

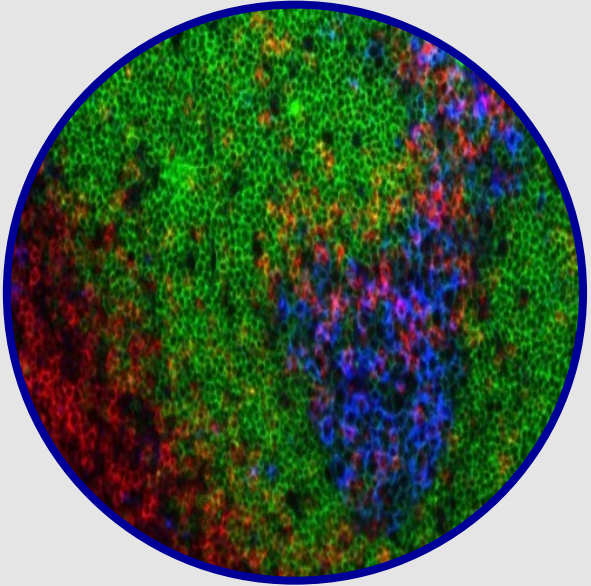


# IMMUNOBIOLOGY NEWSLETTER

Fall 2024

**In this issue:**

- Faculty Promotions
- 2024 Summer Graduates
- 2024 Certificate Graduates
- Awards and Laudatory Notes
- Grants and Funding
- In the Public Spotlight
- Publications
- Presentations
- IIDA T32 Grant
- Coming Fall 2025
- New to IMB
- General Announcements



## Faculty Promotions

**Anita Koshy** has been promoted to Professor with Tenure. Congratulations!



Dr. Koshy joined the U of A faculty in 2012. Her research focuses on understanding the brain-*Toxoplasma gondii* interaction at the cellular and molecular level.

## Hats Off to Our Summer 2024 Graduate!!

**Ian Kline, PhD**

Ian is enjoying time with his family as he applies for a post-doctoral position.



# 2024 Microbiology and Immunity Graduate Certificate Program Graduates

Kylee Diaz Julian Kau Jeffrey Song Demetrios Vlachos

## Awards and Laudatory Notes

### Faculty



**John Purdy, PhD**, was named to the inaugural COM-T and Eller Advanced Healthcare Leadership Academy cohort.

### Staff

**Tonya Fotheringham** (HR Rep), was a finalist in the 2024 Lura Hanekamp Dedicated Staff Award of Excellence.



**Tim White, PhD**, Goodrum Lab, was awarded an F32 fellowship from NIH studying the control of innate signaling by HCMV, and specifically the UL138 protein.

## Grants and Funding



### **Felicia Goodrum, PhD**

R37 AI079059 *Evolution-Guided Analysis of Extracellular and Intracellular Mechanisms Driving T Cell Activation* (\$2,200,000 Total costs, \$1,500,000 DC).

### **Mike Kuhns, PhD, and Koenraad Van Doorslaer, PhD**

1R01 AI179713-01 (NIAID) *Evolution-Guided Analysis of Extracellular and Intracellular Mechanisms Driving T Cell Activation* (\$3,271,945).

## In the Public Spotlight



**Deepta Bhattacharya, PhD**, was featured in:

[Sept 3](#) New York Times, “The Best Time to Get a Flu Shot.”

[Sept 13](#) New York Times, “Missouri Bird Flu Case Raises Prospect of Human Transmission.”

[Sept 26](#) UAHS News, Feature Story, “Leading the Charge to Discover Answers in Immunology.”

[Oct 22](#) FactCheck.org, “Q&A on the 2024-2025 COVID-19 Vaccines.”



**Janko Ž. Nikolich, MD, PhD**, was featured in:

[Jul 18](#) KOLD News, “While COVID Rates Spike in Arizona, Experts Say Numbers Aren’t Concerning Yet.”

[Aug 2](#) UAHS News, “New Study Highlights Scale and Impact of Long COVID.”



**Ian Kline, PhD, Purdy Lab** was featured in:

[Aug 30](#) Research Arizona News, “Research Training Grant Propels U of A Student from Sci-Fi to Real-Life Virology.”



**Hannah Pizzato, PhD, Bhattacharya Lab** was featured in:

[Oct 9](#) UAHS News, Feature Story, “Scientist Hopes to Cure Type 1 Diabetes by Disguising Stem Cells.”

# Publications

Alwine J, **Goodrum F**, Banfield B, Bloom D, Britt WJ, Broadbent AJ, Campos SK, Casadevall A, Dermody T, Duprex WP, Enquist LW, Frueh K, Gaglia M, Geballe AP, *et al* (41 authors total). 2024. The harms of promoting the lab leak hypothesis without evidence. *J Virology*, Aug 1:e0124024. PMID: 39087765. Notable press: *LA Times*, *TWiV*, *STAT* (Alwine and Goodrum Co-corresponding authors).

**Arunachalam PS**, Ha N, Dennison SM, Spreng RL, Seaton KE, Xiao P, Feng Y, Zarnitsyna VI, Kazmin D, Hu M, Santagata JM, Xie X, Rogers K, Shirreff LM, Chottin C, Spencer AJ, Dutta S, Prieto K, Julien JP, Tomai M, Fox CB, Villinger F, Hill AVS, Tomaras GD, Pulendran B. A comparative immunological assessment of multiple clinical-stage adjuvants for the R21 malaria vaccine in nonhuman primates. *Sci Transl Med*. 2024 Jul 31;16(758):eadn6605. doi: 10.1126/scitranslmed.adn6605. Epub 2024 Jul 31. PMID: 39083589.

Ashley SE, **Bosco A**, Tang MLK. Transcriptomic changes associated with oral immunotherapy for food allergy. *Pediatr Allergy Immunol*. 2024 Mar;35(3):e14106. doi: 10.1111/pai.14106. PMID: 38520061.

Becktel DA, Frye JB, Le EH, Whitman SA, Schnellmann RG, Morrison HW, **Doyle KP**. Discovering novel plasma biomarkers for ischemic stroke: Lipidomic and metabolomic analyses in an aged mouse model, *Journal of Lipid Research*, Volume 65, Issue 9, 2024, 100614, ISSN 0022-2275, <https://doi.org/10.1016/j.jlr.2024.100614>. (<https://www.sciencedirect.com/science/article/pii/S0022227524001196>).

Bernard K, Mota JA, Wene P, Corenblum MJ, Saez JL, Bartlett MJ, Heien ML, **Doyle KP**, Polt R, Hay M, Madhavan L, Falk T. The angiotensin (1-7) glycopeptide PNA5 improves cognition in a chronic progressive mouse model of Parkinson's disease through modulation of neuroinflammation. *Exp Neurol*. 2024 Nov;381:114926. doi: 10.1016/j.expneurol.2024.114926. Epub 2024 Aug 15. PMID: 39153685.

**Bosco A**. Novel Role of the GSDMB/IFNG Axis in Childhood Asthma. *Am J Respir Crit Care Med*. 2024 Apr 15;209(8):899-900. doi: 10.1164/rccm.202312-2259ED. PMID: 38300150.

Bracha S, Johnson HJ, Pranckevicius NA, Catto F, Economides AE, Litvinov S, Hassi K, Rigoli MT, Cheroni C, Bonfanti M, Valenti A, Stucchi S, Attreya S, Ross PD, Walsh D, Malachi N, Livne H, Eshel R, Krupalnik V, Levin D, Cobb S, Koumoutsakos P, Caporale N, Testa G, Aguzzi A, **Koshy AA**, Sheiner L, Rechavi O. Engineering *Toxoplasma gondii* secretion systems for intracellular delivery of multiple large therapeutic proteins to neurons. *Nat Microbiol*. 2024 Aug;9(8):2051-2072. doi: 10.1038/s41564-024-01750-6. Epub 2024 Jul 29. PMID: 39075233; PMCID: PMC11306108.

Chin WL, Zemek RM, Tilsed CM, Forrest ARR, Fear VS, Forbes C, Boon L, **Bosco A**, Guo BB, Millward MJ, Nowak AK, Lake RA, Lesterhuis WJ, Lassmann T. Time-course RNaseq data of murine AB1 mesothelioma and Renca renal cancer following immune checkpoint therapy. *Sci Data*. 2024 May 3;11(1):448. doi: 10.1038/s41597-024-03294-0. PMID: 38702329; PMCID: PMC11068878.

Choudhery MS, Arif T, Mahmood R, **Harris DT**. CAR-T-cell-based cancer immunotherapies: potentials, limitations, and future prospects. *Journal of Clinical Medicine*, 2024 June:13 (11). doi:10.3390/jcm13113202.

Choudhery MS, Arif T, Mahmood R, **Harris DT**. Stem cell-based acellular therapy: insight into biogenesis, bioengineering and therapeutic applications of exosomes. *Biomolecules*. 2024; 14(7):792. <https://doi.org/10.3390/biom14070792>.

Coplen CP, Jergovic M, Terner EL, Bradshaw CM, Uhrlaub JL, **Nikolich JŽ**. Virological, innate, and adaptive immune profiles shaped by variation in route and age of host in murine cytomegalovirus infection. *J Virol*. 2024 May 14;98(5):e0198623. doi: 10.1128/jvi.01986-23. Epub 2024 Apr 15. PMID: 38619272; PMCID: PMC11092346.

Coplen CP, Sonar SA, **Nikolich JŽ**. Late-life Attenuation of Cytomegalovirus-mediated CD8 T Cell Memory Inflation: Shrinking of the Cytomegalovirus Latency Niche. *J Immunol*. 2024 Oct 1;213(7):965-970. doi: 10.4049/jimmunol.2400113. PMID: 39150241; PMCID: PMC11463719.

Dancy E, Stratton P, Pichard DC, Marciano BE, Cowen EW, McBride AA, **Van Doorslaer K**, Merideth MA, Salmeri N, Hughes MS, Heller T, Parta M, Hickstein DD, Kong HH, Holland SM, Zerbe CS. Human papillomavirus disease in *GATA2* deficiency: a genetic predisposition to HPV-associated female anogenital malignancy. *Front Immunol*. 2024 Aug 29;15:1445711. doi: 10.3389/fimmu.2024.1445711. PMID: 39267745; PMCID: PMC11390362.

## Publications, Continued

Greenhalgh T, Sivan M, Perlowski A, and **Nikolich JŽ**. Long COVID: A clinical update. *The Lancet* 2024.404:707-724. [https://doi.org/10.1016/S0140-6736\(24\)01136-X](https://doi.org/10.1016/S0140-6736(24)01136-X).

Holmes EC, Krammer F, **Goodrum FD**. Virology-The next fifty years. *Cell*. 2024 Sep 19;187(19):5128-5145. doi: 10.1016/j.cell.2024.07.025. PMID: 39303682; PMCID: PMC11467463.

Kicic-Starcevic E, Hancock DG, Iosifidis T, Agudelo-Romero P, Caparros-Martin JA, Karpievitch YV, Silva D, Turkovic L, Le Souef PN, **Bosco A**, Martino DJ, Kicic A, Prescott SL, Stick SM. Airway epithelium respiratory illnesses and allergy (AERIAL) birth cohort: study protocol. *Frontiers in Allergy*. 2024;5. doi: 10.3389/falgy.2024.1349741.

Li S, Williamson ZL, Christofferson MA, Jeevanandam A, **Campos SK**. A peptide derived from sorting nexin 1 inhibits HPV16 entry, retrograde trafficking, and L2 membrane spanning. *Tumour Virus Res*. 2024 Jun 21;18:200287. doi: 10.1016/j.tvr.2024.200287. Epub ahead of print. PMID: 38909779; PMCID: PMC11255958.

Love M, Behrens-Bradley N, **Ahmad A**, Wertheimer A, Klotz S, Ahmad N. Plasma levels of secreted cytokines in virologically controlled HIV-infected aging adult individuals on long-term antiretroviral therapy. *Viral Immunol*. 2024 May;37(4):202-215. doi: 10.1089/vim.2023.0123. PMID: 38717822.

Murphy DP, Dickson DC, Fatema AN, Carrasco NG, **Doyle KP**, Trouard TP, Morrison HW. Chronic consequences of ischemic stroke: Profiling brain injury and inflammation in a mouse model with reperfusion. *Physiol Rep*. 2024 Jun;12(12):e16118. doi: 10.14814/phy2.16118. PMID: 38923318; PMCID: PMC11194179.

Porter C, Lyski ZL, Uhrlaub JL, Ellingson KD, Jeddy Z, Gwynn L, Rivers P, Sprissler R, Hegmann KT, Coughlin MM, et al. Evaluating immunologic and illness outcomes of SARS-CoV-2 infection in vaccinated and unvaccinated children aged  $\geq 5$  years, in a multisite longitudinal cohort. *Diseases*. 2024; 12(8):171. <https://doi.org/10.3390/diseases12080171>.

Russell, SJ, Parker K, Lehoczki A, Lieberman D, Partha IS, Scott SJ, Phillips LR, Fain MJ, and **Nikolich JŽ**. Post-acute sequelae of SARS-CoV-2 infection (Long COVID) in older adults. *GeroScience*. 2024; 1-19. doi: 10.1007/s11357-024-01227-8. PMID: 38874693.

Van Arsdale A, Turker L, Chang Y-C, Gould J, Harmon B, Maggi EC, Meshcheryakova O, Brown MP, Luong D, **Van Doorslaer K**, Einstheng D, Haad BJ, Lenz J, Montagna C. Structure and transcription of integrated HPV DNA in vulvar carcinomas. *npj Genomic Medicine*. 2024 Dec;9(1). doi: 10.1038/s41525-024-00418-8.

**Wilson JE, Nikolich JŽ**. Nurture over nature for old antitumor T cells. *Nat Immunol*. 2024 Jun;25(6):932-934. doi: 10.1038/s41590-024-01853-6. PMID: 38745086.

Zhai J, Voraphani N, Imboden M, Keidel D, Liu C, Stern DA, Venker C, Petersen H, **Bosco A**, Sherrill DL, Morgan WJ, Tesfaigzi Y, Probst-Hensch NM, Martinez FD, Halonen M, Guerra S. Circulating biomarkers of airflow limitation across the life span. *J Allergy Clin Immunol*. 2024 Jun;153(6):1692-1703. doi: 10.1016/j.jaci.2023.12.026. Epub 2024 Jan 20. PMID: 38253260; PMCID: PMC11162345.

## Presentations

**Felicia Goodrum, PhD**, presented at the following:

June 2024 Geisel School of Medicine at Dartmouth, Molecular and Systems Biology Department (Invited Seminar Speaker) Dartmouth University.

Sept 2024 OSU Infectious Disease Institute, Department of Microbial Infection and Immunity (Invited Seminar Speaker) The Ohio State University.

**Janko Ž. Nikolich, MD, PhD**, presented at the following:

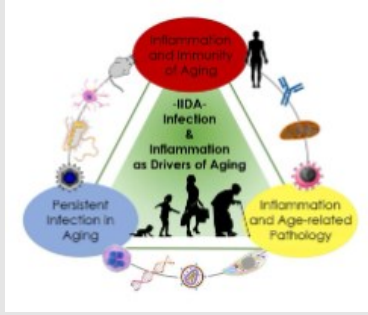
May 27-31, 2024 Aegean Conference on Osteoimmunology (Invited Speaker) Loutraki, Greece.

June 3, 2024 Serbian Academy of Sciences and Arts, Excellence in Science Symposium (Invited Speaker), Belgrade, Serbia.

Sept 3-4, 2024 NIH-FDA Immunology Interest Group Translational Immunology Symposium: Environmental Triggers to Advance Therapeutics (honoring Jay Berzofsky's half-century of scientific impact) (Invited Speaker), Bethesda, MD.

Sept 5 2024 Department of Bioengineering (Invited Seminar Speaker), University of Maryland.

# IIDA T32 Grant



Announcing the 2024-25 IIDA T32 Grant Awardees:

**Gerardo Figueroa**, BME, Margolis Lab

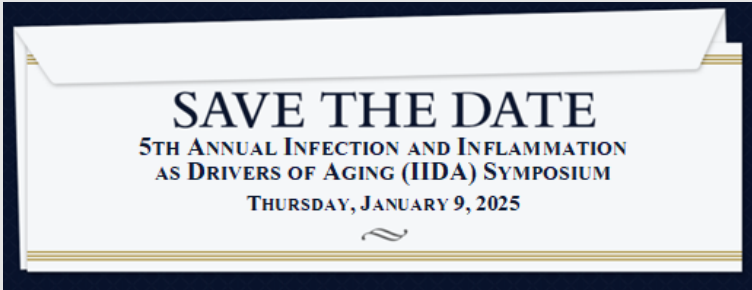
**Kevin Kasper**, BME, Gutruf Lab

**Dakota Reinartz**, GPMM, Justin Wilson Lab

**Fadi Sayegh**, GPMM, Johnson Lab

**Bao Thai**, GPMM, Bhattacharya Lab

**Emily Vaslow**, GPMM, Goodrum Lab



## Coming Fall 2025

Online Master's Degree Program in Immunobiology



Dr. Nafees Ahmad, Director

# New to IMB

The following have joined our department since May 2024:

## Lab Personnel:

Omar Al-Ali, Research Technician, Kuhns Lab  
Anika Arias, GA, Wilson Lab  
Tressa Baker, Research Technician, Kuhns Lab  
Kiara Begay, Grad Research Intern (ABS), Doyle Lab  
Taylor Blackwell, Research Professional, Arunachalam Lab  
Chaz DeCoteau, Student Worker, Campos Lab  
Caleb de Lacy, Undergrad Research Assistant, Purdy Lab  
Roslyn Dermody, Postdoc, Purdy Lab  
David Kosanke, UBRP Student, Campos Lab  
Sakshi Parate, ABS Masters Student, Johnson Lab  
Maha Rohilla, ABS Masters Student, Johnson Lab  
Ashlin Schaeftbauer, GA (BMCB), Campos Lab  
Ria Siddaiah, Student Worker, Campos Lab  
Gregory Teng, Student Worker, Bosco Lab  
Syed Zaidi, Bioinformaticist, Bosco Lab

## Volunteers:

Aparna Chandrasekar, Undergrad, Johnson Lab  
Domonique Houston, Undergrad, Johnson Lab  
Elias Linn, Undergrad, Ahmad Lab  
Aruna Sreenivasan, Koshy Lab

## Admin:

Kristen Lynch, Accountant

# General Announcements

## Room Scheduling

To request a room reservation, use this [link](#).

## 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 are encouraged to look out for one another.

## 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.*