

SECTION MEETINGS

9:20 AM- 9:40 AM, SATURDAY MARCH 26, 2022

(All Academy Members)

SECTION	ROOM #
ANTHROPOLOGY	JW 3
BOTANY	309
CELL BIOLOGY	310
CHEMISTRY	311
EARTH SCIENCE	312
ECOLOGY	308
ENGINEERING	307
ENVIRONMENTAL SCIENCE	JW 10
MATHEMATICS	JW 4
MICROBIOLOGY & MOLECULAR BIOLOGY	313
PHYSICS AND ASTRONOMY, MATHEMATICS	314
PLANT SYSTEMATICS AND BIODIVERSITY	JW 7
SCIENCE EDUCATION	JW 8
ZOOLOGY AND ENTOMOLOGY	JW 9

GENERAL INTEREST- HOT TOPICS AND WORKSHOPS

TIME	PRESENTER(S)	PRESENTATION	RM#
9:45 AM-10:30 AM	Beth Hall, Ph.D. , State Climatologist, Purdue University	Climate services for our data-driven science, planning, and decision-making needs (Hot Topic)	312
9:45 AM-10:30 AM	Timothy Beers, PhD. , Grace-Rupley Professor of Physics, University of Notre Dame	The Astrophysical Origin of the Periodic Table (Hot Topic)	313
9:45 AM- 10:30 AM	Khachatur Manukyan, Ph.D. Department of Physics, University of Notre Dame	No pressure, no diamonds: Extreme processing to prepare precious materials (Hot Topic)	JW 7
9:45 AM-10:30 AM	Virginia Caine, M.D., MPH. Director and Chief Medical Officer, Marion County Public Health Department, and Associate Professor of Medicine, Indiana University School of Medicine Infectious Diseases Division.	'Lessons from A Pandemic: What's in Our Future?' (Hot Topic)	JW 8
9:45 AM-10:45 AM	Hongtao Li , Tricia Pierce, and Penny Quinn, Department of Sciences and Mathematics, St. Mary of the Woods College	Managing Daily Stress with Mind-body Exercises: Ba Duan Jin (Workshop)	JW 4
10:15 AM-11:00 AM	Anupma Thakur, Ph.D. Postdoctoral Researcher, Purdue School of Engineering and Technology, IUPUI, USA	The Rise of MXenes: The Novel Family of Two-Dimensional Metal Carbides & Nitrides (Hot Topic)	314
11:00 AM-11:45 AM	Jeffrey S Dukes, Ph.D. Belcher Chair for Environmental Sustainability Professor, Department of Forestry and Natural Resources and Department of Biological Sciences Purdue University	Impacts of Climate Change on Indiana Ecosystems and Communities (Hot Topic)	JW 10
11:00 AM-11:45 AM	David Torain II, Ph.D. Professor Montgomery Germantown Mathematics Advisor Department of Mathematics and Statistics Montgomery College High Technology and Science Center Germantown, Maryland 20876	Using Torain's Equations as a Predictable Model in the Sciences (Hot Topic)	309

GENERAL INTEREST- HOT TOPICS AND WORKSHOPS

COLOR KEY

HOT TOPIC	WORKSHOP	Round Table
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GENERAL INTEREST- HOT TOPICS AND WORKSHOPS

GENERAL INTEREST- HOT TOPICS AND WORKSHOPS

TIME	PRESENTER(S)	PRESENTATION	RM#
11:00 AM-11:45 AM	Doug Bernstein, Ph.D. Associate Professor Ball State University	RNA modification roles in the development of mRNA vaccines (Hot Topic)	313
11:00 AM-12:00 PM	Hongtao Li , Tricia Pierce, and Penny Quinn, Department of Sciences and Mathematics, St. Mary of the Woods College	Managing Daily Stress with Mind-body Exercises: Ba Duan Jin (Workshop)	JW 4
11:00 AM-11:45 AM	Dibyadyuti Datta, Ph.D. , M.S., Assistant Research Professor of Pediatrics, Indiana University School of Medicine	Global Health Training and my experiences in the field...my 10-year journey from graduate school to becoming an independent researcher (Hot Topic)	JW 9
11:15 AM-12:15 PM	Erin Gerecke, Ph.D. Department of Pediatrics, Herman B. Wells Center for Pediatric Research, Indiana University School of Medicine	Science Communication Roundtable (Workshop)	JW 8
11:15 AM-12:00 PM	Krista E. Latham, PhD, D-ABFA , Professor of Biology & Anthropology, Director, University of Indianapolis Human Identification Center	Ten Years of Humanitarian Forensic Science in the Texas Borderlands: Transformative Learning Experiences through the Practice of Forensic Anthropology (Hot Topic)	JW 3
2:15 PM-3:00 PM	Bill Sullivan, Ph.D. , Professor Indiana University School of Medicine	How Do We Confront Antiscience? (Hot Topic)	JW 8
2:15 PM-3:00 PM	Katherine Nicole Canfield, Ph.D. U.S. Environmental Protection Agency, Narragansett, RI	VIRTUAL: Using Inclusive Science Communication Practices to Address Distrust in Science (Hot Topic)	JW 3
2:15 PM- 3:15 PM	Hongtao Li , Tricia Pierce, and Penny Quinn, Department of Sciences and Mathematics, St. Mary of the Woods College	Managing Daily Stress with Mind-body Exercises: Ba Duan Jin (Workshop)	JW 4
2:15 PM-3:30 PM	Maresa Murray, Ph.D. , Indiana University, Assistant Dean of Diversity, Inclusion, and Organizational Climate	“Challenges Faced by Student and Professional Scientists of Color in the U.S.: Actionable Strategies We Can All Use for Reconstructing New Inclusive Contexts” (Workshop)	JW 10
2:15 PM-3:00 PM	Wei Shi, Ph.D. , Assistant Professor, Ball State University	Study Bioactive Natural Products in Medicine and Biology (Hot Topic)	311
3:15 PM-4:00 PM	Erin McClelland , Marian University College of Osteopathic Medicine	Sex susceptibility in <i>Cryptococcus neoformans</i> infections (Hot Topic)	313

COLOR KEY

HOT TOPIC	WORKSHOP	Round Table
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GENERAL INTEREST- HOT TOPICS AND WORKSHOPS

TIME	PRESENTER(S)	PRESENTATION	RM#
3:15 PM-4:00 PM	Seth Darling, Ph.D., Interim Chief Science & Technology Officer, Energy and Global Security Directorate; Director Center for Molecular Engineering, Director Advanced Materials for Energy-Water Systems Center Argonne National Laboratory Lemont, IL	VIRTUAL: The Role of Interfaces in Advanced Materials for Energy-Water Systems (Hot Topic)	JW 3
3:15 PM-4:10 PM	Hongtao Li , Tricia Pierce, and Penny Quinn, Department of Sciences and Mathematics, St. Mary of the Woods College	Managing Daily Stress with Mind-body Exercises: Ba Duan Jin (Workshop)	JW 4

GENERAL INTEREST- HOT TOPICS AND WORKSHOPS

COLOR KEY

HOT TOPIC	WORKSHOP	Round Table
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ORAL PRESENTATIONS BY SECTION

	TIME	AUTHOR(S)	PRESENTATION	RM#
BOTANY	9:45 AM	Darrin L. Rubino , Biology Department, Hanover College Sarah A. Malone , Biology Department, Hanover College Christopher Baas , Department of Landscape Architecture, Ball State University	Tree-ring and timber species analysis of a Jackson County, Indiana, Farmstead	309
	10:00 AM	Sarah A. Malone , Biology Department, Hanover College Christopher Baas , Department of Landscape Architecture, Ball State University Darrin L. Rubino , Biology Department, Hanover College.	Dendroarchaeological Analysis of a Unique Jackson County Log and Timber Barn	309
CELL BIOLOGY	9:45 AM	Nahian Fyrose Fahim , Kusum Parajuli, Honey Win, Sinthia Kabir Mumu, Janeen Dahouk, Soufanieh Pierre, Isaac Wendel, and Ahmed Mustafa; Purdue University Fort Wayne	Impact of Temperature and Lipopolysaccharides (LPS) on Immune cells in Sea Urchin, <i>Arbacia Punctulate</i>	310
	9:45AM-10:45 AM	Hongtao Li , Tricia Pierce, and Penny Quinn; Department of Sciences and Mathematics St. Mary of the Woods College	Managing Daily Stress with Mind-body Exercises: Ba Duan Jin (Workshop)	JW 4
	10:00 AM	Samantha Turk , Danielle Overton, Cade Orchard, Christopher Indovina, Avery Runnebohm, Sarah Engle, Sheldon Watts, Julia Niekamp, Sam Gosser, Ellen Doss, Mahmoud Daraghmi and Eric M. Rubenstein. Ball State University	Investigating Novel Connections between Lipid Synthesis and Protein Degradation	310
	10:15 AM	Chloe Kotrba , Dr. C. Patience Masamha – Butler University College of Pharmacy and Health Sciences	Inducing Alternative Forms of Cell Death in Multi-Drug Resistant Ovarian Cancer Cells	310
	10:30 AM	Sinthia Kabir Mumu , Honey Win, Isaac Wendel, Nahian Fyrose Fahim, Kusum Parajuli, and Ahmed Mustafa; Purdue University Fort Wayne	Inhibitory effect of <i>Gynura procumbens</i> extracts on B16 Murine Melanoma cell and proliferative effect on Spleen cell <i>In-vitro</i>.	310
	1100 AM-12:00 PM	Hongtao Li , Tricia Pierce, and Penny Quinn; Department of Sciences and Mathematics St. Mary of the Woods College	Managing Daily Stress with Mind-body Exercises: Ba Duan Jin (Workshop)	JW 4
	2:15 PM	Kusum Parajuli , Nahian Fahim, Janeen Dahouk, Soufanieh Pierre and Ahmed Mustafa Purdue University Fort Wayne	Physiological Stress Responses in Sea Stars Induced by Heat and Arm Amputation	310
	2:15 PM-3:15 PM	Hongtao Li , Tricia Pierce, and Penny Quinn; Department of Sciences and Mathematics St. Mary of the Woods College	Managing Daily Stress with Mind-body Exercises: Ba Duan Jin (Workshop)	JW 4
	2:30 PM	Taylor Karns , Philip Smaldino, Ph.D., Siara Sandwith, Michael Reisinger, Tyler Osborne, Evan Rogers, Emma Eubank, Quinn Anderson, Ball State University	The role of the G-quadruplex helicase, DHX36, in lymphoma utilizing novel transgenic mice.	310

ORAL PRESENTATIONS BY SECTION

TIME	AUTHOR(S)	PRESENTATION	RM#	
3:00 PM	Ellen M. Doss , Douglas A. Bernstein, and Eric (VJ) Rubenstein	Endoplasmic Reticulum Protein Quality Control in <i>Candida albicans</i>	310	CELL BIOLOGY
3:15 PM	Delaney Long, Luke Brewer, Dayle Matheny, Douglas Roossien - Ball State University	Serotonin autoreceptors regulate <i>Drosophila</i> serotonergic axon morphology <i>in vitro</i>	310	
3:15 PM-4:10 PM	Hongtao Li , Tricia Pierce, and Penny Quinn; Department of Sciences and Mathematics St. Mary of the Woods College	Managing Daily Stress with Mind-body Exercises: Ba Duan Jin (Workshop)	JW 4	
3:30 PM	Honey Win , Kusum Parajuli, Nahian Fahim, Soufanieh Pierre and Ahmed Mustafa Department of Biological Sciences, Purdue University Fort Wayne	Physiological and Immunological Propertis of <i>Cucumaria Frondosa</i>, <i>Isostychopus Badionotus</i>, and <i>Pentacta Pygmaea</i> from the Waters of Eastern North America	310	
3:45 PM	Syeda A Madiha , Dr. Bikram Sharma - Ball State University	Determining the role of Elabela/APJ and Apelin/APJ signaling on coronary endothelial cell proliferation, migration and survival	310	
9:45 AM	Jordan T. Froese - Ball State University	Improving Rieske Dioxygenase Activity Through Enzyme Engineering	311	CHEMISTRY
10:15 AM	Hayden Schneider , Dr. Wei Shi, Ball State University	Synthesis of 4,6-isopropylidene glucose thio toluene by using benzaldehyde dimethyl acetal Instead of 2,2-dimethoxypropane (DMP)	311	
10:45 AM	Patrick A. McVey , Noah Dierckman, Margaret Sperry, Marie Meyer, Matthew Reuter, and Kelsey Ramp, Marian University	Mass Spectrometry Imaging of Pharmaceuticals for Detection of Crystalline Active Pharmaceutical Ingredients	311	
11:15 AM	Kuo-Hao Chen -Ball State University, Zhihai Li-Ball State University, Cody Leasor-Indiana University Bloomington	Electrochemical STM studies of molecular adsorption and phase transition at electrode-electrolyte interfaces	311	

ORAL PRESENTATIONS BY SECTION

	TIME	AUTHOR(S)	PRESENTATION	RM#
CHEMISTRY	11:45 AM	Alexandra D. Tamerius †‡, Alison B. Altman†°, Michael J. Waters‡, Eric A. Riesel°, Christos D. Malliakas†, Matthew L. Whitaker+×, Tony Yu#◇, Gilberto Fabbris#◇, Yue Meng§◇, Daniel Haskel◇, Yanbin Wang#◇, Arthur R. Ehinger , Steven D. Jacobsen±, James M. Rondinelli‡*, Danna E. Freedman°* Department of Chemistry and Physical Sciences, Marian University, †Department of Chemistry, ‡Department of Material Science and Engineering, and ±Department of Earth and Planetary Sciences, Northwestern University, Evanston, Illinois 60208 °Department of Chemistry, Massachusetts Institute of Technology, Cambridge, Massachusetts, +Department of Geosciences, Stony Brook University, Stony Brook, New York 11794, ×National Synchrotron Light Source II, Brookhaven National Laboratory, Upton, New York 11973, #GeoSoilEnviroCARS, Center for Advanced Radiation Sources, The University of Chicago, Chicago, Illinois 60637◇Advanced Photon Source, Argonne National Laboratory, Lemont, Illinois 60439, §HPCAT, X-ray Science Division, Argonne National Laboratory, Argonne, Illinois 60439	Investigating Electronic Properties of Solid-State Materials via Exploration Structural Families	311
	2:15 PM-3:00 PM	Wei Shi, Ph.D. , Assistant Professor, Ball State University	Study Bioactive Natural Products in Medicine and Biology (Hot Topic)	311
	3:00 PM	Davis Anum, Temitope Alonge and David Bwambok Institution: Ball State University	Human serum albumin <i>nanoparticles</i> encapsulated with <i>fluorophore</i> and chemotherapeutic agent for drug delivery and cancer therapy	311
EARTH SCIENCE	9:45 AM	Beth Hall, Ph.D. , State Climatologist, Purdue University	Climate services for our data-driven science, planning, and decision-making needs (Hot Topic)	312
	10:45 AM	Bruce Rothschild , Carnegie Museum of Natural History Jingmai O'Connor, Field Museum of Natural History	Tyrannosaur indignities: False accusation of sexually transmitted disease (STD) rebutted	312

ORAL PRESENTATIONS BY SECTION

TIME	AUTHOR(S)	PRESENTATION	RM#	
11:00 AM	James O. Farlow , Department of Biological Sciences, Purdue University Fort Wayne, Jens N. Lallensack, School of Biological and Environmental Sciences, Liverpool, John Moores University, Liverpool, United Kingdom, Rodrigo T. Mueller, Centro de Apoio a Pesquisa Paleontologica de Quarta Colonia, Universidade Federal de Santa Maria, Brazil, James A. Hyatt, Department of Environmental Earth Science, Eastern Connecticut State University, Willimantic, Connecticut	Pedal Skeletal Proportions of Bipedal and Potentially Bipedal Dinosaurs	312	EARTH SCIENCE
11:15 AM	Mose Nasser	Stratigraphic Columns of Posey, Pike, Lawrence, Bartholomew & Franklin Counties, Indiana	312	
11:30 AM	Katelyn Rusiniak , Kathryn Mudica, Jennifer Latimer Indiana State University	Water Quality of the Wabash River using Biogeochemical Analysis and Biotic Indicators	312	
2:15 PM	Samira Safaee ¹ , Eileen J. Kladvko ¹ , Dharmendra Saraswat ² Department of Agronomy, Purdue University, USA Department of Agricultural & Biological Engineering, Purdue University	DSM_Toolkit _ A new open-source toolbox for digital soil mapping	312	
2:30 PM	Darrell G. Schulze , Agronomy Department, Purdue University	Spatial Distribution of Soils with Clay-Enriched Subsoils	312	
2:45 PM	Todd A. Thompson , Matthew R. Johnson, Indiana Geological and Water Survey	Twenty-first Century Geological Mapping of the State	312	
3:00 PM	Lorraine Wright , LPG, GISP	History of the Public Land Survey System (PLSS): Mapping Survey Field Notes to History	312	
10:00 AM	Richard D. Sample , Jarred Brooke, Michael Jenkins - Purdue University, Department of Forestry and Natural Resources, Moriah Boggess - North Carolina Wildlife Resource Commission	Examining species and regional differences in white-tailed deer browsing selection and nutrient accumulation within stump sprouts in Indiana	308	ECOLOGY
10:15 AM	Rylee D. Tomey , Richard D. Sample, Zackary J. Delisle, Alexis R. Trumbower, Phoebe J. Habeck, Jarred M. Brooke, Michael A. Jenkins – Purdue University	Comparing methods of estimating white-tailed deer fecal pellet-group density in Indiana woodlots	308	
10:30 AM	Jeffrey D. Holland and Laura Sutherland, Department of Entomology, Purdue University	Invasion dynamics understood with resistance surfaces	308	

ORAL PRESENTATIONS BY SECTION

	TIME	AUTHOR(S)	PRESENTATION	RM#
ECOLOGY	10:45 AM	Sam Gradle , Bureau of Water Quality, Muncie Sanitary District; Laura A. Bowley, Bureau of Water Quality, Muncie Sanitary District; Rick Conrad, Bureau of Water Quality, Muncie Sanitary District; Drew Holloway, Bureau of Water Quality, Muncie Sanitary District; Brant E. Fisher, Indiana Department of Natural Resources, Division of Fish and Wildlife	Lessons and Success in Propagating Freshwater Mussels on a Limited Budget in Muncie, Indiana	308
	11:00 AM	Lara E. Jones and Kamal Islam, Ball State University	Investigating long-distance dispersal patterns of the Cerulean Warbler (<i>Setophaga cerulea</i>) in southern Indiana	308
	2:30 PM	Danny Heinz and Kamal Islam, Department of Biology, Ball State University	Examining Abiotic Effects on Northern Saw-whet Owl Migration in Delaware and Henry counties, Indiana	308
	2:45 PM	Ashley Kovach-Hammons , Jordan Marshall, Purdue University Fort Wayne	Predicting Site Suitability for Kudzu (<i>Pueraria montana</i>) in the Great Lakes Basin	308
	3:00 PM	Bethany J. Darby and Kamal Islam, Department of Biology, Ball State University	Investigating Spatial Distribution Patterns of Cerulean Warbler (<i>Setophaga cerulea</i>) Nests and Landscape-Level Associations in South-Central Indiana	308
	3:15 PM	Zachary Kellogg , Dr. Mark A. Jordan, Dr. Bruce Kingsbury, Dr. Jordan Marshall, Dr. Scott Bergeson, Darren Shoemaker, Purdue University - Fort Wayne Betsey Yankowiak - Little River Wetlands Project	Spatial Ecology of Snapping Turtle (<i>Chelydra serpentina</i>) within an Urban Wetland Complex	308
	3:30 PM	Nicholas Friedeman , Mark Jordan - Purdue University - Fort Wayne	Determining the Environmental Associations of <i>Ophidiomyces ophiodiicola</i> on a landscape using Environmental DNA	308
	3:45 PM	Jordan Burgess and Deborah Marr, Department of Biological Sciences, Indiana University of South Bend	Comparison of antibiotic resistance levels in nectar bacteria isolated from <i>Trifolium repens</i> in orchards and urban parks	308
ENVIRONMENTAL SCIENCE	9:45 AM	Kathryn Mudica and Dr. Jen Latimer	Bioaccumulation of mercury in Indiana river otters	JW 3
	10:00 AM	Jordan Kemp , Dr. Jennifer Latimer, Indiana State University	The Spatial Distribution of Mercury in Urban Soils, Terre Haute, Indiana	JW 3
	10:15 AM	Stephanie Freeman-Day , Gretchen Luchauer, Dr. Burnell C. Fischer, Rodoshi Sinha, Anagha Gore, Indiana University O'Neill School of Public Affairs	Urban forest patches in Bloomington, Indiana- Analyzing sustainability over time	JW 3
	10:30 AM	Gretchen Luchauer , Stephanie Freeman-Day, Dr. Burnell Fischer, Indiana University O'Neill School of Public and Environmental Affairs	Urban Stream Corridors and Forest Patches – The Connections: A Case Study of Bloomington, IN	JW 3

ORAL PRESENTATIONS BY SECTION

TIME	AUTHOR(S)	PRESENTATION	RM#	
11:00 AM	David Torain II, Ph.D. Professor Montgomery Germantown Mathematics Advisor Department of Mathematics and Statistics Montgomery College High Technology and Science Center Germantown, Maryland 20876	Using Torain's Equations as a Predictable Model in the Sciences (Hot Topic)	309	MATHEMATICS
2:30 PM	Cameron Pitzer , Huntington University	Baseball Statistical Analysis	309	
3:00 PM	Kevin L. S. Drury , Ph.D. Huntington University, Department of Mathematics and Computer Science	Mobility and Spatial Auto--correlation in Spiral Waves	309	
11:00 AM	Doug Bernstein, Ph.D. , Associate Professor Ball State University	RNA modification roles in the development of mRNA vaccines (Hot Topic)	313	MICROBIOLOGY & MOLECULAR BIOLOGY
2:45 PM	Faith Jackobs Charlie Peck, Emmett Smith , Earlham College	Changes in Icelandic soil microbiomes from the forefield of retreating glaciers revealed by Illumina and MinION sequencing.	313	
3:00 PM	Kylee M. Brewster and Natalia B. Hubbs, PhD, Department of Biology, Hanover College	Baby Got (<i>Citro</i>)bacter: Characterization of <i>Citrobacter</i> Phages and Mutagenesis of <i>Citrobacter</i>	313	
3:15 PM	Erin McClelland , Marian University College of Osteopathic Medicine	Sex susceptibility in <i>Cryptococcus neoformans</i> infections (Hot Topic)	313	
10:00 AM	Azam Shafieenezhad (1) , Stephen R. Wassall (1), Stephanie Tristram-Nagle (2), John F. Nagle (2), Horia I. Petrache (1) (1) Department of Physics, Indiana University Purdue University Indianapolis, (2) Department of Physics, Carnegie Mellon University, Pittsburgh, PA	The effect of dopamine on model lipid membrane structure	314	PHYSICS AND ASTRONOMY
11:00 AM	Donald G. Ruch , John E. Taylor, Taylor Davis, Sam Luginbuhl, Racheal Stenger, Daniel E. Kern, and Kemuel S. Badger: Department of Biology, Ball State University, Paul E. Rothrock: Indiana University, Deam Herbarium, Smith Research Center, Bloomington, IN	Floristic Quality Assessment of Reber Woods, Delaware County, Indiana	JW 7	PLANT SYSTEMATICS AND BIODIVERSITY
11:15 AM	Racheal Stenger , John Taylor, Donald Ruch Phd., Ball State University	Forest Community Structure and Species Composition of Reber Woods, Delaware County, Indiana	JW 7	
11:30 AM	Nathanael J. Pilla , Orbis Environmental Consulting	Vascular Plants of the Moraine Nature Preserve - Additional Parcels	JW 7	
2:15 PM	Scott A. Namestnik and Roger L. Hedge, Indiana Department of Natural Resources, Division of Nature Preserves	Natural Communities and Plant Species of Conservation Concern at Deer Lake, St. Joseph County, Indiana	JW 7	
2:30 PM	Richard Hull , Department of Biology, Indiana University- Bloomington	A Modern Analysis of the Vascular Plant Flora of the Indiana Wabash River Corridor	JW 7	

ORAL PRESENTATIONS BY SECTION

	TIME	AUTHOR(S)	PRESENTATION	RM#
PLANT SYSTEMATICS AND BIODIVERSITY	2:45 PM	John Taylor , Samantha Luginbuhl, Eli Nelson, Don Ruch Ball State University Biology Department	Growing-season vs Dormant-season prescribed fire: implications for prairie management	JW 7
	3:00 PM	Michael Homoya* , Wesley Homoya, Barbara Homoya, *Indiana Department of Natural Resources, Division of Nature Preserves	A Status Survey of Indiana Orchidaceae	JW 7
SCIENCE EDUCATION	11:15 AM-12:15 PM	Erin Gerecke, Ph.D. Department of Pediatrics, Herman B. Wells Center for Pediatric Research, Indiana University School of Medicine	Science Communication Roundtable (Workshop)	JW8
	11:30 AM	Megan Moss Howard County Stormwater District	Providing Science Education to the Public (When you just graduated and have no idea how to go about teaching anyone anything scientific.)	314
	11:45 AM	Kristi Bugajski , Mike Watters, Bonnie Dahlke-Goebbert and Mindy Capaldi, Valparaiso University	Being EPIC in a pandemic: How we continued social activities and mentoring with COVID restrictions	312
	2:15 PM-3:00 PM	Bill Sullivan, Ph.D. Professor Indiana University School of Medicine	How Do We Confront Antiscience? (Hot Topic)	JW 8
	2:15 PM-3:30 PM	Maresa Murray, Ph.D. , Indiana University, Assistant Dean of Diversity, Inclusion, and Organizational Climate	“Challenges Faced by Student and Professional Scientists of Color in the U.S.: Actionable Strategies We Can All Use for Reconstructing New Inclusive Contexts” (Workshop)	JW 10
	10:00 AM	Kelsey Hughes , Cassie Froedge, and Glené Mynhardt, Hanover College	Population Structure of <i>Merope tuber</i> (Insecta: Meropeidae) collected in Hanover, Indiana	JW 9
ZOOLOGY AND ENTOMOLOGY	10:15 AM	Caylie Wimmersberger , James Bertaux, Dr. Marc Milne, University of Indianapolis	Revision of <i>Neodietrichia</i>	JW 9
	10:30 AM	Randy E. Hunt , Indiana University Southeast	Vibrational signals associated with courtship in the treehopper <i>Enchenopa binotata</i>	JW 9
	10:45 AM	Gene Kritsky (Mount St. Joseph University), Jessee Smith, and Carl Strang	Observations of periodical cicadas (Brood X) in Indiana and Ohio in 2021 (Hemiptera: Cicadidae: <i>Magicicada</i> spp.)	JW 9
	2:30 PM	Lindee Mason and Ahmed Mustafa Department of Biological Sciences, Purdue University Fort Wayne	Benefits of an Astaxanthin Supplemented Diet on Stressed Nile Tilapia	JW 9
	2:45 PM	Mary J Woodruff ¹ ; Susanna N Tsueda ¹ ; Kimberly A Rosvall ¹ ¹ Biology, Indiana University, Bloomington	Coping with climate change during early development: responses to experimental heat in wild nestlings	JW 9
	3:00 PM	Kent Edmonds , Department of Biology, Indiana University Southeast	Estradiol and Progesterone Regulation of Gastrointestinal (GI) Development and Reproduction in the Marsh Rice Rat (<i>Oryzomys palustris</i>)	JW 9
	3:15 PM	Mark A. Jordan , Daniel Guinto, Tyler Scoville, Jessica Hinson, and Bruce A. Kingsbury, Purdue University Fort Wayne	Conservation Genetics of Blanding’s Turtle and Spotted Turtle in Indiana	JW 9

POSTER PRESENTATIONS- 4:15 PM TO 5:55 PM

(NOTE: ODD NUMBERS PRESENT AT 4:15 PM- 5:00 PM; EVEN NUMBERS PRESENT 5:05 PM -5:55 PM)

1	AN	Miranda Mueller, Paige Pressler, Arianna Method , Dr. Amandine Eriksen, University of Indianapolis	Variation in the Latissimus Dorsi Muscle and its Clinical Implications
2	AN	Kaitlyn Glavee, Austin Lorynski , University of Indianapolis	Variation in the Axillary Artery: Clinical Implications and How it Develops
3	BO	Russell Baas , Ball State University, Sarah Malone, Hanover College, Darrin L. Rubino, Hanover College J.P. Hall, Ball State University	Tree-ring dating of an agritourism English barn located in Jefferson County, Indiana
4	BO	Caitlyn Foye - Noblesville High School, Sachin Gupta - Noblesville High School, Nathanael Hauck - Butler University	Identification and Sequencing of the Glyceraldehyde 3-Phosphate Dehydrogenase Gene in Fern, Fern Ally, and Moss Species
5	BO	Helene Bee (Valparaiso University), Lanna Sirhan* (Valparaiso University), Emily Gonzalez (Ivy Tech Community College), Ashley Wasserman (Ivy Tech Community College), Katelyn Shouse (Valparaiso University), Alexis Dres (Valparaiso University), Caleb VanArragon (Valparaiso University), Jeffrey Pruet (Valparaiso University) and Danielle Orozco-Nunnely (Valparaiso University)	Characterizing the cytotoxic effects and several antimicrobial phytochemicals of <i>Argemone mexicana</i>
6	CB	Idalia Zachara , George Gundelach, Patrice G. Bouyer, Valparaiso University	<i>Candida albicans</i> induces internalization of the Na ⁺ -K ⁺ -2Cl ⁻ cotransporter 1 expressed in Madin-Darby Canine Cells
7	CB	George Gundelach* , Paige Camp*, Idalia Zachara, Caleb VanArragon, Tiffany Kolba Michael Watters and Patrice G. Bouyer. (* equally contributed author) Valparaiso University	Effect of estrogen on <i>Candida albicans</i> growth cultured on YEPD solid media
8	CB	Mahmoud M. Daraghmi , Samantha M. Turk, Ellen M. Doss, Christopher J. Indovina, Eric M. Rubenstein Department of Biology, Ball State University	The Role of Set2 and Kar3 in Protein Degradation
9	CB	Sky Kaur , Idalia Zachara, Anita Coleman, Caleb VanArragon, Tiffany Kolba, Michael Watters and Patrice G. Bouyer. Valparaiso University	Effects of environmental factors on <i>Candida albicans</i> morphology: A focus on estrogen and microgravity
10	CB	Audrey H. Marjamaa , and Chioniso P. Masamha, <i>Butler University</i>	Overexpression of the <i>ABCC1</i> Drug Transporter in Ovarian Cancer as a Result of Alternative Polyadenylation
11	CB	Kelsey Woodruff , Kamryn Kennedy, Brian Voas, Eric Rubenstein	Investigating roles of metalloprotease Ste24 in protein degradation at the ER
12	CB	Jakob Faber, Michael Bertram , Adam Berg, Walter Novak, Erika Sorensen-Kamakian	Developing De Novo Designed Protein Keys (LOCKR) in <i>C. elegans</i>

POSTER PRESENTATIONS

SECTION ABBREVIATION KEY

GI	General Interest	EC	Ecology	PA	Physics/Astronomy
AN	Anthropology	EN	Engineering	PB	Plant Systematics & Biodiversity
BO	Botany	EQ	Environmental Quality	SE	Science Education
CB	Cell Biology	ES	Earth Science	ZE	Zoology/Entomology
CH	Chemistry	MB	Micro/Molecular Biology	MA	Mathematics
PS	Psychology				

POSTER PRESENTATIONS- 4:15 PM TO 5:55 PM

(NOTE: ODD NUMBERS PRESENT AT 4:15 PM- 5:00 PM; EVEN NUMBERS PRESENT 5:05 PM -5:55 PM)

POSTER PRESENTATIONS

13	CB	Rajnandani Katariya ^{1,2} , M. Rezaul Hasan ^{1,2,3} , Melisa Spognardi ^{2,4} , Abbigayle J. Gamble ^{1,2} , Amy A. Kaur ^{1,2} , Alishba Rizwan ^{2,5} , Manoj Panta ^{1,2} , Andrew J. Kump ^{1,2,3} , and Shaad M. Ahmad ^{1,2,3} 1Department of Biology, Indiana State University, 2The Center for Genomic Advocacy, Indiana State University, 3Rich and Robin Porter Cancer Research Center, Terre Haute, IN. 4Saint Mary-of-the-Woods College, 5Department of Psychology, Indiana State University	Twin roles of the zinc-finger transcription factor Castor: specification of cardiac cell subtypes and regulation of cardiac progenitor cell division
14	CB	M. Rezaul Hasan ^{1,2,3} , Rajnandani Katariya ^{1,2} , Andrew J. Kump ^{1,2,3} , Manoj Panta ^{1,2} , Kristopher R. Schwab ^{1,2,3} , Mark H. Inlow ^{2,4} , Shaad M. Ahmad ^{1,2,3} 1Department of Biology, Indiana State University; 2The Center for Genomic Advocacy, Indiana State University; 3Rich and Robin Porter Cancer Research Center, Indiana State University.; 4Department of Mathematics and Computer Science, Indiana State University.	Scraps, an anilin, and Nebbish, a kinesin, are integral components of a Fox transcription factor-regulated subnetwork that mediates specific cardiac progenitor cell divisions.
15	CB	Evelyn C. McGuire ^{1,2,3} , Andrew J. Kump ^{1,3,4} , Mark H. Inlow ^{3,5} , and Shaad M. Ahmad Kump ^{1,3,4} 1Department of Biology, Indiana State University, 2Department of Chemistry and Physics, Indiana State University. 3The Center for Genomic Advocacy, Indiana State University. 4Rich and Robin Porter Cancer Research Center, Terre Haute, IN. 5Department of Mathematics and Computer Science, Indiana State University	A prioritized screen to identify downstream targets of the Forkhead/Fox transcription factor Jumu that mediate cardiac progenitor cell divisions.
16	CB	Abbigayle J. Gamble ^{1,2*} Amy A. Kaur ^{1,2*} , Alishba Rizwan ^{2,3*} , Melisa Spognardi ^{2,4} , Rajnandani Katariya ^{1,2} , M. Rezaul Hasan ^{1,2,5} , Manoj Panta ^{1,2} , Andrew J. Kump ^{1,2,5} , and Shaad M. Ahmad ^{1,2,5} 1Department of Biology, Indiana State University, 2The Center for Genomic Advocacy, Indiana State University 3Department of Psychology, Indiana State University 4Saint Mary-of-the-Woods College 5Rich and Robin Porter Cancer Research Center, Terre Haute, IN. *Equal contributors	Analysis of the cardiogenic roles of the zinc-finger transcription factor-encoding genes <i>spalt major</i>, <i>spalt-related</i>, and <i>no ocelli</i>.

SECTION ABBREVIATION KEY

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POSTER PRESENTATIONS- 4:15 PM TO 5:55 PM

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17	CB	Rachel E. Williamson ¹ , Maxx Martinez ² , and Ashley L. Kalinski ¹ , ¹ Ball State University; ² Delta High School	Establishing a Macrophage-Neuron co-culture system to assess neuronal and macrophage dynamics
18	CB	Joe Kaefer , Adam Berg, Connor Wakefield, Walter Novak, Erika Sorensen-Kamakian, Wabash College	Development of De Novo Protein Switches (LOCKR) using Dynein and Synaptotagmin
19	CB	Connor Wakefield, Mitchell Keeling , Adam Berg, Joseph Kaefer, Walter Novak, Erika Sorensen-Kamakian; Wabash College	Designing LOCKR Protein Switch C in <i>C. elegans</i>
20	CB	Grant Johnson , Felix Valero-Davila, Nhan Huynh, Erika Sorensen-Kamakian, Walter Novak; Wabash College	Expression and Purification of degraLOCKR Constructs for Protein Degradation in Nematode Worms
21	CB	Nhan Huynh , Erika Sorensen-Kamakian, Walter Novak	cODC degraon Optimization to Control Protein Levels in <i>C. elegans</i> using LOCKR
22	CB	Emily Desai , Rachel Williamson, and Ashley L. Kalinski; Ball State University	<i>Sarm1</i>^{-/-} mice show functional deficits after sciatic nerve injury
23	CB	Letiita Bortey and Dr. Jennifer Kowalski-Butler University	FSHR-1 and its candidate ligands FLR-2 and T23B12.8 regulate neuromuscular signaling balance.
24	CB	Brendan W. Jones and Bikram Sharma; Department of Biology, Ball State University	Determining the Role of Hypoxia and SOX17 in Coronary Vessel Development
25	CB	Sarah Maarouf and Jennifer R. Kowalski Butler University, Department of Biological Sciences	Investigation of potential proteasomal regulation of the synaptic protein, SYD-2 Liprin-α in <i>C. elegans</i>
26	CB	Frank Bogan , Evan Rogers, Brendan William Jones, Kamal Baral, Michael Reisinger, Philip J. Smaldino, and Bikram Sharma; Ball State University	Role of Dhx36/G4R1 in coronary angiogenesis and heart development
27	CB	Hamayl Afzal , Jeff Hansen, and Sarah Mordan-McCombs, DePauw University	Anti-tumor Properties of a Novel Amino Alcohol Against Breast Cancer Cell Lines
28	CB	Rachael Hinshaw , Jeff Hansen and Sarah Mordan-McCombs, DePauw University	Investigating the effect of the benzylamine and epoxide product on the cell viability of MCF7 and SUM159 breast cancer cell lines
29	CB	Brittney Clark , Kaleeb Whiting, and Kimberly M. Baker, University of Indianapolis	Assessing the Combinatory Effects of Resveratrol, Luteolin, and Chrysin on Breast Cancer Cell Proliferation
30	CB	Samantha G. Legeza , Department of Biology, Hanover College, Stephanie L. Lerach, Department of Pediatrics, University of Minnesota, Minneapolis, MN, Stacy L. Solin, Genetics, Development, and Cell Biology, Iowa State University, Ames, IA, Maura McGrail, Genetics, Development, and Cell Biology, Iowa State University, Ames, IA, Lisa A. Schimmenti, Department of Clinical Genomics, Mayo Clinic, Rochester, MN, Pamela R. Pretorius, Department of Biology, Hanover College	Characterization of <i>pax2a</i> TALEN mutations via engrailed expression

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POSTER PRESENTATIONS

31	CB	Bryce Kuschel and Bikram Sharma, Ph.D	Determining the role of Apj signaling in coronary angiogenesis: an <i>in vitro</i> study using isolated primary coronary endothelial cells
32	CB	Josh Love and Gregory F. Weber, University of Indianapolis	Formation and maturation of desmosomal cell-cell adhesions during early vertebrate embryo development
33	CB	Landon Tak [1], Erin Bradley [1], Lexi Short [1], Hannah Allen [1], Sanjay Shrestha [2], Claire Walczak [2], and Amber Yount [1] [1] Department of Biology, Franklin College [2] Medical Sciences Program, Indiana University School of Medicine-Bloomington	Detecting a Protein-Microtubule Interaction
34	CB	Rodrigo Mohallem ^{1,2} & Uma K Aryal ^{1,2} Department of Comparative Pathobiology, Purdue University Bindley Bioscience Center, Purdue University	Phosphoproteomic analysis reveals dynamic regulation of PML-Nuclear Body proteins during senescence
35	CB	Jakob Faber, Michael Bertram , Adam Berg, Walter Novak, Erika Sorensen-Kamakian	Developing De Novo Designed Protein Keys (LOCKR) in <i>C. elegans</i>
36	CH	Bailey Walker , Angel Kiggundu Nkosi, Levi Dumpert and Zhihai Li, Department of Chemistry, Ball State University	The Characterization of Nickel Tungstate Nanomaterials and Solar Cell Electrodes by Atomic Force Microscopy
37	CH	Justin McEntire and Alexis Mann and Mary Konkle, Department of Chemistry, Ball State University	Reactivity of MitoNEET towards Sulfur Containing Biological Molecules
38	CH	Jessica Villegas, Bryce Ball, Hannah Bhakta , Ashley Wasserman, Emily Gonzalez, Helene Bee, Dr. Danielle Orozco-Nunnally, Dr. Jeffrey Pruet	Synthesis of <i>Argemone mexicana</i> Inspired Antimicrobial Agents
39	CH	Sydney Oliver , Dr. Eric Rubenstein ² , Dr. Mary Konkle	Understanding How MitoNEET Contributes to Oxidative Stress
40	EC	Mary Margaret Moffett , Indiana University-Purdue University Indianapolis Donald E. Winslow, Ivy Tech Community College Central Indiana Andrew J. Baker, Indiana University-Purdue University Indianapolis	Assessing Geographic Distribution of Invasive Plant Species in Metropolitan Indianapolis
41	EC	Summer Brown , Shelby Royal, Rod Williams, Nick Burgmeier; Department of Forestry and Natural Resources, Purdue University	Density effects on growth rates of juvenile captive Eastern Hellbenders (<i>Cryptobranchus alleganiensis alleganiensis</i>).
42	EC	Corey Dea , Julia Angstmann, Carmen Salisbury, Travis Ryan- Butler University	Categorizing urban greenspaces by vegetation complexity: implications for managing biodiversity
43	EC	Rose Adilene Inchauregui , Marcus Bailey, Brooke Shoop, Deborah Marr, Indiana University South Bend	Analysis of Forest Composition and Changes in Abundance of the Understory Shrub <i>Asimina triloba</i> (Paw paw) in an Old Growth Indiana Forest
44	EC	Trevor L. Proctor , Scott M. Bergeson, and Mark A. Jordan, <i>Purdue Fort Wayne University, Department of Biology</i>	AHDriFT Systems Provide Greater Effectiveness than Coverboards in a Snake Survey at an Indiana Marsh

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45	EC	Emily Gonzalez (Ivy Tech Community College at Valparaiso, IN) Kelsey Koch (Parkland Community College at Champaign, IL) Mary Moffett (Ivy Tech Community College at Indianapolis, IN, & Indiana University - Purdue University Indianapolis) Teresa Muñoz (Ivy Tech Community College at Indianapolis, IN) Nathaniel Betteridge (Ivy Tech Community College at Anderson, IN) Alex Riley (University of Illinois at Urbana-Champaign) Lana Bolin (Indiana University at Bloomington)	Seed predation rates in native and exotic plant species across an environmental gradient
46	EC	Katherine Brandewie and Mark A. Jordan, Purdue University Fort Wayne Biology Department	Correlation of Road Proximity with Sex Ratio and Body Size in Freshwater Turtle Populations within a Large Urban Wetland Complex
47	EC	David Ice , Indiana University Purdue University Indianapolis	Effect of Common Herbicides on <i>Houttuynia cordata</i> (thunb.), a Highly Invasive Species
48	EC	Jasmina Davis , Hector Zumbado-Ulate, Catherine Searle, Purdue University	Assessing the Effect of Bd Reservoir Species on the Geographic Range and Climatic Niche of Robber Frogs in Costa Rica
49	EC	Nicole Castañeda , Clarissa A. Starbuck, Joy M. O'Keefe, Diana K. Hews, <i>Dept. Biology, Indiana State University, (NC, DKH); Dept. Natural Resources and Environmental Sciences, University of Illinois at Urbana-Champaign, Urbana, IL 61801 (CAS, JMO)</i>	Ectoparasites and Hematological Values in Midwestern Bats
50	EC	Marcus A. Jorgensen , Clarissa A. Starbuck, Joy M. O'Keefe, and Diana K. Hews. <i>Department of Biology, Indiana State University, (MAJ, DKH); College of Agricultural, Consumer & Environmental Sciences, University of Illinois Urbana-Champaign, Urbana 61801 (JMO, CAS)</i>	Hair Cortisol for Non-Invasive Health Evaluation in the Big Brown Bat, <i>Eptesicus Fuscus</i>
51	EN	Tyler Pessler, Sean Childers, Michelle Marincel Payne, Namita Shrestha	Assessment of stormwater pollutant loads in Terre Haute with storm water management computer model
52	EN	Christina Gray , Dr. Irene Reizman, Affiliation: Rose-Hulman Institute of Technology	Construction of a Plasmid for use in Whole-Cell Biosensors to Detect Oxygen Levels
53	EN	Keegan Parkhurst , Marissa Tousley, Rose-Hulman Institute of Technology	Effects of confinement on the stiffness of cellulose acetate thin films
54	EN	Sean Childers , Dr. Michelle Marincel Paynce, Dr. Namita Shrestha, Rose-Hulman Institute of Technology	Investigating the Use of Small-Scale, Constructed Wetlands for Stormwater Treatment

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POSTER PRESENTATIONS

55	ES	Carson Wright , Dr. J.L. Ghezzi-Haefl, Ball State University, Department of Environment, Geology, and Natural Resources	The Effect of Biochar on Soil Fertility, Soybean yield, and Leachate Quality
56	ES	Tyler Dennis , Indiana State University	Analysis of Soil Micro-Arthropod to Compare Reclaimed Mining Sites
57	ES	Emily N. Spicuzza and Darrell G. Schulze, Agronomy Department, Purdue University	Thomas M. Bushnell's Contributions to the Development of Soil Survey
58	EQ	Parisa Ebrahimbabaie Kathleen Welch , Ball State University; Environment, Geology and Natural Resources	TCE Decomposition by Cu2O Nanoparticles
59	EQ	Abdulgadir Elnajdi, Carolyn Dowling , Jessi Haefl, Adam Berland. Department of Environment, Geology and Natural Resources, Ball State University	Evaluating the factors controlling the environmental availability of lead (Pb) in the soils of Muncie, Indiana.
60	EQ	Katya Drake , Brandie Bollard, Jennifer Latimer. Indiana State University	Bioavailable Lead in Soils from Two West Central Indiana Counties
61	MM	Luis Miguel Mestre , Nianjun Liu, David B. Allison, Keisuke Ejima Department of Epidemiology and Biostatistics at Indiana University School of Public Health-Bloomington, Greg Pavela Department of Health Behavior at University of Alabama at Birmingham	Determining an Appropriate Statistical Model When Assessing the Association Between Obesity and Mortality Using Epidemiological Data
62	MB	Taylor P. Stewart and Natalia B. Hubbs, PhD, Department of Biology, Hanover College	BAD-E: One Phage, Two Hosts
63	MB	Emeline Scott , Ball State University	Generation of <i>pug1Δ pug1Δcha1Δ</i> & <i>pug1Δmet2Δ</i> in <i>C. albicans</i> to assess pseudouridine degradation
64	MB	Elizabeth Rueschhoff , Indiana University Southeast	Isolation of the bacteriophage GoldHunter, a bacteriophage of the bacterium <i>Gordonia rubripertincta</i>
65	MB	Anu Kumal , Douglas Bernstein, Ph.D., Department of Biology, Ball State University	Determining the location of Pus7 in yeast and filamentous <i>C. albicans</i>
66	MB	Alejandro Carrasco , MPH, Brooklynne Johnson , Kevin Medernach , Nicole Lisek , Samina Akbar, PhD, Azeem Ahmad, PhD	Evaluation of Antibiotic Resistance in Bacteria of the White River Waterways: Sampling and Kirby-Bauer Assays
67	MB	Owen Bevis , Natalia B. Hubbs, Hanover College	A tail of Two Phages
68	MB	Katelyn Shouse (Valparaiso University), Ashley Wasserman* (Ivy Tech Community College), Emily Gonzalez* (Ivy Tech Community College), Helene Bee, Lanna Sirhan, Alexis Dres, Caleb VanArragon, Jeffrey Pruet and Danielle Orozco-Nunnelly (Valparaiso University)	Identifying and Developing Novel Compounds to Combat Superbugs Related to NASA Space Travel

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69	MB	Logan Smith , Jocelyn Gatz-Schrupp, and Hisako Masuda, School of Sciences, Indiana University Kokomo	Development of assay to study nylon 11 biodegradation pathway by soil bacteria
70	MB	Olivia Terry , Sanya Hatimi, and Hisako Masuda, School of Sciences, Indiana University Kokomo	Effects of Past Growth Conditions on the Length of Growth Arrest Induced by HipA toxin of <i>hipBA</i> Toxin-Antitoxin system in <i>Escherichia coli</i>
71	MB	Evan Spell and Douglas A Bernstein, Ball State University	Characterization of <i>pug1/gap2</i> double knockout in the human fungal pathogen <i>C. albicans</i>
72	MB	Laura Krause, Emma Kyei , Charles Samuel, Dr. Samina Akbar, Dr. Ahmed Azeem, Marian University-College of Osteopathic Medicine	Evaluation of Antibiotic Resistance in Bacteria of the White River Waterways: PCR Evaluation of Antibiotic Resistance Genes
73	MB	Veronica A. Hamilton , Allison R. Rober, Kevin H. Wyatt, Department of Biology, Ball State University	A Floristic Study Revealing the Biodiversity of Alaskan Peatland Diatoms
74	PS	German Posada and Shreya Desai , Purdue University	Secure Base Relationships Across Two Cultures
75	PB	T.J. Cox, Taylor Tatlock , and Alice Long Heikens, Franklin College, Department of Biology	Changes in Population Ecology of Beechdrops at Hougham Woods Biological Field Station
76	SE	Dr. Sridhar Ramachandran and Mr. Michael Popplewell Department of Informatics, School of Natural Sciences, Indiana University Southeast	Using AlphaFold DB for STEM in K-12+ contexts
77	ZE	Emily Archibald, Kendall Larson, Maranda Powell , Isabella Schoolcraft, Jhanelle Spence, Heather Wendland, Ashlynn Williamson and Kristi Bugajski, PhD	The Effect of Plastic Bags on Decomposition and Necrophagous Fly Composition
78	ZE	Cassie Froedge , Kelsey Hughes, and Dr. Glené Mynhardt	New County Record for <i>Merope tuber</i> (Insecta: Meropeidae) in Hanover, Indiana
79	ZE	Casey Venable , Marc Milne, University of Indianapolis	Ghost hunting: The search for the rarest spider in America, <i>Myrmekeiaphila flavipes</i>
80	ZE	Warren Pryor , University of Saint Francis	Changes in Shell Dimensions of Adult <i>Lampsilis siliquoidea</i> (Bivalvia: Unionidae) in Crooked Lake (Whitley County, Indiana): 2021 Progress Report
81	ZE	Margaret Southern , Dr. Kevin Gribbins, Emily Bauman - M.S. University of Indianapolis, Justin Rheubert - M.S. University of Findlay	Percursory Histology and Ultrastructure Account of the Integument of the Two-lined Salamander, <i>Eurycea bislineata</i>
82	ZE	Hannah Flanagan , Bart Pederson, Bryce Buchanon, Cody Bennette, Ball State University	Olfactory Recognition in Glycogen Synthase Deficient Mice
83	ZE	Bailey Pyle , J. Trevor Vannatta, Grace Schumacher, Dennis Minchella	Stage fright? Sequence and timing of infection with different parasite life stages impacts host-parasite life history

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2022 Indiana Academy of Science Annual Meeting | Final Program

GENERAL SCHEDULE OF ORAL PRESENTATIONS

TIME	AUTHOR(S)	PRESENTATION	SEC	RM#
9:45 AM	Darrin L. Rubino , Biology Department, Hanover College Sarah A. Malone , Biology Department, Hanover College Christopher Baas , Department of Landscape Architecture, Ball State University	Tree-ring and timber species analysis of a Jackson County, Indiana, Farmstead	BO	309
	Nahian Fyrose Fahim , Kusum Parajuli, Honey Win, Sinthia Kabir Mumu, Janeen Dahouk, Soufanieh Pierre, Isaac Wendel, and Ahmed Mustafa; Purdue University Fort Wayne	Impact of Temperature and Lipopolysaccharides (LPS) on Immune cells in Sea Urchin, <i>Arbacia Punctulate</i>	CB	310
	Hongtao Li , Tricia Pierce, and Penny Quinn; Department of Sciences and Mathematics St. Mary of the Woods College	Managing Daily Stress with Mind-body Exercises: Ba Duan Jin (Workshop)	CB	JW 4
	Jordan T. Froese - Ball State University	Improving Rieske Dioxygenase Activity Through Enzyme Engineering	CH	311
	Beth Hall, Ph.D. , State Climatologist, Purdue University	Climate services for our data-driven science, planning, and decision-making needs (Hot Topic)	ES	312
	Kathryn Mudica and Dr. Jen Latimer	Bioaccumulation of mercury in Indiana river otters	EQ	JW 3
	Timothy Beers, PhD. , Grace-Rupley Professor of Physics, University of Notre Dame	The Astrophysical Origin of the Periodic Table (Hot Topic)	GI	313
	Khachatur Manukyan, Ph.D. Department of Physics, University of Notre Dame	No pressure, no diamonds: Extreme processing to prepare precious materials (Hot Topic)	GI	JW 7
10:00 AM	Virginia Caine, M.D., MPH. Director and Chief Medical Officer, Marion County Public Health Department, and Associate Professor of Medicine, Indiana University School of Medicine Infectious Diseases Division.	'Lessons from A Pandemic: What's in Our Future?' (Hot Topic)	GI	JW 8
	Sarah A. Malone , Biology Department, Hanover College Christopher Baas , Department of Landscape Architecture, Ball State University Darrin L. Rubino , Biology Department, Hanover College.	Dendroarchaeological Analysis of a Unique Jackson County Log and Timber Barn	BO	309
	Samantha Turk , Danielle Overton, Cade Orchard, Christopher Indovina, Avery Runnebohm, Sarah Engle, Sheldon Watts, Julia Niekamp, Sam Gosser, Ellen Doss, Mahmoud Daraghmi and Eric M. Rubenstein. Ball State University	Investigating Novel Connections between Lipid Synthesis and Protein Degradation	CB	310

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Richard D. Sample , Jarred Brooke, Michael Jenkins - Purdue University, Department of Forestry and Natural Resources, Moriah Boggess - North Carolina Wildlife Resource Commission	Examining species and regional differences in white-tailed deer browsing selection and nutrient accumulation within stump sprouts in Indiana	EC	308	10:00 AM
Jordan Kemp , Dr. Jennifer Latimer, Indiana State University	The Spatial Distribution of Mercury in Urban Soils, Terre Haute, Indiana	EQ	JW 3	
Azam Shafieenezhad (1) , Stephen R. Wassall (1), Stephanie Tristram-Nagle (2), John F. Nagle (2), Horia I. Petrache (1) (1) Department of Physics, Indiana University Purdue University Indianapolis, (2) Department of Physics, Carnegie Mellon University, Pittsburgh, PA	The effect of dopamine on model lipid membrane structure	PA	314	
Kelsey Hughes , Cassie Froedge, and Glené Mynhardt, Hanover College	Population Structure of <i>Merope tuber</i> (Insecta: Meropeidae) collected in Hanover, Indiana	ZE	JW 9	
Chloe Kotrba , Dr. C. Patience Masamha – Butler University College of Pharmacy and Health Sciences	Inducing Alternative Forms of Cell Death in Multi-Drug Resistant Ovarian Cancer Cells	CB	310	10:15 AM
Hayden Schneider , Dr. Wei Shi, Ball State University	Synthesis of 4,6-isopropylidene glucose thio toluene by using benzaldehyde dimethyl acetal Instead of 2,2-dimethoxypropane (DMP)	CH	311	
Rylee D. Tomey , Richard D. Sample, Zackary J. Delisle, Alexis R. Trumbower, Phoebe J. Habeck, Jarred M. Brooke, Michael A. Jenkins – Purdue University	Comparing methods of estimating white-tailed deer fecal pellet-group density in Indiana woodlots	EC	308	
Stephanie Freeman-Day , Gretchen Luchauer, Dr. Burnell C. Fischer, Rodoshi Sinha, Anagha Gore, Indiana University O'Neill School of Public Affairs	Urban forest patches in Bloomington, Indiana- Analyzing sustainability over time	EQ	JW 3	
Caylie Wimmersberger , James Bertaux, Dr. Marc Milne, University of Indianapolis	Revision of <i>Neodietrichia</i>	ZE	JW 9	
Anupma Thakur, Ph.D. Postdoctoral Researcher, Purdue School of Engineering and Technology, IUPUI, USA	The Rise of MXenes: The Novel Family of Two-Dimensional Metal Carbides & Nitrides (Hot Topic)	GI	314	
Sinthia Kabir Mumu , Honey Win, Isaac Wendel, Nahian Fyrose Fahim, Kusum Parajuli, and Ahmed Mustafa; Purdue University Fort Wayne	Inhibitory effect of <i>Gynura procumbens</i> extracts on B16 Murine Melanoma cell and proliferative effect on Spleen cell <i>In-vitro</i>.	CB	310	10:30 AM
Jeffrey D. Holland and Laura Sutherland, Department of Entomology, Purdue University	Invasion dynamics understood with resistance surfaces	EC	308	
Gretchen Luchauer , Stephanie Freeman-Day, Dr. Burnell Fischer, Indiana University O'Neill School of Public and Environmental Affairs	Urban Stream Corridors and Forest Patches – The Connections: A Case Study of Bloomington, IN	EQ	JW 3	
Randy E. Hunt , Indiana University Southeast	Vibrational signals associated with courtship in the treehopper <i>Enchenopa binotata</i>	ZE	JW 9	

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10:45 AM	Patrick A. McVey , Noah Dierckman, Margaret Sperry, Marie Meyer, Matthew Reuter, and Kelsey Ramp, Marian University	Mass Spectrometry Imaging of Pharmaceuticals for Detection of Crystalline Active Pharmaceutical Ingredients	CH	311
	Bruce Rothschild , Carnegie Museum of Natural History Jingmai O'Connor, Field Museum of Natural History	Tyrannosaur indignities: False accusation of sexually transmitted disease (STD) rebutted	ES	312
	Sam Gradle , Bureau of Water Quality, Muncie Sanitary District; Laura A. Bowley, Bureau of Water Quality, Muncie Sanitary District; Rick Conrad, Bureau of Water Quality, Muncie Sanitary District; Drew Holloway, Bureau of Water Quality, Muncie Sanitary District; Brant E. Fisher, Indiana Department of Natural Resources, Division of Fish and Wildlife	Lessons and Success in Propagating Freshwater Mussels on a Limited Budget in Muncie, Indiana	EC	308
	Gene Kritsky (Mount St. Joseph University), Jessee Smith, and Carl Strang	Observations of periodical cicadas (Brood X) in Indiana and Ohio in 2021 (Hemiptera: Cicadidae: <i>Magicicada</i> spp.)	ZE	JW 9
11:00 AM	Hongtao Li , Tricia Pierce, and Penny Quinn; Department of Sciences and Mathematics St. Mary of the Woods College	Managing Daily Stress with Mind-body Exercises: Ba Duan Jin (Workshop)	CB	JW 4
	James O. Farlow , Department of Biological Sciences, Purdue University Fort Wayne, Jens N. Lallensack, School of Biological and Environmental Sciences, Liverpool, John Moores University, Liverpool, United Kingdom, Rodrigo T. Mueller, Centro de Apoio a Pequisa Paleontologica de Quarta Colonia, Universidade Federal de Santa Maria, Brazil, James A. Hyatt, Department of Environmental Earth Science, Eastern Connecticut State University, Willimantic, Connecticut	Pedal Skeletal Proportions of Bipedal and Potentially Bipedal Dinosaurs	ES	312
	Lara E. Jones and Kamal Islam, Ball State University	Investigating long-distance dispersal patterns of the Cerulean Warbler (<i>Setophaga cerulea</i>) in southern Indiana	EC	308
	David Torain II, Ph.D. Professor, Montgomery Germantown Mathematics Advisor, Department of Mathematics and Statistics, Montgomery College High Technology and Science Center, Germantown, Maryland 20876	Using Torain's Equations as a Predictable Model in the Sciences (Hot Topic)	MM	309
	Doug Bernstein, Ph.D. , Associate Professor Ball State University	RNA modification roles in the development of mRNA vaccines (Hot Topic)	MB	313
	Donald G. Ruch , John E. Taylor, Taylor Davis, Sam Luginbuhl, Racheal Stenger, Daniel E. Kern, and Kemuel S. Badger: Department of Biology, Ball State University, Paul E. Rothrock: Indiana University, Deam Herbarium, Smith Research Center, Bloomington, IN	Floristic Quality Assessment of Reber Woods, Delaware County, Indiana	PB	JW 7

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AUTHOR(S)	PRESENTATION	SEC	RM#	TIME
Jeffrey S Dukes, Ph.D. Belcher Chair for Environmental Sustainability Professor, Department of Forestry and Natural Resources and Department of Biological Sciences Purdue University	Impacts of Climate Change on Indiana Ecosystems and Communities (Hot Topic)	GI	JW 10	11:00 AM
Dibyadyuti Datta , Ph.D., M.S., Assistant Research Professor of Pediatrics, Indiana University School of Medicine	Global Health Training and my experiences in the field...my 10-year journey from graduate school to becoming an independent researcher (Hot Topic)	GI	JW 9	
Kuo-Hao Chen -Ball State University, Zhihai Li-Ball State University, Cody Leasor-Indiana University Bloomington	Electrochemical STM studies of molecular adsorption and phase transition at electrode-electrolyte interfaces	CH	311	11:15 AM
Mose Nasser	Stratigraphic Columns of Posey, Pike, Lawrence, Bartholomew & Franklin Counties, Indiana	ES	312	
Racheal Stenger , John Taylor, Donald Ruch Phd., Ball State University	Forest Community Structure and Species Composition of Reber Woods, Delaware County, Indiana	PB	JW 7	
Erin Gerecke, Ph.D. Department of Pediatrics, Herman B. Wells Center for Pediatric Research, Indiana University School of Medicine	Science Communication Roundtable (Workshop)	SE	JW 8	
Krista E. Latham, PhD, D-ABFA , Professor of Biology & Anthropology, Director, University of Indianapolis Human Identification Center	Ten Years of Humanitarian Forensic Science in the Texas Borderlands: Transformative Learning Experiences through the Practice of Forensic Anthropology (Hot Topic)	GI	JW 3	
Katelyn Rusiniak , Kathryn Mudica, Jennifer Latimer Indiana State University	Water Quality of the Wabash River using Biogeochemical Analysis and Biotic Indicators	ES	312	11:30 AM
Nathanael J. Pilla , Orbis Environmental Consulting	Vascular Plants of the Moraine Nature Preserve - Additional Parcels	PB	JW 7	
Megan Moss Howard County Stormwater District	Providing Science Education to the Public (When you just graduated and have no idea how to go about teaching anyone anything scientific.)	SE	314	

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GENERAL SCHEDULE OF ORAL PRESENTATIONS

TIME	AUTHOR(S)	PRESENTATION	SEC	RM#
11:45 AM	Alexandra D. Tamerius †‡, Alison B. Altman†°, Michael J. Waters‡, Eric A. Riesel°, Christos D. Malliakas†, Matthew L. Whitaker+×, Tony Yu#◇, Gilberto Fabbris#◇, Yue Meng§◇, Daniel Haskel◇, Yanbin Wang#◇, Arthur R. Ehinger , Steven D. Jacobsen±, James M. Rondinelli‡*, Danna E. Freedman°* Department of Chemistry and Physical Sciences, Marian University, †Department of Chemistry, ‡Department of Material Science and Engineering, and ±Department of Earth and Planetary Sciences, Northwestern University, Evanston, Illinois 60208 °Department of Chemistry, Massachusetts Institute of Technology, Cambridge, Massachusetts, +Department of Geosciences, Stony Brook University, Stony Brook, New York 11794, ×National Synchrotron Light Source II, Brookhaven National Laboratory, Upton, New York 11973, #GeoSoilEnviroCARS, Center for Advanced Radiation Sources, The University of Chicago, Chicago, Illinois 60637◇Advanced Photon Source, Argonne National Laboratory, Lemont, Illinois 60439, §HPCAT, X-ray Science Division, Argonne National Laboratory, Argonne, Illinois 60439	Investigating Electronic Properties of Solid-State Materials via Exploration Structural Families	CH	311
	Kristi Bugajski , Mike Watters, Bonnie Dahlke-Goebbert and Mindy Capaldi, Valparaiso University	Being EPIC in a pandemic: How we continued social activities and mentoring with COVID restrictions	SE	312
	Kusum Parajuli , Nahian Fahim, Janeen Dahouk, Soufanieh Pierre and Ahmed Mustafa Purdue University Fort Wayne	Physiological Stress Responses in Sea Stars Induced by Heat and Arm Amputation	CB	310
2:15 PM	Hongtao Li , Tricia Pierce, and Penny Quinn; Department of Sciences and Mathematics St. Mary of the Woods College	Managing Daily Stress with Mind-body Exercises: Ba Duan Jin (Workshop)	CB	JW 4
	Wei Shi, Ph.D. , Assistant Professor, Ball State University	Study Bioactive Natural Products in Medicine and Biology (Hot Topic)	CH	311
	Samira Safaee 1, Eileen J. Kladvik1, Dharmendra Saraswat2 Department of Agronomy, Purdue University, USA Department of Agricultural & Biological Engineering, Purdue University	<i>DSM_Toolkit _ A new open-source toolbox for digital soil mapping</i>	ES	312
	Scott A. Namestnik and Roger L. Hedge, Indiana Department of Natural Resources, Division of Nature Preserves	Natural Communities and Plant Species of Conservation Concern at Deer Lake, St. Joseph County, Indiana	PB	JW 7
	Bill Sullivan, Ph.D. , Professor Indiana University School of Medicine	How Do We Confront Antiscience? (Hot Topic)	SE	JW 8
	Maresa Murray, Ph.D. , Indiana University, Assistant Dean of Diversity, Inclusion, and Organizational Climate	“Challenges Faced by Student and Professional Scientists of Color in the U.S.: Actionable Strategies We Can All Use for Reconstructing New Inclusive Contexts” (Workshop)	SE	JW 10
	Katherine Nicole Canfield, Ph.D. U.S. Environmental Protection Agency, Narragansett, RI	VIRTUAL: Using Inclusive Science Communication Practices to Address Distrust in Science (Hot Topic)	GI	JW 3

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Taylor Karns , Philip Smaldino, Ph.D., Siara Sandwith, Michael Reisinger, Tyler Osborne, Evan Rogers, Emma Eubank, Quinn Anderson, Ball State University	The role of the G-quadruplex helicase, DHX36, in lymphoma utilizing novel transgenic mice.	CB	310	2:30 PM
Darrell G. Schulze , Agronomy Department, Purdue University	Spatial Distribution of Soils with Clay-Enriched Subsoils	ES	312	
Danny Heinz and Kamal Islam, Department of Biology, Ball State University	Examining Abiotic Effects on Northern Saw-whet Owl Migration in Delaware and Henry counties, Indiana	EC	308	
Cameron Pitzer , Huntington University	Baseball Statistical Analysis	MM	309	
Richard Hull , Department of Biology, Indiana University-Bloomington	A Modern Analysis of the Vascular Plant Flora of the Indiana Wabash River Corridor	PB	JW 7	
Lindee Mason and Ahmed Mustafa Department of Biological Sciences, Purdue University Fort Wayne	Benefits of an Astaxanthin Supplemented Diet on Stressed Nile Tilapia	ZE	JW 9	2:45 PM
Todd A. Thompson , Matthew R. Johnson, Indiana Geological and Water Survey	Twenty-first Century Geological Mapping of the State	ES	312	
Ashley Kovach-Hammons , Jordan Marshall, Purdue University Fort Wayne	Predicting Site Suitability for Kudzu (<i>Pueraria montana</i>) in the Great Lakes Basin	EC	308	
Faith Jackobs Charlie Peck, Emmett Smith , Earlham College	Changes in Icelandic soil microbiomes from the forefield of retreating glaciers revealed by Illumina and MinION sequencing.	MB	313	
John Taylor , Samantha Luginbuhl, Eli Nelson, Don Ruch Ball State University Biology Department	Growing-season vs Dormant-season prescribed fire: implications for prairie management	PB	JW 7	
Mary J Woodruff ¹ ; Susanna N Tsueda ¹ ; Kimberly A Rosvall ¹ ¹ Biology, Indiana University, Bloomington	Coping with climate change during early development: responses to experimental heat in wild nestlings	ZE	JW 9	

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3:00 PM	Ellen M. Doss, Douglas A. Bernstein, and Eric (VJ) Rubenstein	Endoplasmic Reticulum Protein Quality Control in <i>Candida albicans</i>	CB	310
	Davis Anum, Temitope Alonge and David Bwambok, Institution: Ball State University	Human serum albumin <i>nanoparticles</i> encapsulated with <i>fluorophore</i> and chemotherapeutic agent for drug delivery and cancer therapy	CH	311
	Lorraine Wright, LPG, GISP	History of the Public Land Survey System (PLSS): Mapping Survey Field Notes to History	ES	312
	Bethany J. Darby and Kamal Islam, Department of Biology, Ball State University	Investigating Spatial Distribution Patterns of Cerulean Warbler (<i>Setophaga cerulea</i>) Nests and Landscape-Level Associations in South-Central Indiana	EC	308
	Kevin L. S. Drury, Ph.D. Huntington University, Department of Mathematics and Computer Science	Mobility and Spatial Auto--correlation in Spiral Waves	MM	309
	Kylee M. Brewster and Natalia B. Hubbs, PhD, Department of Biology, Hanover College	Baby Got (<i>Citro</i>)bacter: Characterization of <i>Citrobacter</i> Phages and Mutagenesis of <i>Citrobacter</i>	MB	313
	Michael Homoya*, Wesley Homoya, Barbara Homoya, *Indiana Department of Natural Resources, Division of Nature Preserves	A Status Survey of Indiana Orchidaceae	PB	JW 7
	Kent Edmonds, Department of Biology, Indiana University Southeast	Estradiol and Progesterone Regulation of Gastrointestinal (GI) Development and Reproduction in the Marsh Rice Rat (<i>Oryzomys palustris</i>)	ZE	JW 9
3:15 PM	Delaney Long, Luke Brewer, Dayle Matheny, Douglas Roossien - Ball State University	Serotonin autoreceptors regulate <i>Drosophila</i> serotonergic axon morphology <i>in vitro</i>	CB	310
	Hongtao Li, Tricia Pierce, and Penny Quinn; Department of Sciences and Mathematics St. Mary of the Woods College	Managing Daily Stress with Mind-body Exercises: Ba Duan Jin (Workshop)	CB	JW 4
	Zachary Kellogg, Dr. Mark A. Jordan, Dr. Bruce Kingsbury, Dr. Jordan Marshall, Dr. Scott Bergeson, Darren Shoemaker, Purdue Univeristy - Fort Wayne Betsey Yankowiak - Little River Wetlands Project	Spatial Ecology of Snapping Turtle (<i>Chelydra serpentina</i>) within an Urban Wetland Complex	EC	308
	Erin McClelland, Marian University College of Osteopathic Medicine	Sex susceptibility in <i>Cryptococcus neoformans</i> infections (Hot Topic)	MB	313
	Mark A. Jordan, Daniel Guinto, Tyler Scoville, Jessica Hinson, and Bruce A. Kingsbury, Purdue University Fort Wayne	Conservation Genetics of Blanding's Turtle and Spotted Turtle in Indiana	ZE	JW 9
	Seth Darling, Ph.D., Interim Chief Science & Technology Officer, Energy and Global Security Directorate; Director Center for Molecular Engineering, Director Advanced Materials for Energy-Water Systems Center Argonne National Laboratory Lemont, IL	VIRTUAL: The Role of Interfaces in Advanced Materials for Energy-Water Systems (Hot Topic)	GI	JW 3

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Honey Win , Kusum Parajuli, Nahian Fahim, Soufanieh Pierre and Ahmed Mustafa Department of Biological Sciences, Purdue University Fort Wayne	Physiological and Immunological Properties of <i>Cucumaria Frondosa</i> , <i>Isostyichopus Badionotus</i> , and <i>Pentacta Pygmaea</i> from the Waters of Eastern North America	CB	310	3:30 PM
Nicholas Friedeman , Mark Jordan - Purdue University - Fort Wayne	Determining the Environmental Associations of <i>Ophidiomyces ophiodiicola</i> on a landscape using Environmental DNA	EC	308	
Syeda A Madiha , Dr. Bikram Sharma - Ball State University	Determining the role of Elabela/APJ and Apelin/APJ signaling on coronary endothelial cell proliferation, migration and survival	CB	310	3:45 PM
Jordan Burgess and Deborah Marr, Department of Biological Sciences, Indiana University of South Bend	Comparison of antibiotic resistance levels in nectar bacteria isolated from <i>Trifolium repens</i> in orchards and urban parks	EC	308	

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