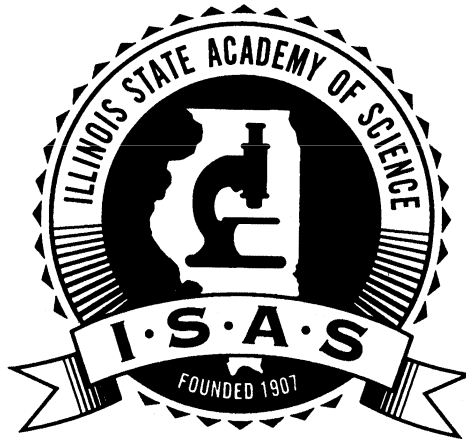


**TRANSACTIONS OF THE
ILLINOIS STATE ACADEMY OF SCIENCE**

SUPPLEMENT TO VOLUME 118



**118TH ANNUAL MEETING
APRIL 18, 2026**

WITH ILLINOIS JUNIOR ACADEMY OF SCIENCE REGIONAL WINNERS

**IN PERSON ALL-DAY EVENT @
PERE MARQUETTE HOTEL, PEORIA, ILLINOIS**

**HOSTED BY
ILLINOIS JUNIOR ACADEMY OF SCIENCE**

ILLINOIS STATE ACADEMY OF SCIENCE

FOUNDED 1907

**AFFILIATED WITH THE ILLINOIS STATE MUSEUM
SPRINGFIELD, IL**

118TH ISAS ANNUAL MEETING

April 18, 2026

Southern Illinois University Edwardsville

Hosts: Ms. Emily Dawson

MEETING SCHEDULE

All Events are Conveniently Located in the Pere Marquette Hotel

Badges are Required for Room Entry

SATURDAY, APRIL 18TH

MORNING EVENTS

- 8:00am – 11:45am Check-in, On-Site Registration if Needed, Break Area [Cotillion Foyer]
Continental Breakfast Available 8am – 10am
- 8:40am – 8:55am Opening Remarks [Cotillion Foyer]
- 9:00am – 11:15am Oral Presentations [Cheminee, LaSalle, and Marquette Ballrooms]

ISAS LUNCHEON AND KEYNOTE ADDRESS

- 11:30am – 1:00pm tickets required for lunch [Marquette Ballroom]

AFTERNOON EVENTS

- 12:30pm – 3:30pm Check-in, On-Site Registration if Needed, Break Area [Cotillion Foyer]
- 1:00pm – 2:15pm Poster Sessions A (odd numbers) [Cotillion Ballroom]
- 2:30pm – 3:45pm Poster Sessions B (even numbers) [Cotillion Ballroom]
- 3:45pm – 4:15pm Student Spotlight / Judging / Division Meetings [Cotillion Ballroom]
- 4:15pm – 5:00pm Award Presentations, Closing [Cotillion Ballroom]

ABBREVIATIONS USED IN PROGRAM

Division Abbreviations

Anthro & Archeo	Anthropology & Archeology
Cell Biology	Cell, Molecular, & Developmental Biology
Chem & Biochem	Chemistry & Biochemistry
Physics, Math, & Astron	Physics, Mathematics, & Astronomy

Participant Abbreviations

UG	Undergraduate Student
Grad	Graduate Student
HS or JH	High School or Junior High
None	Regular/Faculty Member

Participating School and Organization Abbreviations

Adlai Steventon	Adlai Stevenson High School	ISU	Illinois State University
Augustana	Augustana College	Joliet JC	Joliet Junior College
Beacon	Beacon Academy	Lewis	Lewis University
Benjamin Franklin	Benjamin Franklin Middle School	Millikin	Millikin University
Bradley	Bradley University	Oak Park	Oak Park and River Forest High School
Dunlap	Dunlap High School	Palatine STEM	Palatine STEM Society
EIU	Eastern Illinois University	Richwoods	Richwoods High School
Gregory	Gregory Middle School	SIUE	Southern Illinois University Edwardsville
Governor French	Governor French Academy	Skinner North	Skinner North Classical School
Hinsdale Central	Hinsdale Central High School	Spoon River	Spoon River Valley High School/Spoon River College
IC	Illinois College	Twin Groves	Twin Groves Middle School
Illinois STEM	Illinois STEM Society	Waubonsie Valley	Waubonsie Valley High School
IMSA	Illinois Math and Science Academy	WIU	Western Illinois University

ISAS ORAL PRESENTATIONS OVERVIEW

	Marquette Ballroom	LaSalle Ballroom	Cheminee Ballroom
9:00 – 9:15	Aarya Sobti Health Sciences	Magarant Rajkumar Environmental Science	Angelica Strack Physics, Math, & Astronomy
9:15 – 9:30	Ansh Mehta Health Sciences	Hailey Gula Environmental Science	Krish Patel & Brandon Ross Physics, Math, & Astronomy
9:30 – 9:45	Jaelyn Hammersley Health Sciences	Monika Dallakoti Environmental Science	Philip Ambe Omiah Physics, Math, & Astronomy
9:45 – 10:00	Prasanna Acharya Health Sciences	Blake Rentz Environmental Science	Liz Awour Engineering & Technology
10:00 – 10:15	BREAK	Anda Wattanakit Environmental Science	Jaby Mohammed Engineering & Technology
10:15 – 10:30	Sahasra Marni Health Sciences	BREAK	BREAK
10:30 – 10:45	Zi Wang Health Sciences	Jennifer Teibowei Chemistry & Biochemistry	Thanveer Aslam Zoology
10:45 – 11:00	Gabrielle McGee Microbiology	Arnav Chaphalkar Cell Biology	Idhant Ranjan Computer Science
11:00 – 11:15		Laura Corey STEM Education	Sidharth Brahmandam Computer Science

ISAS POSTER PRESENTATIONS OVERVIEW

Cotillion Ballroom				Cotillion Ballroom			
Group A [1:00pm – 2:15pm] – Odd Numbers				Group B [2:30pm – 3:45pm] – Even Numbers			
1	Ella Eathington Agriculture	45	Mohamed Saady Environmental Science	2	Grace Vaughn Anthro & Archeo	46	Taylor Morey Environmental Science
3	Holly Pettit Anthro & Archeo	47	Viola Strangle Environmental Science	4	Jerica LaMarsh Anthro & Archeo	48	Aarush Bhagwat Health Sciences
5	Abhinav Sathamraju Venkata Cell Biology	49	Agam Nanda Health Sciences	6	Alexander Sebastian Cell Biology	50	Ayesah Mehwish Health Sciences
7	Lauren Kooi Cell Biology	51	Angela Manevska Microbiology	8	Alexie G Bartimus Cell Biology	52	Arwen Como Microbiology
9	Livia Kimberlin Cell Biology	53	Ashley Miller Microbiology	10	Matias Bowens Cell Biology	54	Bryn Bates Microbiology
11	Morgan Guppy Cell Biology	55	Cody Clayton Microbiology	12	Mustafa Altamimi Cell Biology	56	Davide Giambagli Microbiology
13	Mythrey Govindarajan Cell Biology	57	Hansini Gamage Don Microbiology	14	Onyinye Umealajekwu Cell Biology	58	Rarius Stancu Microbiology
15	Sasvat Chigurupati Cell Biology	59	Maryam Sohail Warraich Microbiology	16	Alayna Brown Chemistry & Biochem	60	Reid Kleeman Microbiology
17	Angela Balderas Chemistry & Biochem	61	Sara Shafii Microbiology	18	Ashley Perez Chemistry & Biochem	62	Yusra Amena Microbiology
19	Beamlak Hiltework Chemistry & Biochem	63	Zahra Haji Microbiology	20	Deep Patel Chemistry & Biochem	64	Anuj Subramanian Physics, Math, & Astronomy
21	Jessica (Yunan) Jiang Chemistry & Biochem	65	Benjamin Cole Physics, Math, & Astronomy	22	Princess Akyea-Obesebea Chemistry & Biochem	66	Chelsie Hadley Physics, Math, & Astronomy
23	Rachel James Chemistry & Biochem	67	John Reed IV Physics, Math, & Astronomy	24	Abiodun Adebajo Computer Science	68	Nathan Oliveira Physics, Math, & Astronomy
25	Andy Dong Computer Science	69	Srinithi Kambhampati Physics, Math, & Astronomy	26	Bowen Li Computer Science	70	Aidan Bein Plant Biology
27	Femi Oke Computer Science	71	Michaela Barter Plant Biology	28	Kelly Liu Computer Science	72	Cody Clayton STEM Education
29	Ekaansh Ravuri Earth Science	73	Paige Kern STEM Education	30	Arav Moonat Engineering & Technology	74	Helen Ratchford Zoology
31	Elliott Choi Engineering & Technology	75	Addison Oyer Zoology	32	Ethel Asamoah Engineering & Technology	76	Adrian Davis Zoology
33	Maithri Govardhana Engineering & Technology	77	Amari Terrell Zoology	34	Amina Mohammed Environmental Science	78	Aavril Enciso Zoology
35	Ankit Kumar Mahato Environmental Science	79	Dylan Krohe Zoology	36	Clover Villanueva Environmental Science	80	Grace Witsken Zoology
37	Cynthia Elisia Mrong Environmental Science	81	Isabell Walker Zoology	38	David Estrada Environmental Science	82	Kortney Stage Zoology
39	Eyram Setrana Environmental Science	83	Melvin Hodge Zoology	40	Ezekiel Tosin Babatunde Environmental Science	84	Milla Helton Zoology
41	Garrett Vanfossan Environmental Science	85	Miranda Araujo Zoology	42	Kailani Vazquez Environmental Science	86	Ishan Suresh Kumar Engineering & Technology
43	Magdalene Amankwaa Environmental Science			44	Manoj Chand Environmental Science		

ILLINOIS JUNIOR ACADEMY OF SCIENCE POSTER PRESENTATIONS OVERVIEW

Cotillion Ballroom			Cotillion Ballroom		
Group A [1:00pm – 2:15pm] – Odd Numbers			Group B [2:30pm – 3:45pm] – Even Numbers		
101	Raghav Tuppal (10th) <i>(Microbiology)</i>	Dunlap High School	102	Mohammed Mubarak Ali (11th) <i>(Environmental Science)</i>	Dunlap High School
103	Ravi Shah (10th) <i>(Biochemistry)</i>	Illinois Math & Science Academy	104	Darius Jones (10th) <i>(Mathematics)</i>	Latin School of Chicago
105	Bogdan Jones (12th) <i>(Mathematics)</i>	Walter Payton College Prep	106	Aditya Dara (9th) <i>(Computer Science)</i>	Dunlap High School
107	Joey Li (10th) <i>(Microbiology)</i>	Lane Tech High School	108	Eman Imran (11th) <i>(Electronics)</i>	Niles West High School
109	Zainab Nathani (11th) <i>(Material Science)</i>	Niles West High School	110	Aditya Dinesh (10th) <i>(Health Science)</i>	Metea Valley High School
111	Neysa Thumma <i>(Biochemistry)</i>	Illinois STEM Society	112	Bethany Huhr (10th) <i>(Health Science)</i>	Glenbrook North High School
113	Sia Verma (9th) <i>(Chemistry)</i>	Dunlap High School	114	Sydney Huhr (9th) <i>(Behavioral Science)</i>	Glenbrook North High School
115	Daniel Aguirre (12th) <i>(Health Science)</i>	Carver Military Academy	116	Sohum Kodilkar (10th) <i>(Health Science)</i>	Illinois Science & Math Academy
117	Julia Kwiek (12th) <i>(Earth Science)</i>	Northside College Prep	118	Amit Prakash (11th) <i>(Computational Biology / Bioinformatics)</i>	Illinois Science & Math Academy
119	Anushka Moonat (8th) <i>(Biochemistry)</i>	Benjamin Franklin Middle School	120	Rania Fahim (9th) <i>(Cellular & Molecular Biology)</i>	Islamic Foundation School
121	Yusha Junald (8th) <i>(Health Science)</i>	Governor French Academy	122	Benaya Gbadebo-Goyea (10th) <i>(Engineering)</i>	Governor French Academy

ORAL PRESENTATIONS SCHEDULE – 9:00AM-11:30AM CHEMINEE, LASALLE, AND MARQUETTE BALLROOMS

Time	Presenter	Title of Presentation
Cell, Molecular, & Developmental Biology – LaSalle Ballroom		
10:45am	Arnav Chaphalkar (Adlai Stevenson, HS)	Spatial Transcriptomics-Conditioned Latent Diffusion Models for Synthetic Histopathology Tissue Patch Generation
Chemistry & Biochemistry – LaSalle Ballroom		
10:30am	Jennifer Teibowei (EIU, Grad)	Design and Synthesis of Fluorogenic Chemical Tools Based on Rhodol Scaffolds to Study Human Carboxylesterase 1 (CES1)
Computer Science – Cheminee Ballroom		
10:45am	Idhant Ranjan (Illinois STEM, HS)	VOCL: Non-Invasive EMG-LLM Interface for Restoring Expressive Speech
11:00am	Sidharth Brahmandam (IMSA, HS)	Novel Dimensionality Reduction of Quantum Approximate Optimization Algorithm Parameter Space with Radial Basis Kernel for Max-Cut
Engineering & Technology – Cheminee Ballroom		
9:45am	Liz Awour (ISU, Grad)	Generative Artificial Intelligence as a Decision-Support Tool: Implications for Risk Management in Technology Projects
10:00am	Jaby Mohammed (ISU)	Experimental Evaluation of Static Charge Mitigation
Environmental Science – LaSalle Ballroom		
9:00am	Magaranth Rajkumar (Independent, HS)	RESOUND: Revealing Sound Driven Avian Barriers in Urbanized Landscapes
9:15am	Hailey Gula (Millikin, UG)	Habitat Quality and Its Effects On Cortisol Levels of Orangethroat and Johnny Darters in Macon County, Illinois
9:30am	Monika Dallakoti (SIUE, Grad)	Transport Pathways of Selenium in Soil-Crop Systems under Long-term Swine Manure Application
9:45am	Blake Rentz (SIUE, Grad)	Comparative Life-History Parameters of DDT-Susceptible and -Resistant <i>Drosophila melanogaster</i> Strains
10:00am	Anda Wattanakit (Richwoods, HS)	Characterization of Lead Oxide Colloids Through Chemical Synthesis to Optimize Water Conditions in Lead-Bearing Pipes
Health Sciences – Marquette Ballroom		
9:00am	Aarya Sobti (Gregory, HS)	Evaluating Allele-Specific CRISPR gRNAs for Safer SOD1-ALS (D91A) Editing
9:15am	Ansh Mehta (Dunlap, HS)	Illuminating Intelligence
9:30am	Jaelyn Hammersley (Oak Park, HS)	Therapeutic Potential of Gedunin on the Effects of Parkinson's Disease in a <i>Drosophila melanogaster</i> Model
9:45am	Prasanna Acharya (IC)	The Effect of Controlled Breathing on Cognitive Performance Among Young, Healthy College Students
10:00am	BREAK	
10:15am	Sahasra Marni (Illinois STEM, HS)	GutDetector: A Noninvasive Diagnostic Strip to Detect Early Signs of Acidity and Inflammation for Early Prevention of Chronic Gastrointestinal Disease
10:30am	Zi Wang (Beacon, HS)	Spirulina-Powered Self-Oxygenating Antibacterial Hemostatic Hydrogel Dressing for Enhanced Wound Healing
Microbiology – Marquette Ballroom		
10:45am	Gabrielle McGee (Skinner North, HS)	How Do Wavelengths Affect Bioluminescence?
Physics, Mathematics, & Astronomy – Cheminee Ballroom		
9:00am	Angelica Strack (WIU, Grad)	Physical and Optical Properties of Europium (Eu ³⁺) and Neodymium (Nd ³⁺) Co-Doped Bismuth Boro-Tellurite Glasses
9:15am	Krish Patel & Brandon Ross (Governor French, HS)	Determining the Acceptable Range of Estimation for Bolometric Temperature of an Infrared Spectrum Utilizing Trapezoidal Integration and Spectral Energy Distribution
9:30am	Philip Ambe Omiah (WIU, Grad)	Fluorescence Properties of Dysprosium and Praseodymium (Dy ³⁺ / Pr ³⁺) Co-Doped Bismuth Boro-Tellurite Glasses

Time	Presenter	Title of Presentation
STEM Education – LaSalle Ballroom		
11:15am	Laura Corey (IC)	Aiming at the Wrong Target: What's Wrong With How We Teach Logarithms in Precalculus and How To Fix It?
Zoology – LaSalle Ballroom		
10:30am	Thanveer Aslam (EIU, Grad)	Prevalence of <i>Cytauxzoon felis</i> Cytochrome-b Variants in Domestic Cats and Bobcats

POSTER PRESENTATIONS SCHEDULE –1:00PM-3:30PM COTILLION BALLROOM

Time	#	Presenter	Title of Presentation
Agriculture			
1:00pm	1	Ella Eathington (Spoon River, HS)	Time of Thaw of Bull Semen Versus Motility Rate of Semen
Anthropology & Archeology			
2:30pm	2	Grace Vaughn (IC, UG)	The Roles of Sexual Dimorphism and Age in Human Cranial Angle Measurements
1:00pm	3	Holly Pettit (IC, UG)	Permanent Tooth Eruption Timing and Malocclusion Class in Modern Humans: A Dental Cast Analysis
2:30pm	4	Jerica LaMarsh (IC, UG)	Nasal Bone Development in Extant Humans
Cell, Molecular, & Developmental Biology			
1:00pm	5	Abhinav Sathamraju Venkata (Adlai Stevenson, HS)	Formula Feeding Downregulates Key Selenoproteins and Remodels Inflammatory Correlation Networks in the Neonatal Small Intestine
2:30pm	6	Alexander Sebastian (Bradley, UG)	Investigating the Transcriptomic Response of Chitin Synthase Genes and Novel Cold-Induced Factors in <i>Tetrahymena thermophila</i> Following Cold Shock
1:00pm	7	Lauren Kooi (Bradley, UG)	Effects of Low Protein Diet on Inner Ear Morphology in <i>Mus musculus</i>
2:30pm	8	Lexie G Bartimus (SIUE, UG)	Mound Formation in <i>Schizophyllum commune</i> Does Not Require Blue Light Signaling
1:00pm	9	Livia Kimberlin (Bradley, UG)	Search for New Antimicrobial Compounds from <i>Paenibacillus</i> sp. Collected from Asian Carp
2:30pm	10	Matias Bowens (Bradley, UG)	Transcriptomic Analysis of Methionine Sulfoxide Reductase-Associated Oxidative Stress Networks in <i>Tetrahymena thermophila</i>
1:00pm	11	Morgan Guppy (Spoon River, HS)	Different Genres of Music vs the Speed of a Mouse Through a Maze
2:30pm	12	Mustafa Altamimi (Lewis, UG)	The Effects of Allicin on Clinically Relevant Bacteria
1:00pm	13	Mythrey Govindarajan (Twin Groves, HS)	Next-Generation Computational Design of Ultra-Precise Prime Editing Systems for Safe and Targeted Correction of the Cardiac Sodium Channel Gene (SCN5A)
2:30pm	14	Onyinye Umealajekwu (EIU, UG)	Reactivation of Liver Function Through Genomic Modification
1:00pm	15	Sasvat Chigurupati (Adlai Stevenson, HS)	The Effect of LRRK2 Mutations on Presynaptic Endocytosis and synaptic Vesicle Recycling: A Novel Approach to Understanding LRRK2's Role in the Pathogenesis of Parkinson's Disease
Chemistry & Biochemistry			
2:30pm	16	Alayna Brown (WIU, Grad)	Quantitative Analysis of Polycyclic Aromatic Hydrocarbons in Recycled Tire Materials Using Gas Chromatography
1:00pm	17	Angela Balderas (WIU, UG)	Synthesis of ZnO Nanoparticles
2:30pm	18	Ashley Perez (WIU, UG)	Comparison of Different Preparation Methods for Analysis of Catfish Skin
1:00pm	19	Beamlak Hiltework (IC, UG)	Recycling Copper Catalysts for Sustainable Triazole Synthesis in Aqueous Media
2:30pm	20	Deep Patel (EIU, Grad)	GXXXG Motif Mediated Protein Dimerization in Glutamate Carboxypeptidase II
1:00pm	21	Jessica (Yunan) Jiang (Adlai Stevenson, HS)	Using ML to Determine Whether Single Atom Catalysts Function Under the Same Fundamental Properties as Bulk Metal Catalysts for Carbon Dioxide Reduction Reactions
2:30pm	22	Princess Akyea-Obesebea (IC, UG)	Exploring Zinc(II) Catalysis in Aqueous Azide-Alkyne Cycloaddition for Sustainable Triazole Formation
1:00pm	23	Rachel James (WIU, UG)	Examination of Different Digestion Media for Microplastics Analysis

Time	#	Presenter	Title of Presentation
Computer Science			
2:30pm	24	Abiodun Adebajo (WIU, Grad)	AI-Based Framework for Intrusion Detection and Automated Prevention in Cloud Computing Environments
1:00pm	25	Andy Dong (Hinsdale Central, HS)	Uncovering the Hidden Regulators in the Human Interactome via Hyperbolic Graph Convolutional Network Learning
2:30pm	26	Bowen Li (Independent, HS)	A Machine Learning Approach to Identify Features Governing Molecular Photostability from a Small Experimental Dataset
1:00pm	27	Femi Oke (WIU, Grad)	Operationalizing AI on Secure FHIR Pipelines: A Zero-Trust Cloud Reference Architecture for EHR Interoperability
2:30pm	28	Kelly Liu (Skinner North, HS)	Can People Identify AI vs. Human Writing?
Earth Science			
1:00pm	29	Ekaansh Ravuri (Adlai Stevenson, HS)	The Effect of Sea Surface Temperature on the Distribution and Carbon Sequestration Potential of Prochlorococcus
Engineering & Technology			
2:30pm	30	Arav Moonat (Benjamin Franklin, HS)	Which Wind Turbine Generates the Most Voltage?
1:00pm	31	Elliott Choi (Adlai Stevenson, HS)	The Effect of Different Machine Learning Surrogate Models for Bayesian Optimization on the Thrust-to-Power Ratio of Physical Electrohydrodynamic Ion Thrusters
2:30pm	32	Ethel Asamoah (ISU, Grad)	Artificial Intelligence (AI) in the Project Team: Assistant, Analyst, or Decision Maker
1:00pm	33	Maithri Govardhana (ISU, Grad)	Integrating Value Stream Mapping and Demand Variability Analysis to Optimize Inventory Placement in Manufacturing Systems
2:30pm	86	Ishan Suresh Kumar & Jayaditya Akhauri (Waubonsie Valley, HS)	Implementation of Graphene Oxide Nanoparticles and Amino Acid Infused Alginate Hydrogels for Antimicrobial Applications
Environmental Science			
2:30pm	34	Amina Mohammed (SIUE, Grad)	Assessing the Toxicological Impacts of Glyphosate on <i>Schmidtea mediterranea</i>
1:00pm	35	Ankit Kumar Mahato (SIUE, Grad)	Assessment of Microplastic Concentration, Types, and Distribution in the Middle Mississippi River
2:30pm	36	Clover Villanueva (SIUE, UG)	Concentrations of Selenium in Draught Beers Commonly Consumed in the U.S.
1:00pm	37	Cynthia Elisia Mrong (SIUE, Grad)	Cross-Resistance and Behavioral Effects of Insecticides in a DDT-Resistant Strain of <i>Drosophila melanogaster</i>
2:30pm	38	David Estrada (Bradley, UG)	Using Call Surveys to Characterize Frog Communities in Banner Marsh
1:00pm	39	Eyram Setrana (SIUE, Grad)	Green Synthesis of Silver Nanoparticles Using Alfalfa (<i>Medicago sativa</i>) Leaf Extract and Evaluation of Antimicrobial Activity Against <i>Escherichia coli</i>
2:30pm	40	Ezekiel Tosin Babatunde (SIUE, Grad)	Oxybenzone-Induced Oxidative Stress and Genotoxicity in <i>Aiptasia pallida</i> : A Coral Model for Risk Assessment in Coastal Ecosystems
1:00pm	41	Garrett Vanfossan (SIUE, UG)	Determination of Altered Responses to Starvation Stress in DDT-Susceptible and -Resistant Strains of <i>Drosophila melanogaster</i>
2:30pm	42	Kailani Vazquez (Independent, Grad)	Assessing the Effects of Carbon Dioxide and pH on Amphibian Development and Susceptibility to Parasitism
1:00pm	43	Magdalene Amankwaa (SIUE, Grad)	Spatial Analysis of Turbidity and Total Suspended Solids in an Agricultural Watershed Using Remote Sensing and GIS: The Upper Sangamon River
2:30pm	44	Manoj Chand (SIUE, Grad)	Time-Dependent Glutathione Response to Chronic Oxybenzone Exposure in <i>Aiptasia pallida</i> (A Model for Corals)
1:00pm	45	Mohamed Saady (SIUE, UG)	Investigation of Chill Coma Recovery and Negative Geotactic Behavior in DDT-Susceptible and -Resistant Fruit Flies
2:30pm	46	Taylor Morey (Spoon River, HS)	Microplastics Found in Accessible Facial Cleansers
1:00pm	47	Viola Strangle (SIUE, UG)	Towards Assessing Reactive Oxygen Species Generation from Natural Organic Matter-Capped Nanoparticles

Time	#	Presenter	Title of Presentation
Health Science			
2:30pm	48	Aarush Bhagwat (Adlai Stevenson, HS)	Evaluating the Impact of CNN Architectures on Colorectal Cancer Detection
1:00pm	49	Agam Nanda (Palatine STEM, HS)	Drug-Eluting Neurovascular Stent for Local MMP-9 Inhibition After Stroke
2:30pm	50	Ayesah Mehwish (ISU, Grad)	Evaluating the Impact of an AI Chatbot on Self-efficacy and Advising Support Among Students Enrolled in Didactic Program of Dietetics
Microbiology			
1:00pm	51	Angela Manevska (Bradley, UG)	Utilizing Recombinant Expression of Tardigrade Protein for the Development of UV-Resistant Chlamydomonas
2:30pm	52	Arwen Como (Bradley, UG)	Effects of Parasitism and Carbon Dioxide on Tadpole Skin Microbiota
1:00pm	53	Ashley Miller (Lewis, UG)	Examining the Antimicrobial Properties within Osage Orange (<i>Maclura pomifera</i>) Extract Against Clinically Relevant Bacterial Strains
2:30pm	54	Bryn Bates (Bradley, UG)	Investigating the Function of Txp and Bcp in Oxidative Stress in <i>Bacillus subtilis</i>
1:00pm	55	Cody Clayton (Bradley, UG)	Search for New Antimicrobial Compounds from <i>Bacillus velezensis</i> Collected from Asian Carp
2:30pm	56	Davide Giambagl (Joliet JC, UG)	In Pursuit of Novel Bacteriophages
1:00pm	57	Hansini Gamage Don (EIU, Grad)	Investigation of Bacterial Biofilm Formation Mechanisms
2:30pm	58	Marius Stancu (Bradley, UG)	Exploring Hydrogen Peroxide's Role in Inducing bcp Gene Expression in <i>Bacillus subtilis</i>
1:00pm	59	Maryam Sohail Warraich (Lewis, UG)	Characterization of Communities in Experimentally Reduced Microbiomes of <i>Daphnia dentifera</i>
2:30pm	60	Reid Kleeman (SIUE, Grad)	Exploration of Bacteriophage defense mechanisms in <i>Paraburkholderia</i> sp. – A <i>Dictyostelium discoideum</i> Symbiont
1:00pm	61	Sara Shafii (SIUE, Grad)	Temperate Phages as Drivers of Strain-Level Variation in <i>Paraburkholderia</i> – <i>Dictyostelium</i> Symbiosis
2:30pm	62	Yusra Amena (SIUE, UG)	Influence of Photodynamic Inactivation on Phage-Mediated Lysis of <i>Paraburkholderia bonniea</i> 859
1:00pm	63	Zahra Haji (Millikin, UG)	Determining the Ability of <i>Pseudomonas</i> sp. to Inhibit the Growth of Various Bacterial Strains in the Presence of Naphthalene
Physics, Mathematics, & Astronomy			
2:30pm	64	Anuj Subramanian (Adlai Stevenson, HS)	Physics-Informed Reduced-Order Model for Active Aerodynamics Prediction and Dynamic Wing Control
1:00pm	65	Benjamin Cole (SIUE UG)	Studying the Formation of Persistent Holographic Grating in Europium-Doped Barium-Tellurite Glass
2:30pm	66	Chelsie Hadley (WIU, UG)	Variations in Refractive Index and Sm-Fluorescence in Cadmium Bismuth Borate Glasses
1:00pm	67	John Reed IV (WIU, UG)	Variation of Refractive Index and Optical Band Gap in Tellurium-Zinc-Bismuth-Borate Glasses
2:30pm	68	Nathan Oliveira (SIUE, UG)	Studying the Formation of Persistent Holographic Grating in Praseodymium-Doped Barium-Tellurite Glass
1:00pm	69	Srinithi Kambhampati (Adlai Stevenson, HS)	The Effect of Auction Formats on Maximizing Reserve Value Sold
Plant Biology			
2:30pm	70	Aidan Bein (SIUE, UG)	Spatial Distribution of Horned Oak Galls Produced by <i>Callirhythis cornigera</i> on Pin Oaks (<i>Quercus palustris</i>) and Their Correlation with the Local Environment
1:00pm	71	Michaela Barter (SIUE, UG)	Isolation of a Nitrogen-Fixing Bacterium from the Roots and Soils of <i>Platanthera leucophaea</i> and <i>Epipactis helleborine</i>
STEM Education			
2:30pm	72	Cody Clayton (Bradley, UG)	Infanticide or Genetics: Calmodulin Mutations and Kathleen Folbigg
1:00pm	73	Paige Kern (Augustana, UG)	Comparison of Floating Wetland Treatment (FTW) Model for Secondary Classroom Use

Time	#	Presenter	Title of Presentation
Zoology			
2:30pm	74	Helen Ratchford (Bradley, UG)	Trematode Communities in Wetlands at Two Restored Sites in Central Illinois during Fall
1:00pm	75	Addison Oyer (Millikin, UG)	Increasing Evidence of Zika Virus Exposure in Neotropical Migratory Songbirds Arriving in Macon County, Illinois
2:30pm	76	Adrian Davis (SIUE, UG)	How Small Mammal Foraging Activity Contributes to Seed Dispersal
1:00pm	77	Amari Terrell (Millikin, UG)	Sex-Specific Behavioral Responses of <i>Drosophila melanogaster</i> (Diptera: Drosophilidae) to Odorant Stimuli: Examining Response to Acetic Acid, Ethyl Acetate, and Ethanol
2:30pm	78	Aavril Enciso (Bradley, Grad)	Effects of Elevated CO ₂ and Body Size on American Bullfrog Tadpole Growth, Survival, and Susceptibility to Trematode Parasites
1:00pm	79	Dylan Krohe (SIUE, Grad)	Adaptive Tool Use in Response to Resource Viscosity: A Study of <i>Aphaenogaster rudis</i>
2:30pm	80	Grace Witsken (SIUE, UG)	Foraging Behavior of Field Mice in Disturbed Natural Habitats
1:00pm	81	Isabell Walker (SIUE, Grad)	Behavioral Flexibility in Tool Use of <i>Aphaenogaster rudis</i> : Forced Choice Trials
2:30pm	82	Kortney Stage (SIUE, UG)	Microplastic Accumulation in Fish with Different Feeding Strategies
1:00pm	83	Melvin Hodge (IC, UG)	Social Calls as Indicators of Foraging Activity in Big Brown Bats (<i>Eptesicus fuscus</i>)
2:30pm	84	Milla Helton (EIU, UG)	Population Differences in Corticosterone During Molt in a Wild Songbirds
1:00pm	85	Miranda Araujo (IC, UG)	The Structure and Context of Social Calls Produced by Tree Roosting Bats <i>Lasiurus</i> and <i>Lasionycteris</i>

ILLINOIS JUNIOR ACADEMY OF SCIENCE
POSTER PRESENTATIONS SCHEDULE –1:00PM-3:30PM
COTILLION BALLROOM

Time	#	Presenter	Title of Presentation
1:00pm	101	Raghav Tuppal (10 th) <i>Microbiology</i> Dunlap High School	Cancer Gone, Guts Gone: Effects of Cancer Medication on Gut Flora
2:30pm	102	Mohammed Mubarak Ali (11 th) <i>Environmental Science</i> Dunlap High School	Comparative Analysis of Field Methods for Detecting Cyanobacteria in Freshwater
1:00pm	103	Ravi Shah (10 th), Pragyan Misra (10 th), & Neeraj Movva (10 th) <i>Biochemistry</i> Illinois Math & Science Academy	Computational Analysis of a GluN1 Synthetic Peptide Mimetic for Neutralization of Autoantibodies in Anti-NMDAR Autoimmune Encephalitis
2:30pm	104	Darius Jones (10 th) <i>Mathematics</i> Latin School of Chicago	Counting SIDH Primes
1:00pm	105	Bogdan Jones (12 th) <i>Mathematics</i> Walter Payton College Prep	Counting Twist Secure Elliptic Curves
2:30pm	106	Aditya Dara (9 th) <i>Computer Science</i> Dunlap High School	Determining Cocoa Bean Fermentation with an ML Image Recognition Program
1:00pm	107	Joey Li (10 th) <i>Microbiology</i> Lane Tech High School	Effect of Herbal Compounds on Bacteria Growth
2:30pm	108	Eman Imran (11 th) <i>Electronics</i> Niles West High School	Effect of Stress on the Development and Progression of Alzheimer's Disease
1:00pm	109	Zainab Nathani (11 th) <i>Material Science</i> Niles West High School	Emulsion-Templated Biogels for Solar-Driven Atmospheric Water Generation
2:30pm	110	Aditya Dinesh (10 th) <i>Health Science</i> Metea Valley High School	Flat-Plate vs NACA 63A-010 Airfoil Performance for Subsonic, Low Re-Rocketry
1:00pm	111	Neysa Thumma <i>Biochemistry</i> Illinois STEM Society	Modeling Targeted Cancer Drug Delivery: Effects of Nanoparticle Surface Coatings on Yeast Cell Binding
2:30pm	112	Bethany Huhr (10 th) <i>Health Science</i> Glenbrook North High School	Machine Learning-Based Classification of Malignant and Benign Breast Tumors Using Quantitative Cellular Features
1:00pm	113	Sia Verma (9 th) & Anvita Parimal (10 th) <i>Chemistry</i> Dunlap High School	Nullifying Nitrosamines: Can the Chemical Components of Natural Antioxidants be Chemically Recreated to Inhibit Carcinogen Formation?
2:30pm	114	Sydney Huhr (9 th) <i>Behavioral Science</i> Glenbrook North High School	Multivariate Prediction of Psychoactive Substance Use from Five Factor Personality Dimensions Using Python-Based Machine Learning

Time	#	Presenter	Title of Presentation
1:00pm	115	Daniel Aguirre (12 th) <i>Health Science</i> Carver Military Academy	The Best Sports Drink
2:30pm	116	Sohum Kodilkar (10 th), Yatharth Gohel (10 th), & Seth Taukolo (10 th) <i>Health Science</i> Illinois Math & Science Academy	Quantifying Multiplicative Barriers to Timely Neuroimaging in Pediatric Emergency Transfers: A Hospital Systems Analysis
1:00pm	117	Julia Kwiek (12 th) <i>Earth Science</i> Northside College Prep	Weighing Hurricane Impact via Recovered Light
2:30pm	118	Amit Prakash (11 th) <i>Computational Biology/Bioinformatics</i> Illinois Math & Science Academy	Towards an Accurate Quantum Support Vector Module for Predicting Cancer Cell Dynamics
1:00pm	119	Anushka Moonat (8 th) <i>Biochemistry</i> Benjamin Franklin Middle School	Predictive Effects of Nitrate and Phosphate Enrichment and Copper Sulfate Stress on Algal Bloom Formation in Freshwater Systems
2:30pm	120	Rania Fahim (9 th) & Huda Ajmeri (9 th) <i>Cellular & Molecular Biology</i> Islamic Foundation School	Which Antioxidants Prevent or Protect from Oxidative Stress-Induced Neurodegeneration?
1:00pm	121	Yusha Junald (8 th) <i>Health Science</i> Governor French Academy	The Effect of Aluminum and Its Potential Role in Causing Ataxia and Other Neurological Diseases
2:30pm	122	Benaya Gbadebo-Goyea (10 th) <i>Engineering</i> Governor French Academy	One Tremor at a Time: Analyzing Effects of Earthquake Seismic Waves On 2-Story Buildings