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4-17-2023

### College of Pharmacy Research & Scholarship Day 2023 Booklet

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# Research & Scholarship Day 2023

**Symposium, Poster Exhibition & Competition**

Monday, April 17, 2023

1:00 - 4:00 PM

Student Union Building - Ballrooms A & B

### Respiratory Inflammation?

Pharmacological Sciences  
A. Ahsanullah, G. Herbert, J.

**Results and Discussions: Cells Exposure**

AAI cell viability (%) following 48 hr exposure

Low or non-observable acute toxic effects of microplastics were reported at concentrations as high as 800-1000 µg/ml (Storck et al. 2021 and Li et al. 2021).

Significant lower toxic doses were detected (200-500 µg/ml) in our experiments (n=3).

**Do Fibers Cytotoxicity induce allergic responses?**

Preliminary data shows that fibers can induce the expression of the proallergic cytokine dynamic serum lymphopositivity (TSP) in A549 cells. TSP was measured following 24h exposure (n=2).

### Assembly of Surface Transient in vivo and in vitro aimed at *Staphylococcus aureus* accessory gene regulator status

17

### Development of an Open for Modulation of the Phytic System

Charles Mottet, Nohel Amour, Carl...

29

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29



# PROGRAM OF EVENTS

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Ballroom B

**10:30 AM - 1:00 PM**

Poster Setup

**1:00 - 3:00 PM**

Poster Competition

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Ballroom A

**3:00 - 3:05 PM**

Welcome & Introduction

**Donald Godwin, PhD**

*Dean & Professor, UNM College of Pharmacy*

**3:05 - 3:20 PM**

2023 Excellence in Research Award Recipient

**Katrina Mealey, PhD, DVM, BSPH**

**3:20 - 3:30 PM**

Recognition of "Best Paper" for Pharmacy Practice &  
Administrative Sciences CE Track faculty

**Barry Bleske, PharmD**

**3:30 - 4:00 PM**

Refreshments & Award Ceremony

*The UNM College of Pharmacy is proud to present this annual multidisciplinary exhibition highlighting the cutting-edge research and impressive scholarly activities of our MS, PhD, and PharmD students, post-docs, residents, faculty and staff.*



Department of  
**MS**  
Biological Sciences  
University of Mississippi

C. J. Wiley

## Best poster by a COP Research Faculty or Staff Member

1 **Andrew Neidhart**, Neidhart, A., Miller, C., Hess, K., Bryant, K., Green, L., Turpin, M., Ali, A., Benavidez, A., Spilde, M., Hanson, D., Cerrato, J., Jorge Gonzalez-Estrella, J., El Hayek, E.: *What happens when plants grow in an environment contaminated by plastic wastes and metals?*

2 **Cody Wiley**, Gülşilan Binzet, David McChesney, Jason McConville, Pavan Muttill, Metin Çelik, Linda Felton: *Impact of solubility parameters on particle coating using a 3-fluid spray drying process for modified drug release.*

3 **Curtis Miller**, Esther Erdei, Daniel Beene, Melissa Gonzales: *Modelling COVID-19 in New Mexico.*

4 **Erica Dashner**, Tamara Daniels, Debra MacKenzie, Esther Erdei, Chris Shuey, Sarah Henio-Adeky, Johnny Naize, Latasha James, Laurie Hudson: *Thinking Zinc: An Intervention to Address Environmental Metal Exposure on the Navajo Nation.*

5 **Mitra Afaghpour-Becklund**, Milan Charollois, Hannah C. Kaye, Christian V. Cabanlong, Brad Tibbets, Sarah J. Blossom: *Environmental pollutant, trichloroethylene, enhances responses to egg protein in a human-relevant mouse model of food allergy.*

6 **Rachel M. Speer**, Shuvro P. Nandi, Karen L. Cooper, Xixi Zhou, Hui Yu, Yan Guo, Laurie G. Hudson, Ludmil B. Alexandrov, Ke Jian Liu: *Arsenic acts as a co-mutagen by affecting the somatic mutations imprinted by ultraviolet light.*

7 **Rajani Rai**, Jared DiDomenico, Jean Lowe, Crystal Aragón, Sonia M Rodriguez, Jessie Maxwell, Ludmila N Bakhireva, Julia Stephen: *A Novel Methodological Approach of Collecting Heart Rate Variability during Still Face Paradigm in Infants of ENRICH Prospective Birth Cohort Study.*

8 **Rui Liu**, Ting Jiang, Matthew Campen, Changjian Feng: *ICP-MS - a powerful technology that enables highly sensitive elemental analysis in biological samples; GC-MS-volatile metabolites and microplastic analysis.*

## Best Poster by a Pharmaceutical Sciences Graduate Student

9 **Aidan Leyba**, Mohammad Razmjoo, Amelia Bierle, David McChesney, Alexandra Francian: *Overcoming the Challenges of Fighting Malaria Using Microneedles and Trio.*

10 **Brenna Baird**, Russell Hunter, Selita Lucas, Guy Herbert, David Scieszka, Yan Jin, Haiwei Gu, Matthew Campen: *The Impacts of Ozone Inhalation on the Brain Lipidome and Blood-Brain Barrier Integrity as Modulated by Dietary Fatty Acids.*

11 **Charlotte McVeigh**, Cameron Chock, Sage Templeton, Colin Nguyen and Alicia M. Bolt: *Adipocyte number and adipokine secretion in the bone niche, shifts in response to tungsten exposure in both non-tumor and 4T1 breast tumor-bearing BALB/c mice.*

12 **Jorge Moreno**, Charlotte McVeigh, Russell Hunter, Guy Herbert, Matthew Campen, Alicia Bolt: *Utilizing a human lung epithelial cell, macrophage co-culture model to assess the effects of environmental toxicants in vitro.*

13 **Mohsen Ranjbar**, Ahmed R. Muhyi, Tamara Daniels Anderson, Todd A. Thompson, Graham S. Timmins: *Reduced toxicity of menadione: the potential role of isotope exchange.*

14 **Nelson Amaya**, Amirhossein Nazarian, Carl Esperanzate, Charles Montoya, Francesco Sorrentino, Andrew Shreve, Todd Thompson: *Temporal modulation of autophagic vesicle formation via nutrient supply.*

## Best Poster by a Post Doc, Fellow, or Resident

15 **Christian V. Cabanlong**, Samrat R. Choudhury and Sarah J. Blossom: *Trichloroethylene Metabolite Promotes Increased Expression of Autoimmune-Related Genes During Th-1 Differentiation In Vitro*



## Best poster by a Doctor of Pharmacy or Undergraduate Student

16 **Annajita Rubio**, Miranda Montoya, Ashley Ramirez-Flores, Xochitl Benitez: *Public Perceptions of Pharmacist Provided COVID-19 Clinical Services.*

17 **Ansley E. Battle**, Madalyn E. Dankocsik, Rosa T. Sterk, Haya F. Albazzaz, Michelle A. Ozbun, Jason T. McConville: *Thermally Gelling Liquid Sprays for Oropharyngeal Targeting.*

18 **Brooke McKahin**, Tyler Howse, PharmD Candidate 2023, Hannah Howse, MD Candidate 2023, Danielle Alaouieh, MD Candidate 2024, Fiona Wohrer, MD Candidate 2025, Donald Markle, PhD: *Interprofessional Relationships in Healthcare.*

19 **Carl Esperanzate**, Nelson Amaya, Tamara Daniels Anderson, Francesco Sorrentino, Andrew Shreve, Michael Mandell, Todd Thompson: *Astemizole decreases autophagic flux and cell viability by interfering with lysosomal activity.*

20 **David McChesney**, Aidan Leyba, Mohammad Razmjoo, Pavan Muttli, Shintaro Fumoto: *Inhaled Microbiomics, Pharmaceutical Formulation and Disease Considerations in Patients with Cystic Fibrosis.*

21 **Garrett Stroud**, Christian Cabanlong, Tamara Daniels Anderson, Amanda Barkley-Levenson, Abigail Trezise, Amy Bachyrycz, Todd Thompson: *Dronabinol (THC) pre-treatment of CB1 receptors ameliorates neuropathy from paclitaxel by inhibition of CYP2J2 and neuronal relaxation.*

22 **Helen Ngo**, Jared DiDomenico, Rajani Rai, Lida Enriquez-Marquez, Melissa Roberts, Ludmila Bakhireva: *The Role of Social Support on Maternal Mental Health in High-Risk and Low-Risk Pregnant Patients.*

23 **Maydelin Rives Santiesteban**, Jason McConville: *Tortuous Control of Drug Release from 3D Printed Tablets.*

24 **Mohammad Razmjoo**, Aidan Leyba: *Needleless Vaccination Using Dissolvable Microneedles.*

25 **Mohammad Razmjoo**, \*, Taylor Gatten+, Chad Sherwood+, Jorell Phillips+, Wilson Ramirez+, Joshua Nguyen+, Steven Santillan+, Bryce Roberts#, Amelia Bierle\*, Christian Slough\*, Dominic Thompson\*, Nathan

Jackson +, Pavan Muttil\*: *Revolutionize Respiratory Disease Treatment Using a Smart Dry Powder Inhaler.*

26 **Rayna Vue**, Rayna Vue, Tamara Daniels, Li Luo, Elena O'Donald, Qeturah Anderson, Nikki Begay, Priscilla Begay, Frienda Clay, Valsitta Curley, Latisha Joseph, Yolanda Joseph, Lynda Lasiloo, Amber Morgan, Kathleen Nez, Sandy Ramone, Wileen Smith, Kayden Tallsalt, Roxan: *Longitudinal Study of Carcinogenic Metals in Navajo Children from the Navajo Birth Cohort Study.*

## Best COP Inter-Departmental Collaborative Research Poster

21 **Garrett Stroud**, Christian Cabanlong, Tamara Daniels Anderson, Amanda Barkley-Levenson, Abigail Trezise, Amy Bachyrycz, Todd Thompson: *Dronabinol (THC) pre-treatment of CB1 receptors ameliorates neuropathy from paclitaxel by inhibition of CYP2J2 and neuronal relaxation.*

## Display Only

27 **Crystal Almeida**, Lidia Enriquez Marquez, Tracey Wick, Crystal Almeida, Alexandria Wiesel, Arvind Caprihan, John Phillips, Andrew R. Mayer, Lawrence Leeman, Ludmila Bakhireva: *A Novel Methodological Approach of collecting MRI in newborns and infants without sedation in a multi-site consortium pilot study.*

28 **Denise Mendoza**, Bernadette Jakeman, Keenan Ryan, Paulina Deming, Heather Cabos: *Re-engagement in Care for Patients with Positive Antibody Test for Hepatitis C Infection: A Descriptive Study at the University of New Mexico Hospital.*

29 **Elena O'Donald**, Elena O'Donald, Rae O'Leary, Brandi Fink, Sharon Rulyak, Marcia O'Leary, Kendra Enright, Esther Erdei: *Everyday stressors in association with mental health evaluation in Cheyenne River Sioux Tribal community members.*

30 **Fiona Wohrer**, Alexandria Wiesel, Xingya Ma, Jared DiDomenico, Sandra Jacobson, Melissa Roberts, Ludmila N. Bakhireva: *Dose-response Effect of Prenatal Alcohol Exposure on Perinatal Outcomes.*

31 **Guanghua Wan**, Sharina P Desai PhD, Haikun Zhang BS, Kejian "Jim"

Liu PhD, and Changjian “Jim” Feng PhD: *As<sup>3+</sup>-exposure induces Nix-mediated late apoptosis and necrosis on the late stage of erythroid differentiation of CD34+ Hematopoietic Progenitor Cells.*

32 **Guanghua Wan**, Sharina P Desai PhD, Haikun Zhang BS, Sebastian Medina PhD, Kejian “Jim” Liu PhD, and Changjian (Jim) Feng PhD: *Arsenite exposure causes abnormal regulation of GATA2 and GATA1 during erythroid development of CD34+ Hematopoietic Progenitor Cells.*

33 **Jodi Schilz**, Erica J. Dashner-Titus, Carmen P. Wong, Sandra C. Alvarez, Karen Simmons, Emily Ho, Laurie G. Hudson: *Zinc supplementation alters tissue distribution of arsenic in Mus musculus with corresponding changes in metal transporters.*

34 **Shintaro Fumoto**, Shintaro Fumoto, Koyo Nishida, David A. McChesney, Aidan L. Leyba, Mohammad Razmjoo, Pavan Muttli: *Development of Lipid-Calcium Carbonate Nanoparticles toward Inhaled Pulmonary Vaccines.*

35 **Ting Jiang**, Guanghua Wan; Haikun Zhang; Yadav Prasad Gyawali; Eric Underbakke; Changjian Feng: *Elucidating the conformational dynamics of the interprotein calmodulin-nitric oxide synthase complex by crosslinking mass spectrometry.*

36 **Ting Jiang**, Haikun Zhang, Yadav Prasad Gyawali, Changjian Feng: *Determination of protein phosphorylation stoichiometry by parallel reaction monitoring mass spectrometry.*

37 **Changjian Feng**, Jinghui Li, Yadav Gyawali, Ting Jiang, Huayu Zheng, Goran W. Tumbic, Gregory S. Bukowski, Megan Thielges: *Deciphering the Functional Protein Dynamics of the Nitric Oxide Synthase Proteins by Site-Specific Infrared Spectroscopy.*

38 **Becky Woloszyn**, Luke Latterell: *College of Pharmacy Research Highlights.*

39 **Becky Woloszyn**, Luke Latterell: *College of Pharmacy Research Office Services.*

40 **Becky Woloszyn**, Luke Latterell: *College of Pharmacy Patents 1.*

41 **Becky Woloszyn**, Luke Latterell: *College of Pharmacy Patents 2.*



**THANK YOU  
FOR JOINING US!**



## COLLEGE OF PHARMACY

### **Our Mission**

Our mission is to develop pharmacists, educators and scientists whose leadership, dedication and innovation improve the health of our local and global communities.

### **Our Vision**

To prepare tomorrow's leaders through innovative teaching, research and clinical practices that translate scientific discoveries into new treatments and models of care to improve both health and quality of life.

### **Our College**

The UNM College of Pharmacy is the premier destination for exceptional pharmacy education, research, and patient care programs. Building on a 78-year legacy of innovation, the College prides itself in preparing the next generation of pharmacy leaders.

### **Office of Research**

College of Pharmacy  
The University of New Mexico Health Sciences

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