

# Vik Meadows, Ph.D.

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## Education

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| Ph.D. | 2022 | Biochemistry and Molecular Biology<br>Mentor: Heather Francis, Ph.D. | Indiana University, Indianapolis, IN             |
| M.S.  | 2017 | Biochemistry and Molecular Biology<br>Mentor: Peter Zuber, Ph.D.     | Oregon Health & Science University, Portland, OR |
| B.S.  | 2012 | Cell Biology, Spanish  | University of Mary Hardin-Baylor, Belton, TX     |

## Funding

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|----------------|---|
| 2024 - Present | <u>Rutgers Presidential Postdoctoral Fellowship (Rutgers Biomedical and Health Sciences)</u> . Award begins July 2024. Grant of \$198,000 covers salary, teaching and service support, research supplies, and travel. Fellows are considered for tenured track faculty positions after two years based on external funding and research productivity. |
| 2022 - Present | <u>INSPIRE (Rutgers IRACDA K12 NIH/NIGMS)</u> , (PAR-19-366, PI: Soto and Brewer, Trainee: Meadows). Awarded for October 2022 until October 2025. Grant of \$185,000 per year covers salary, teaching support, teaching supplies, and research supplies and travel.   |
| 2022 - 2023    | <u>Mistletoe Research Fellowship</u> , (FP00032129, PI: Meadows). Award covers research supplies and travel between July 2022- June 2023. Unfettered research grant of \$10,000.  |

## Research Experience

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| 2022 - Present | Postdoctoral Research<br>PI: Nan Gao, PhD (July 2023 – Present)<br>Project: Understand the influence of <i>Ruminococcus gnavus</i> colonization on liver function.<br>PI: Grace Guo, M.B.B.S, Ph.D. (October 2022 – June 2023)<br>Project: Investigating the farnesoid X receptor interactome in liver and ileum. | Rutgers University                       |
| 2018 - 2022    | Graduate Thesis Research<br>PI: Heather Francis, Ph.D.<br>Doctoral Project: Mast cells regulate enterohepatic and cholehepatic bile acid signaling via mast cell farnesoid X receptor/histamine axis.   | Indiana University<br>School of Medicine |
| 2016 - 2017    | Graduate Research Assistant<br>PI: Peter Zuber, Ph.D<br>Research Project: Investigating the interaction between global transcriptional regulator Sp <sub>x</sub> and RNA polymerase of <i>Bacillus subtilis</i> .   | Oregon Health &<br>Science University    |

## Honors & Awards

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| 2022 | T32 Environmental Toxicology Postdoctoral Fellowship | Rutgers University |
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| 2022       | Robert A. Scala Award   | Rutgers University  |
| 2022       | William M. Plater Civic Engagement Medallion                          | Indiana University  |
| 2022       | Sherry Queener Graduate Student Excellence Award                      | Indiana University  |
| 2021, 2022 | Monga Hans Trainee Scholar Award for Excellence in Liver Pathobiology | ASIP                |
| 2021       | Underrepresented Minority ACS Bridge Award                            | ACS                 |
| 2021       | Predocorial Award for Outstanding Research                            | ASIP                |
| 2020       | PSC Partners Seeking a Cure Award                                     | AASLD/ PSC Partners |

### Selected Publications

Awoniyi, Wang, Ngo, **Meadows**, Tam, Viswanathan, Lai, Montgomery, Farmer, Kummen, Thingholm, Schramm, Bang, Franke, Lu, Zhou, Bajaj, Hylemon, Ting, Popob, Hov, Francis, and Sartor. Protective and aggressive bacterial subsets and metabolites modify hepatobiliary inflammation and fibrosis in a murine model of PSC. *Gut*. 2023 Apr;72(4):671-685. doi: 10.1136/gutjnl-2021-326500.

**Meadows**, Ekser, Kundu, Zhou, Kyritsi, Pham, Chen, Kennedy, Ceci, Wu, Carpino, Zhang, Isidan, Meyer, Owen, Gaudio, Onori, Alpini, and Francis. Loss of Apical Sodium Bile Acid Transporter Disrupts Bile Acid Circulation and Reduces Biliary Damage in Cholangitis. *Am J Physiol Gastrointest Liver Physiol*. 2023 Jan 1;324(1):G60-G77. doi: 10.1152/ajpgi.00112.2022.

Zhou, **Meadows**, Kundu, Kyritsi, Owen, Ceci, Carpino, Onori, Gaudio, Wu, Glaser, Ekser, Alpini, Kennedy, and Francis. Mast cells selectively target large cholangiocytes during biliary injury via H2HR-mediated cAMP/pERK1/2 signaling. *Hepatology* 2022 Oct;6(10):2715-2731. doi: 10.1002/hep4.2026.

**Meadows**, Kennedy, Ekser, Kyritsi, Kundu, Zhou, Chen, Pham, Wu, Demieville, Hargrove, Glaser, Alpini, and Francis. Mast cells regulate ductular reaction, bile acid signaling and intestinal inflammation during cholestatic injury via Farnesoid X receptor. *Hepatology* 2021 Nov;74(5):2684-98. doi: 10.1002/hep.32028. *Summary figure selected as cover for Hepatology issue.*

**Meadows**, Kennedy, Hargrove, Demieville, Meng, Virani, Reinhart, Kyritsi, Invernizzi, Yang, Wu, Liangpunsakul, Alpini, and Francis. Downregulation of hepatic stem cell factor by Vivo-Morpholino treatment inhibits mast cell migration and decreases biliary damage/senescence and liver fibrosis in Mdr2<sup>-/-</sup> mice *Biochim Biophys Acta Mol Basis Dis*. 2019 Dec 1; 1865(12):165557. doi: 10.1016/j.bbdis.2019.165557.

**Meadows** and Gao. New Kids on the Block: Immature Myeloid Cells in Intestinal Regeneration. *Cell Mol Gastroenterol Hepatol* 2023 Dec 02; doi: 10.1016/j.jcmgh.2023.11.011. *Epub ahead of print.*

**Meadows**, Yang, Basaly, and Guo. FXR FriendChIPs in the Enterohepatic System. *Semin Liver Dis* 2023 Aug;43(3):267-278. doi: 10.1055/a-2128-5538.

**Meadows**, Baiocchi, Kundu, Sato, Fuentes, Wu, Chakraborty, Glaser, Alpini, Kennedy, and Francis. Biliary Epithelial Senescence in Liver Disease: There Will Be SASP. *Front Mol Biosci* 2021 Dec 21;8:803098. eCollection 2021. doi: 10.3389/fmolb.2021.803098

**Meadows**, Kennedy, Kundu, Alpini, and Francis. Bile acid receptor therapeutics effects on chronic liver diseases. *Front Med (Lausanne)* 2020; 7:15. DOI: 10.3389/fmed.2020.00015.

Complete bibliography: <https://www.ncbi.nlm.nih.gov/myncbi/vik.meadows.3/bibliography/public/>

### Teaching

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|----------------|---|
| 2023 - Present | Guest lecturer, William Paterson University<br><i>Bacterial Transcription Regulation and the lac operon</i> , Genetic BIO 2060<br><i>Metabolism and Enzymes</i> , Intro to Biology BIO 1600 |
| 2018 – 2019    | Adjunct Anatomy & Physiology I Instructor, University of Mary Hardin-Baylor   |

## Mentoring

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|-------------|---|
| 2023        | Mentor, Summer Research Opportunity in Pathology Program, ASIP and Rutgers University |
| 2023        | <i>Más Mentor, SACNAS</i>   |
| 2022        | Mentor, EWGIS Summer Research Program   |
| 2021 - 2022 | Mentor, WiSTEM Virtual Mentoring Program  |
| 2021        | GI Mentor and Invited Speaker, Project SEED STEM program at Indiana University        |

## Oral Presentations

**Meadows, Kundu, Zhou, Ceci, Chen, Kyritsi, Alpini, and Francis (2022)** Mast Cell (MC)-Induced Cholestasis is Dependent on Apical Sodium Bile Acid Transporter (ASBT) Expression. ASIP Annual Meeting at EB 2022. Oral presentation on 05 April 2022.

**Meadows, Kennedy, and Francis (2020)** Biliary Apical Sodium Bile Acid Transporter Expression is Regulated via Mast Cell Farnesoid X Receptor during Cholestatic Liver Damage. SACNAS National Diversity in STEM Virtual Conference 2020. Oral presentation on 21 October 2020.

**Meadows** Mast Cells Regulate Cholestatic Liver Injury and Intestinal Bile Acid Signaling via Modification of FXR/FGF15 Axis. Digestive Disease Week Virtual Meeting 2021. Oral presentation on 21 May 2021.

**Meadows, Kundu, Kennedy, and Francis (2021)** ASBT Vivo-Morpholino Decreases Hepatic Mast Cell, Fibrosis and Biliary Senescence in *Mdr2*<sup>-/-</sup> Mice. ASIP Annual Meeting at EB 2021. Oral presentation on 27 April 2021.

**Meadows, Kennedy, Hargrove, Demieville, Meng, Glaser, Alpini, and Francis (2019)** Mast Cell Regulation of Biliary Acid Transporter, ASBT via Nuclear Bile Acid Receptor FXR/Histamine Signaling During Cholestatic Liver Injury. Digestive Disease Week Meeting 2019. Presidential basic plenary, Oral presentation on 20 May 2019.

**Meadows, Hargrove, Demieville, Kennedy, Smith, and Francis (2018)** Mast Cells (MCs) Regulate Bile Acid Synthesis during Cholestatic Liver Injury Via FXR/SHP Signaling and Inhibition of MC-Derived FXR Decreases Hepatic Damage and Fibrosis. AASLD Liver Meeting 2018. Presidential basic plenary, Oral presentation on 11 November 2018.

## Poster Presentations

**Meadows, Kundu, Zhou, Kennedy, and Francis (2021)** Inhibition of ASBT using Vivo-Morpholino Reduces Large Cholangiocyte Damage and Alters Hepatic Bile Acid Composition in Wild-Type and *Mdr2*<sup>-/-</sup> Mice. AASLD Liver Virtual Meeting 2021. Poster presented 04 – 06 November 2021.

**Meadows, Kyritsi, Kennedy, Kundu, Alpini and Francis (2020)** Depletion of Histamine Reduces Hepatic and Intestinal Mast Cell Activation and Regulates Bile Acid Signaling during PSC. AASLD Liver Virtual Meeting 2020. Poster presented 13-16 November 2020.

**Meadows, Kennedy, Zhou, Kusumanchi, Yang, Glaser, Meng, Lianpunsakul, Alpini, and Francis (2019)** The Secretin (Sct)/Sct Receptor (SR) Axis Triggers Mast Cell (MC) Infiltration and Activation During Primary Sclerosing Cholangitis (PSC) via Large Cholangiocyte miR-125b Signaling. AASLD Liver Meeting 2019. Poster presented 11 November 2019.

**Leadership and Service**

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| 2023 – Present | Newark Postdoctoral Representative, Rutgers Postdoctoral Union  |
| 2023           | Past Chair, Pathobiology for Investigators, Students, and Academicians (PISA) Young Investigators Virtual Meeting Planning Committee                            |
| 2022 – Present | Co-founder and Member, Rutgers Latinx/Hispanic Postdoctoral Group   |
| 2022 - Present | Programming Chair, Rutgers SACNAS Trainee Chapter   |
| 2022 – Present | Social Media Manager, taste of science NYC  |
| 2022           | Chair, Pathobiology for Investigators, Students, and Academicians (PISA) Young Investigators Virtual Meeting Planning Committee                                 |
| 2022 - Present | Member, Committee for Equal Representation and Opportunity (CERO), ASIP   |
| 2021 – Present | Co-host, Behind Our Science Podcast   |
| 2021 – 2022    | Co-founder and co-moderator, Biochem Chat Diversity Seminar Series  |
| 2021 – 2022    | Graduate Student Representative, Diversity, Equity and Inclusion Committee, Graduate Faculty Council, Indiana University-Purdue University Indianapolis (IUPUI) |
| 2020 – 2021    | Student Representative, Biochemistry and Molecular Biology Department   |