

# 106<sup>th</sup> ISAS Annual Meeting

April 25-26, 2014

Governors State University

Hosts: Karen D'Arcy and Tim Gsell

## Friday, April 25th

- 12noon – 2pm, ISAS Board of Directors Meeting (E Lounge)
- 1-5:30pm, Registration (F Lobby First Floor)
- 2:30-5:30pm, Poster Session (E-F Hallway Second Floor)
- 6-7:30pm, Dinner Banquet (Hall of Governors)
- 8-10pm, Keynote Address – Dr. Marius Stan (Center for Performing Arts)

## Saturday, April 26th

- 8:30-9:30am, Registration (F Lobby First Floor)
- 9am-12:30pm, Oral Presentations (Rooms C3331, C3380, D2442, D2444, F1622, F2442, F2445)
- 12:30-2:30pm, Lunch and Awards (E Lounge)

## Poster Presentation Schedule

2:30-4:00pm				4:00-5:30pm			
1	Agriculture	37	Health Science	2	Botany	38	Health Science
3	Botany	39	Health Science	4	Cellular, Molecular, & Developmental Biology	40	Health Science
5	Cellular, Molecular, & Developmental Biology	41	Health Science	6	Cellular, Molecular, & Developmental Biology	42	Microbiology
7	Cellular, Molecular, & Developmental Biology	43	Microbiology	8	Cellular, Molecular, & Developmental Biology	44	Microbiology
9	Cellular, Molecular, & Developmental Biology	45	Microbiology	10	Cellular, Molecular, & Developmental Biology	46	Microbiology
11	Cellular, Molecular, & Developmental Biology	47	Microbiology	12	Cellular, Molecular, & Developmental Biology	48	Microbiology
13	Cellular, Molecular, & Developmental Biology	49	Microbiology	14	Cellular, Molecular, & Developmental Biology	50	Science Education
15	Cellular, Molecular, & Developmental Biology	51	Zoology	16	Cellular, Molecular, & Developmental Biology	52	Zoology
17	Cellular, Molecular, & Developmental Biology	53	Zoology	18	Cellular, Molecular, & Developmental Biology	54	Zoology
19	Chemistry	55	Zoology	20	Chemistry	56	Zoology
21	Chemistry	57	Zoology	22	Chemistry	58	Zoology
23	Chemistry	59	Zoology	24	Chemistry	60	Zoology
25	Chemistry	61	Zoology	26	Chemistry	62	Zoology
27	Computer Science	63	Zoology	28	Earth Science	64	Zoology
29	Environmental Science	65	Zoology	30	Environmental Science	66	Zoology
31	Environmental Science	67	Zoology	34	Environmental Science	68	Zoology
33	Environmental Science	69	Zoology	34	Environmental Science	70	Zoology
35	Environmental Science	71	Zoology	36	Health Science		

#	Presenter	Title of Presentation
<b>Agriculture</b>		
1	Ariana Oatman (UG, CSU)	Developing a Small Scale Aquaponics System for Chicago Homes
<b>Botany</b>		
2	Michael Bilek (UG, EIU)	White-rot Fungi as Biological Pretreatment Agents for Biomass-to-bioenergy Strategies
3	Noah Dell (UG, SIUE)	Redesigning a Monitoring Network for the Southern Illinois University Edwardsville Nature Preserve
<b>Cellular, Molecular, &amp; Developmental Biology</b>		
4	Kevin Jones (Grad, SIUE)	An Examination in to the Effects of Neuropeptides on the Contractility of the Body Wall of <i>Lumbricus terrestris</i>
5	Katharine Martin (UG, SIUE)	Cross-species Interactions between <i>Schizophyllum commune</i> and <i>Schizophyllum umbrinum</i> Pheromones and Receptors
6	Nicholas Wagner (UG, Knox)	Morphological Changes in a Glioma Cell Line: A Scanning Electron Microscopy Study
7	Olivia Garrett (UG, EIU)	DNA Microarray Analysis Reveals Putative Master Regulators of Liver Function
8	Gretchen Walljasper (UG, Knox)	Determining mRNA Expression Patterns of the Indocytic Protein Intersectin (itsn1) in early <i>Xenopus laevis</i> Development
9	Kyle Hunter (UG, EIU)	Deep Probing of Genome-wide Expression Profiles Reveals Dramatic Misregulation of Genetic Networks in Hepatoma Variant Cell Lines
10	Sudip Paudel (Grad, EIU)	Does the Level of MitoNEET Determine the Outcome of Cancer and Diabetes Treatments?
11	Laura Dalla Costa (UG, EIU)	Is PITX1 a Repressor of Liver Function?
12	Fred Cornwell (Grad, SIUE)	The Effects of FaRPs on the Contractile Activity of the Isolated Crop-Gizzard of the Earthworm <i>Lumbricus terrestris</i>
13	Christine Vu (Grad, SIUE)	The Effects of the Oxytocin/vasopressin Family of Peptides on the Isolated Gizzard Ring of <i>Lumbricus terrestris</i>
14	Jaclyn Taylor (Grad, SIUE)	Neuromuscular Control of Mastication and Brux-like Movements in the Freely Behaving Rat
15	Snehal Chavda (Grad, GSU)	Construction and Biological Analysis of a Folate PEG Fluorescein Magnetic Nanoparticle
16	Tyler McKibben (Grad, SIUE)	The Effects of Various FaRPs on the Isolated Pharynx of <i>Lumbricus terrestris</i>
17	Emily Dimick (Grad, SIUE)	DNA Identity of <i>Schizophyllum umbrinum</i> B-mating type through PCR
18	April Brown (UG, EIU)	Nitrogen's Effect on the Growth of a Community of Acidophilic Organisms

#	Presenter	Title of Presentation
<b>Chemistry</b>		
19	Michael Sullivan (UG, GSU)	Synthesis, Analysis, and Bio- Evaluation of a Novel Multifaceted Folate Conjugate
20	Lisa Johnson (Grad, WIU)	Computational Studies on the Electronic Properties of Pharmacophores: A Density Functional Investigation
21	Bryin Davis (UG, WIU)	Adsorption Isotherms of Basic Drugs on Reversed Phase Liquid Chromatography Using Ionic Liquids as Mobile Phase Additives
22	Aaron Kerkemeyer (UG, WIU)	Effect of 1-butyl -3-methyl Imidazolium Terafluoroborate Ionic Liquid on the Peak Asymmetry and Resolution of Basic Drugs on RPLC
23	Tariq Ahmad (UG, WIU)	Teaching the Applications of Supercritical Fluids in Analytical Chemistry
24	Bertlomiej Redlinski (Grad, WIU)	The Influence of 1,3 OMIM BF <sub>4</sub> Ionic Liquid as a Mobile Phase Additive on the Retention and Resolution of Nitroaromatics and Related Compounds
25	Josh Carron (Grad, GSU)	Synthesis and Evaluation of a Folate-targeted, Acid-activated Dye
26	Souseelya Vedula (Grad, WIU)	Development of a New Method to the Synthesis of Biaryl Compounds by Detelluration
<b>Computer Science</b>		
27	Satabdi Aditya (Grad, UIC)	Algorithmic Perspectives of Network Transitive Reduction Problems and Their Applications to Synthesis and Analysis of Biological Networks
<b>Earth Science</b>		
28	Jacob Vesper (UG, EIU)	Long-term Channel Recovery Upstream of a Spillway Failure: A Case Study of Lake Charleston, Illinois
<b>Environmental Science</b>		
29	Anthony Merisko (UG, GSU)	Relationship of Management Intensity to Plant Species Diversity Indices in Ten Northeastern Illinois Prairie Reconstructions
30	Michael Belitz (UG, Knox)	Assessing the Invertebrate Composition of Reconstructed Prairies
31	Lauren Baldacci (UG, GSU)	The Effects of Prairie Restoration Age on Bee Species Diversity
32	Chad Kirian (UG, GSU)	Restoration and the Chronological Effect on Butterfly and Bee Communities
33	Amanda Deardeuff (Grad, SIUE)	Zooplankton Communities in Two Ponds Impacted by Storm-water Run-off
34	Jessica Loethen (UG, SIUE)	Phosphate Pollution in Two Urban Storm-water Run-off Ponds
35	Alyssa Decker (UG, SIUE)	Evaluating Native Plant Performance on a Midwestern Green Roof

#	Presenter	Title of Presentation
<b>Health Science</b>		
36	Dan Welch (SIU-Dental)	P2X <sub>3</sub> Receptors Co-localized with Markers for Neuroglia in the Human Tooth
37	Stephanie Arnold (UG, EIU)	Comparison of Theophylline and 8-Cyclopentyltheophylline on the Heart Rates of Neonatal Rat
38	Brooke Seesengood (Grad, SIUE)	Tensile Bond Strength of Repaired Resin Modified Glass Ionomer
39	John Wall (UG, SIUE)	Development of Phase Analysis and Circular Statistics Techniques for Analyzing Masticatory Motor Patterns
40	Dennis Kitz (SIUE)	Mouse Immune Response can be Enhanced by the Antibiotic Daptomycin
41	Dennis Kitz (SIUE)	Antibiotics Contributing to Enhanced Microbicidal Activity by Phagocytes and DTH Response by T Cells
<b>Microbiology</b>		
42	Caitlin Greene (UG, EIU)	Determining a Defined Medium for an Acidophilic Microbe
43	Ashley Dickey (UG, EIU)	Comparison of Genotypic and Phenotypic Characteristics of <i>Escherichia coli</i> Isolated from Untreated Surface Waters
44	Joseph Lucas (Grad, WIU)	Genetic Transformation of <i>Leuconostoc</i> By Treatment-Assisted Electroporation
45	Felicia Krelwitz (Grad, GSU)	Effects of Campus Bioswale and Non-Bioswale Treated Inputs on Retention Pond Entry Point and Runoff Zone Bacterial Abundance and Diversity
46	Sara Amirahmadi (Grad, SIUE)	<i>Helicobacter canadensis</i> Does Not Affect Monokine Secretion from Mouse Intestinal Explants
47	Jerry Kavouras (Lewis)	Changing Patterns in Attachment as <i>Dreissena</i> Populations Mix
48	Richard Finger (Lindenwood)	<i>Streptococcus mutans</i> Metabolizes Glutamine Differently in Ammonium-Free Media
49	Kaitlin Spaniol (UG, EIU)	The Microbiota Associated with Tear Staining in Small Dogs ( <i>Canis lupus familiaris</i> )
<b>Science Education</b>		
50	Chris Foster (UG, SIUE)	Hollyhock Plant Regeneration from Callus Differentiation as a Biology Teaching Tool
<b>Zoology</b>		
51	Gary Fritz (EIU)	Fly High: Fire Ants Fly to Record Heights for Love
52	Richard Essner, Jr. (SIUE)	Detection of Heavy Metals in Rocky Mountain Tailed Frog ( <i>Ascaphus montanus</i> ) Tadpoles Near Abandoned Mines in Northern Idaho
53	Eric Mueller (Grad, SIUE)	Plasma Growth Hormone and Body Morphometrics in Three Closely Related <i>Anolis</i> Lizard Species that Vary in Size and Habitat Use (Sauria, Iguanidae)

#	Presenter	Title of Presentation
54	Kristi Johnson (UG, SIUE)	Analysis of Larval and Metamorphic Stages of Narrow-mouth Toad Jaw Muscle Development ( <i>Gastrophryne carolinensis</i> , Anura, Microhylidae)
55	Seth Griffis (Grad, SIUE)	Sequence Comparisons of Growth Regulatory Genes in Closely Related <i>Anolis</i> (Sauria, Iguanidae) Lizards of Differing Body Size
56	Allyson Edwards (UG, Millikin)	The Impact of Windows and a Wind Turbine on Bird and Bat Mortality at Heartland Community College in Normal, IL
57	Heather Bible (UG, SIUE)	Spatial and Temporal Patterns of Abundance and Diversity of Coleoptera and Orthoptera in Leaf Litter Communities of Mature and Regrowth Oak-hickory Forest In Southern Illinois
58	Lawrence Werner (UG, SIUE)	Exploring the Overwintering Strategies of a Cold Water Anuran, <i>Ascaphus montanus</i>
59	Brooke Smith (Grad, SIUE)	The Effect of Climate Change on Overwintering Metabolic Rate of the Goldenrod Gall Fly, <i>Eurosta solidaginis</i>
60	Kelsey Reger (Grad, SIUE)	The Effect of Repeated Bouts of Anoxia on Oxidative Stress, Cold Tolerance, and Survival in the Freeze-tolerant Goldenrod Gall Fly ( <i>Eurosta solidagini</i> )
61	Zibin Zhang (UG, SIUE)	The Effect of Cholesterol Supplementation on Chilling Injury, Rapid Cold Hardening, and Performance After a Low Temperature Exposure
62	Eric Westhafer (Grad, SIUE)	Population Genetics of the Black Spotted Topminnow using Genomic SNP Analyses
63	Lauren Brauer (UG, SIUE)	Relationship between Foot Size and Shell Morphology in Two Syntopic Stream-dwelling Snails
64	Loren Dunham (Grad, SIUE)	Demography, Habitat Use, and Home Range in the Southern Flying Squirrel ( <i>Glaucomys volans</i> ) in Bluff Forests of Southwestern Illinois
65	Nathan Reese (Grad, SIUE)	Variation in Lower Limb Bones of White-tailed Deer ( <i>Odocoileus virginianus</i> ) Throughout the Last 10,000 Years in the Central Midwest
66	Katrina Whitlow (UG, SIUE)	Comparison of Shell Morphology and Size Relationships in Two Syntopic Freshwater Snails
67	Alexandrea Lewis (UG, SIUE)	Effects of Shell Size and Shape on Hydrodynamic Drag in a Freshwater Snail
68	Lucas Winebaugh (UG, SIUE)	Effects of Shell Orientation on Hydrodynamic Drag in a Freshwater Snail
69	David Horn (Millikin)	From Five Billion to Zero: An Introduction to "Big Blue," the Last Extant Passenger Pigeon Killed in the Wild
70	Alexandra Berroyer (UG, Millikin)	Trail Following Behavior and Pheromone Quantification in the American Painted Lady Caterpillar <i>Vanessa virginesis</i> (Insecta: Lepidoptera)
71	Lauren Mikkelsen (Grad, SIUE)	Behavioral Costs of Tail Loss in the Crested Gecko, <i>Correlophus (Rachodactylus) ciliatus</i> , a Non-regenerative Species

## Oral Presentation Room Schedule

	C3331	C3380	D2441	D2444	F1622	F2442	F2445
<b>9:00am</b>	Botany		Zoology			Agriculture	Chemistry
<b>9:20am</b>	Botany	Botany	Zoology		Environmental Science	Cellular, Molecular, & Developmental Biology	Chemistry
<b>9:40am</b>	Botany	Botany	Zoology		Environmental Science	Cellular, Molecular, & Developmental Biology	Chemistry
<b>10:00am</b>	Botany	Botany	Zoology	Zoology	Environmental Science	Health Science	Computer Science
<b>10:20am</b>	Botany	Botany	Zoology	Zoology	Environmental Science	Health Science	Computer Science
<b>10:40am</b>	Botany	Botany		Zoology	Environmental Science	Health Science	Computer Science
<b>11:00am</b>		Botany		Zoology	Environmental Science	Microbiology	Engineering & Technology
<b>11:20am</b>		Botany		Zoology	Environmental Science	Science Education	Engineering & Technology

Time	Room	Presenter	Title of Presentation
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### **Agriculture**

9:00am	F2442	Erin Tuegel (Grad, EIU)	Chemical and Physical Properties of Biofuel Crops (Poaceae) pretreated with <i>Trametes versicolor</i> (Polyporaceae)
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### **Botany**

9:00am	C3331	Claire Barclay (UG, Illinois College)	New Records of Mycorrhizal Fungi from the Eastern Prairie Fringed Orchid, <i>Platanthera leucophaea</i> , and Physiological Confirmation through Symbiotic Seed Germination
9:20am	C3331	Hana Thixton (UG, Illinois College)	Conservation of Critically Endangered Orchids from the Central Highlands of Madagascar: Results from the First of a Five Year Project
9:20am	C3380	David Shepard (Moraine Valley CC)	Morphological Variability of Hill's Oak ( <i>Quercus ellipsoidalis</i> : Fagaceae) and Scarlet Oak ( <i>Quercus coccinea</i> : Fagaceae) in Eastern United States
9:40am	C3331	Samuel Porter (UG, Illinois College)	Mycorrhizal Fungi and Symbiotic Seed Germination of <i>Spiranthes vernalis</i> (Orchidaceae), in the Florida Panther National Wildlife Refuge
9:40am	C3380	Peter Minchin (SIUE)	Does Shortest Path Adjustment Improve Ordination of Community Data with High Beta Diversity?
10:00am	C3331	Kurt Schulz (SIUE)	Phenotypic Plasticity of the Invasive Honeysuckle <i>Lonicera maackii</i> (Caprifoliaceae) in Response to Simulated Drought
10:00am	C3380	Wayne Schennum	The Vegetation of Reed-Turner Woodland: Implications for Management

Time	Room	Presenter	Title of Presentation
10:20am	C3331	Chris Loebach (Grad, ISU)	Epizoochory as a Seed Dispersal Mechanism for <i>Alliaria petiolata</i> (Brassicaceae)
10:20am	C3380	Roger Anderson (ISU)	Phenological Separation from Native Species Enhances Success of the Invasive Plant, Garlic Mustard ( <i>Alliaria petiolata</i> ), in Eastern North America Deciduous Forest Understories
10:40am	C3331	Kendra Peterson (UG, Millikin)	Effect of Herbivory of Painted Lady Caterpillars ( <i>Vanessa cardui</i> ) on Photosynthetic Values in Soybean ( <i>Glycine max</i> ) Plants of Different Ages
10:40am	C3380	Audrey Knight (Grad, Illinois College)	Mycorrhizal Fungi from Endangered Orchids of Madagascar - First Documentation from the Indian Ocean Island
11:00am	C3380	Kavita Patel (UG, Illinois College)	The Ghost Orchid, <i>Dendrophylax lindenii</i> , in South Florida and Cuba: A Mysterious Tale of Two Very Different Habitats Catering to One Orchid Species
11:20am	C3380	Sovit Chalise (Grad, Illinois College)	Detection of the Common Commercial Orchid Pathogen Cymbidium Mosaic Virus (CymMV) in a Wild Orchid in the Florida Panther National Wildlife Refuge

### **Cellular, Molecular, & Developmental Biology**

9:20am	F2442	Nehal Malik (Grad, SIUE-Pharmacy)	SR110, a Peroxynitrite Decomposing Catalyst, Enhances Insulin Sensitivity in High Fat Diet-fed B6D2F1 Mice
9:40am	F2442	Michael Johns (Grad, SIUE)	Metabolic Effects of SR-135, a Peroxynitrite Decomposition Catalyst, on Human $\beta$ -cell Function and Survival under Chronic Nutrient Overload

### **Chemistry**

9:00am	F2445	Mark Zelman (Aurora)	Incorporating Powder X-ray Diffraction in Undergraduate Chemistry Research
9:20am	F2445	Brian Kane (UG, Millikin)	Examination of the Factors Associated with the Intrinsic Instability of Hollow Gold Nanoshells
9:40am	F2445	Jacob Dander (UG, Illinois College)	Synthetic Efforts to Prepare the Anti-Cancer Agent Xenitorin A via a Proposed, Asymmetric, Stereoselective Rauhut-Currier Reaction/Aldol Condensation

### **Computer Science**

10:00am	F2445	James Munger (Grad, WIU)	Virtual Reality as a Teaching Tool for those with Autism and Developmental Disabilities
10:20am	F2445	Chunying Zhao (WIU)	Identifying Correlations among Data in a Software Repository
10:40am	F2445	Nasim Mobasheri (Grad, UIC)	Topological Implications of Negative Curvature for Biological and Social Networks

### **Engineering & Technology**

11:00am	F2445	Rafael Obregon (WIU)	Implementation of the Bond Energy Analysis Algorithm for Identifying Machine Cells and Defining Part Families through Microsoft Excel
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Time	Room	Presenter	Title of Presentation
11:20am	F2445	Khaled Zbeeb (WIU)	Numerical Simulations for Various Syngas Fuels Using Trapped Vortex Combustor
<b>Environmental Science</b>			
9:20am	F1622	Wendy Leonard (UG, GSU)	Impact of Soil Compaction in a Northern Hardwood Forest of the Upper Peninsula of Michigan
9:40am	F1622	Caitlin Stark (Grad, GSU)	The Effects of Predator Cues on Vertical Foraging Habits in the White-footed Mouse ( <i>Peromyscus leucopus</i> )
10:00am	F1622	Paul Le (Grad, SIUE)	Avian Habitat Use in a Chronosequence of Bottomland Hardwood Forest Restoration Sites
10:20am	F1622	Neal Jankowski (UG, GSU)	Bee, Butterfly, and Plant Species Diversity in Northeastern Illinois Tallgrass Prairie Restorations
10:40am	F1622	Irene Weber (Grad, SIUE)	Evaluation of Methods for Short Term Stabilization of Road Construction Sites in Illinois
11:00am	F1622	Gloria Robertson (UG, GSU)	The Effects of Time on the Abundance of Four Plant Species and their Effects on the Abundance of Butterflies and Bees in Prairie Restorations
11:20am	F1622	David Leimbach (UG, Millikin)	Observed Effects of Warm Season Perennial Grass Agriculture on Resident Mammal Species
<b>Health Science</b>			
10:00am	F2442	Christine Albers (Grad, EIU)	The Effects of Theophylline and 8-Cyclopentyltheophylline on the Respiratory Response to Carbon Dioxide in Neonatal Rats
10:20am	F2442	Samantha Hamilton (Grad, SIUE)	Small Integrin-binding Ligand N-linked Glycoproteins (SIBLINGs) are Overexpressed in Cancer States
10:40am	F2442	Jennifer Yu (Grad, SIUE)	Matrix-mediated Differentiation of Human Mesenchymal Stem Cells
<b>Microbiology</b>			
11:00am	F2442	Yudong Qu (Grad, EIU)	Elucidating a Defined Medium for the Archaeal Acidophile, " <i>Ferroplasma acidarmanu</i> " strain fer1
<b>Science Education</b>			
11:20am	F2442	John Lloyd (Aurora)	Past, Present, and Future Applications of Audio-Visual Aids in Teaching Science
<b>Zoology</b>			
9:00am	D2441	Rachael Van Essen (Grad, ISU)	Using Deuterium and GIS Tools to Estimate Geographic Extents of Source Populations of Tree Bats Killed in a Central Illinois Wind Farm
9:20am	D2441	Gabrielle Kuhn (UG, Illinois College)	Kissing Bugs (Reduviidae) - Vector of Chagas' Disease - in San Luis, Costa Rica, and a Technique to Facilitate Feeding in Captivity for Sampling
9:40am	D2441	James Lichtenstein (UG, Knox)	Male Mate Choice and Personality in Zebra Finches



<b>Time</b>	<b>Room</b>	<b>Presenter</b>	<b>Title of Presentation</b>
10:00am	D2441	Tih-Fen Ting (UIS)	Survival and Movement Patterns of Franklin's Ground Squirrels in an Agriculture-dominated Landscape
10:00am	D2444	Kristi Lemenager (Grad, SIUE)	Effects of an Invasive Plant on Wolf Spider Movement
10:20am	D2441	Jamay Michael (Grad, SIUE)	A Comparison of Aquatic and Terrestrial Landing in Leiopelmatid and Lalagobatrachian Frogs
10:20am	D2444	Elizabeth Wrobel (UG, Millikin)	Prevalence and Health Impacts of Avian Pox and Conjunctivitis in a Community of Wild Birds
10:40am	D2444	Sarah Plants (UG, Millikin)	Impacts of West Nile Virus on Songbird Immune Function and Antioxidant Capacity in Central Illinois
11:00am	D2444	Spencer Hudson (UG, Millikin)	Structurally Based Plumage Coloration as an Honest Signal for Individual Quality in Indigo Buntings ( <i>Passerina cyanea</i> )
11:20am	D2444	Mariah Schoonover (UG, Millikin)	Changes in Innate Immune Function while Facing an Acute Stressor in Gray Catbirds ( <i>Dumetella carolinensis</i> )

# GSU Campus Map

