale MJ. A Critical Analysis of the Evidence for the SARS-CoV-2 Origin Hypotheses. *mSphere*. 2023 Apr 20;8(2):e0011923. doi: 10.1128/msphere.00119-23. Epub 2023 Mar 28. PMID: 36897078; PMCID: PMC10117112.

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Publications, Continued

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Presentations

Astrid Ardon-Lopez (Summer '22 Intern, Nikolich Lab) presented a poster at the Nov 2022, Annual Biomedical Research Conference for Minoritized Scientists (ABRCMS) in Anaheim, CA, "Use of Senolytics to Reduce Immunosenescence in Secondary Lymphoid Organs."

Deeptha Bhattacharya, PhD, participated as a panelist at the April 2023, University of Arizona Health Science CAMI Infectious Diseases Symposium.

Felicia Goodrum, PhD, presented at the following:

Mar 2023 Panelist for the COM Research Day, "Breaking Down Barriers: Exploring the Impact and Achievements of Women in Science."

Mar 2023 Innovations and Inventions Session at the COM Research Day, "The Human Cytomegalovirus Latency Puzzle."

Spring 2023 Seminar for the University of Pittsburgh, Center for Vaccine Research.

Michael Johnson, PhD, presented at the following:

Dec 2022, University of Arizona Friday Frontiers in Biomedical Science, "Exploiting Antimicrobial Properties of Copper as a Therapeutic."

Mar 2023 Innovations and Inventions Session at the COM Research Day, "Unintended but Wonderful Effects of the Virtual Summer Research Program NSURP."

Anita Koshy, PhD, panelist for the Mar 2023 COM Research Day, "Breaking Down Barriers: Exploring the Impact and Achievements of Women in Science."

Sangeetha Senthil Kumar, PhD, presented in a Data Blitz Session at the Mar 2023 COM Research Day, "Deciphering the Role of Absent in Melanoma 2 (Aim2) on Host-Oral Streptococci Interactions and its Association with Oral Squamous Cell Carcinoma."

Rebekkah Mokry, PhD, presented in a Data Blitz Session at the Mar 2023 COM Research Day, "Shifting our Understanding of Glucose Utilization During Human Cytomegalovirus Replication."

Janko Nikolich, MD, PhD, presented at the following:

Oct 2022 University of Arizona Innovations in Healthy Aging Lecture Series, "Aging, Immunity, and COVID 19."

Mar 2023 ThymOZ Conference on T Cell Development and Function, Heron Island, Australia, "Mechanisms of Age-Related Lymph Node Stromal Degeneration."

April 2023 The Doherty Institute, University of Melbourne, Melbourne, Australia, "Lymph Node Aging as a Key Component of Immune Aging."

Grants and Funding



Sam Campos, PhD

2022 Sloan Scholars Mentoring Network (SSMN) Seed Grant, *Mechanisms of Mitotic Shromatin Binding by the papillomavirus L2 Protein*, (\$10,000)

Deepta Bhattacharya, PhD

NIH/NIAID, R01AI099108, *Transcriptional Regulation of Antibody Responses and Immunity*, 5 yr renewal (\$2,607,914)

Gates Foundation, INV-051356, *Dissecting Innate Drivers of Durable Immunity*, 1 yr (\$587,555)

Kristian Doyle, PhD

NIH/NINDS, RF1NS131110, *Inflammation and Delayed Cognitive Dysfunction After Stroke*, 3 yr (\$2,016,915)

Martha Dua-awereh, PhD

BIO5 Postdoctoral Fellowship, *Pathways of Dkk1 in Metastasis and Trogocytosis*, 1 yr (\$4,720)

Felicia Goodrum, PhD

R01 grant *Host DNA Repair Pathways in Human Cytomegalovirus Replication*

Michael Johnson, PhD

BIO5 Rapid Grant, *The Use of Copper Dependent Ionophores as a New Antimicrobial Platform*, 7 mo (\$49,670)

UACC Gates Match, *National Summer Undergraduate Research Program* (\$15,000)

Anita Koshy, PhD

NIH/NIAID, R21AI174985, *Identifying Human Neuron IFN- γ Dependent Anti-Toxoplasma Gondii Responses*, 1 yr (\$422,125)

FEDSUB Supplemental, *Neuronal Latency and Toxoplasma*

Mike Kuhns, PhD

Clade Therapeutics, Inc., LTR DTD 111822, *Defining and Ablating Immunological Barriers to Hematopoietic Cell Transplants*, 2 yr (\$406,160)

Rebekah Mokry, PhD

BIO5 Postdoctoral Fellowship, *Nutrient Availability Impacts Human Cytomegalovirus Replication*, 1 yr (\$5,000)

Janko Nikolich, MD, PhD

NIH/NIA Merit Award, R01/R37AG020719-16, *T Cell Homeostasis and Function in Immune Senescence*, 04/01/2023-03/31/2028 (\$2.025 M)

NIH/NIA P01AG052359-06, *Thymic and Peripheral Aspects of T Cell Aging and Rejuvenation*, 06/01/2023 – 05/31/2028 (\$14.98 M)

John Purdy, PhD (Co-PI)

Eighteenth Mile TRIF Fund, FY23 TRIF NSS-IT4IR, *Bio manufacturing Technology to Unravel Cellular Dysfunction Due to Non-Alcoholic Steatohepatitis*, 8 mo (\$34,681)

Kate Rhodes, PhD

NIAID, K22

Outreach



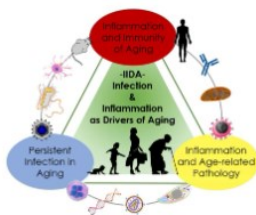
Colin Fields (Bhattacharya Lab), volunteers as a calculus tutor for undergrads at the Veterans Education and Transition Services Center at UA.

Felicia Goodrum, PhD, hosted lab tours at Discover BIO5 and moderated a panel discussion at Discover BIO5 in February.

Rebekah Mokry, PhD (Postdoc, Purdy Lab), volunteered as a judge for the Sam Hughes Elementary School Science Fair in February.

Jennifer Uhrlaub (Nikolich Lab) volunteered as a judge for SARSEF Science and Engineering Fair in March.

IIDA T32 Grant



Symposium

The 3rd Annual Symposium on Infection and Inflammation as Drivers of Aging was held on January 12. The symposium gives our grant recipients a chance to showcase their research and get feedback from members of the external academic community. This year's presentations:

External Advisory Board Members

Bonnie Blomberg, PhD, Professor, Miller School of Medicine, University of Miami: *"Aging, Immunity, and Cancer"*

Susan Swain, PhD, Professor, University of Massachusetts Medical School: *"Aged Antibody Responses to New Infections Come from Naïve Age-Associated B Cells with Unique Requirements"*

Marc Tatar, PhD, Professor, Brown University: *"An Insulin/IGF Receptor Allomorph may Extend Drosophila Lifespan through Methionine Restriction"*

Trainees

Christine Bradshaw, *"Impact of SARS-CoV-2 Vaccine Memory on the Development of Primary Responses to Variant Infections"*

Luis Espejo, *"The Emerging Role of 3-Hydroxyanthranilic Acid in Aging and Immune Function in C. elegans"*

Ian Kline, *"Human Cytomegalovirus Infection Promotes de novo Phosphatidylcholine Lipid Synthesis"*

William Pederson, *"Modeling Menopause Associated Asthma in Mice with VCD"*

2023-24 Applications

Applications for the 2023-24 IIDA T32 grant will open in June. Be looking for an email announcement.

Welcome to IMB!

The following have joined our department since January 2023:

ABBS Students:

Hannah Brooks, Goodrum Lab

Emily Cianflone, Goodrum Lab

Jeremy Myers, Bhattacharya Lab

Fadi Sayegh, Johnson Lab

Alison Watson, Koshy Lab

Admin:

Josiah Freeman, Student Worker

Lab Personnel:

Tim White, Postdoc, Goodrum Lab

Staff:

Natasha Cornejo, NSURP Diversity and Inclusion Manager, Johnson Lab

Volunteers:

Soni Hariti, Undergrad/Volunteer, Kuhns Lab

Thea Christofferson, Volunteer, Purdy Lab

General Announcements

Room Scheduling

To request a room reservation, go to resource-scheduler.pharmacy.arizona.edu/s/roomgrid.pl

Well-Being Resources

Students can reach out to the **CAPS team** and employees and members of their households can work with **Employee Assistance Counseling**. If you need help, or know someone who does, please use these resources. Creating community is important and you encouraged to look out for one another.

Pictures

Goodrum Lab



Nikolich Lab



Kuhns and Bhattacharya Labs



Grads and Mentors



Land Acknowledgment

We respectfully acknowledge the University of Arizona is on the land and territories of Indigenous peoples. Today, Arizona is home to 22 federally recognized tribes, with Tucson being home to the O'odham and the Yaqui. Committed to diversity and inclusion, the University strives to build sustainable relationships with sovereign Native Nations and Indigenous communities through education offerings, partnerships, and community service.