

**93<sup>rd</sup> Annual Academy of Science  
Meeting  
April 7<sup>th</sup>, 2018**



**WVWAS**

**W e s t V i r g i n i a  
ACADEMY of SCIENCE**

***F o u n d e d 1 9 2 4***

**Hosted By:**

**West Virginia Wesleyan College**

**School of Science**

## Schedule of Events

**On-Site registration 8:00am-10:00pm: Performing Arts Center (PAC) lobby**  
(please see map for building locations, final page)

### **8-9:00am**

**Setup:** Posters (Social Hall) / presentation setup (please have your presentation on USB drives for ease of loading, moderators will load prior to your session)

**Registration:** Performing Arts Center (PAC) lobby with coffee/juices/continental breakfast.

**9:00-9:15 Judges meeting:** PAC side room

**9:15-9:30 Welcome:** PAC

Dr. Zac Loughman, West Virginia Academy of Science Director

Dr. Bruce Anthony. Organizing Director for the 93<sup>rd</sup> annual meeting, West Virginia Wesleyan College.

**9:30-10:45 Plenary:** PAC

9:30-10:05

*West Virginia: A State Lost in Addiction and a Proven Pathway to Wellness.*

Dr. James Berry DO, Phycology. Clinical associate professor. Behavioral Medicine and Psychiatry, Medical Director of Chestnut Ridge Center, Medical Director, Acute Dual Diagnosis Program

10:05-10:45

*Metastasis: Opening Pandora's Box*

Dr. Elena Pugacheva Ph.D. is an Associate Professor of Biochemistry and Molecular Biology at the West Virginia University School of Medicine since 2007. She is a Principle Investigator and co-leader of Breast Cancer Team at WVU Cancer Institute and director Preclinical Tumor Models core facility.

**10:45-11:00 Break:** PAC Lobby (Snacks/Drinks)

**11:00-12:15 Oral Presentations Session 1:**

Christopher Hall Science (CHS) /Reemsnyder Research Center (RRC) Buildings

RRC 330: Biochemistry/Addiction

RRC 338: Biology (Anthropology, Geology), Computer Science/AI, STEM Education

CHS 217: Biology (Plant, Health, Ecology)

CHS 216: Biology/Environmental Science

CHS 314: Chemistry, Forensic Science

**12:15-1:15 Lunch:** Benedum Campus Center/See Dining Center

**12:15- 12:30 Members Meeting** in side dining hall

**1:30 – 2:45 Oral Presentations Session 2:** CHS/RRC Buildings

RRC 330: Biology (Environmental, Health, Natural Products)

CHS 217: Biology (Ecology)/Environmental Science

CHS 216: Biology (Ecology)/Environmental Science

CHS 313: Mechanical Engineering

**2:45-3:00 Break:** Social Hall (3<sup>rd</sup> floor of Benedum Campus Center, Snacks/Drinks)

**3:00—4:30 Poster Presentations:** Social Hall (3<sup>rd</sup> floor of Benedum Campus Center)

Poster easels can accommodate up to 36" tall and 48" wide, smaller is fine as well.

**4:30-4:45 Poster and Oral Presentation Judging:** Social hall side room

**4:45-5:15pm Closing Ceremony and Awards:** Social Hall

Dr. John Warner Outstanding Teacher Award for 2018: **Charlie Toumazos** of Braxton County High School.

Poster and Oral presentation Awards for both undergraduate and graduate students.

## **Plenary Speaker Biographies**



**Dr. James H. Berry.**

James H. Berry, DO is associate professor with the Department of Behavioral Medicine and Psychiatry at West Virginia University School of Medicine and the Director of Addictions. He currently serves as Medical Director of Chestnut Ridge Center, the primary psychiatric center for WVU Medicine and Chair of WVU Medicine's Practitioner Health Committee. He received his medical degree from Michigan State University, completed a General Psychiatry residency at West Virginia University and an Addiction Psychiatry fellowship at the University of Hawaii. Dr. Berry and his colleagues at WVU developed an innovative Medication Assisted Treatment (MAT) group-based model for Opioid Use Disorder nationally recognized as the "West Virginia Model". He currently

oversees a statewide mentoring project to train primary care clinicians how to practice evidence based substance use disorder treatment in their local communities. He is a member of the American Board of Psychiatry and Neurology's Addiction Psychiatry Examination Committee and a member of the Academy for Integrating Behavioral Health and Primary Care's National Integrational Academy Council. Beyond his clinical and consultative duties, he has a passion for teaching which has led to speaking engagements both nationally and internationally. He is a proud recipient of the WVU School of Medicine Distinguished Teacher Award. He has enjoyed serving the state of West Virginia through various teaching opportunities highlighting the severity of addiction and the hope of recovery.



**Elena Pugacheva.**

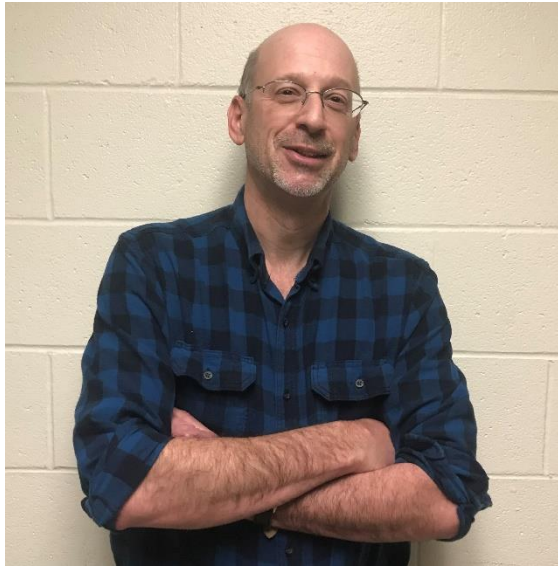
Elena Pugacheva is an Associate Professor of Biochemistry and Molecular Biology at the West Virginia University School of Medicine since 2007. She is a Principle Investigator and co-leader of Breast Cancer Team at WVU Cancer Institute and director Preclinical Tumor Models core facility. She earned her Bachelor of Science at Moscow State University in Moscow, Russia, in 1995, and her PhD in Molecular and Cancer Biology from the Russian Academy of Science and Princeton University in 1999, working with Profs. Peter Chumakov and Arnold Levine. In her thesis work she discovered the role of gain of function activities of mutant form of tumor suppressor p53 in cancer. She completed her postdoctoral studies at Fox Chase Cancer Center in Philadelphia, PA in Cancer Signaling

where she pioneered the role of mitotic kinase AURKA in disassembly of cilium and mapped signaling pathways coordinating cell adhesion and division. Dr. Pugacheva's laboratory continues to study role of cilium in cancer and cell division with a focus on breast and brain malignancies. Dr. Pugacheva's recent honors include DoD BCRP, NIH/NCI, Komen Foundation Awards to develop novel targets and detection strategies for metastatic breast cancer. Her research has been featured in *Nature Cell Biology and Cell*.

For additional information see <http://wvucancer.org/research/laboratories/pugacheva-laboratory/>

In appreciation for **Dr. John Warner's** Service to the West Virginia Academy of Science, the Outstanding Teacher Award was named in his honor in 2007. The following West Virginia teacher has received the **Dr. John Warner Outstanding Teacher Award** from the Academy for his contributions to science education and mentorship of future scientists.

2018 - **Charlie Toumazos** of Braxton County High School



Charlie Toumazos received a secondary teaching certificate from Youngstown State University majoring in history and geography. Unable to secure a stable a teaching job, he spent many years as factory worker, maintenance man, and logger. After being severely injured in a logging accident in 2000, Charlie attended Glenville State College to gain chemistry, physics, general science, and math certifications. Charlie worked for two years Webster County High School and 11 years at Braxton County High School. He currently teaches AP chemistry, physics, math STEM III, calculus, and AP calculus. Charlie participates in Braxton County High School's after school tutoring program, which has

enabled him to help students through the years reach academic goals.

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## Oral Presentations by Session and Room

### Session 1: 11-12:15

RRC 330: Biochemistry/Addiction  
Moderated by: Juliana Serafin

11:00-11:15	Tristan Quinones, Bruce Anthony	Effects of Alcohol Induced Misregulation of the Cell Cycle in Embryonic Derived Neuronal Stem Cells. A Model of Addiction and Fetal Alcohol Spectrum Disorders.
11:15-11:30	Kylie Shockley, Bruce Anthony	Alcohol and Drug induced Neuronal Stem Cell Losses.
11:30-11:45	Lauren Nicole Shelton, Bruce Anthony	Analysis of the effects of drugs and alcohol on neuronal stem cell differentiation.
11:45-12:00	William Collin Mitchell, Bruce Anthony	Embryonic Neuronal Stem Cell Differentiation is Drastically Effected by Single Doses of Alcohol and Methamphetamine

RRC 338: Biology (Anthropology, Geology), Computer Science/AI, STEM Education  
 Moderated by: Carol Plautz:

11:00-11:15	Melissa Guydish, Kristy Henson	Using digitized Native American skeletal remains to conduct osteological analyses.
11:15-11:30	E. Ray Garton, Zack Heck, Sam Benson, Robert L Pyle	A New Flora and Fauna from the Monongahela Group Upper Pennsylvanian of Doddridge County, WV.
11:30-11:45	E. Ray Garton	Rib Pathology in the Tyrannosaurus rex Known as Tinker
11:45-12:00	Samuel Thomas, Melvin Louis Bowers, Weidong Liao	GPU Computing and its Applications in AI and Deep Learning
12:00-12:15	Dr. Yogen Panta, Kenan Hatipoglu	Implementation of Active Learning Pedagogies to Foster Teaching and Learning Environment

CHS 217: Biology (Plant, Health, Ecology)  
 Moderated by: Chris DeRosa

11:00-11:15		Ryan Quigley, Jonathan Gilkerson	Next Generation Sequencing Analysis and Map-based Cloning of RALF Insensitive <i>Arabidopsis thaliana</i> Lines.
11:15-11:30		Carol Zygar Plautz, Colleen J Nolan, Sneha Reddy	The Effect of Chemical Constituents in Roundup on the Steroidogenic Pathway of <i>Lymnaea palustris</i> .
11:30-11:45		Carol Zygar Plautz, Amaris Jalil	Diquat Dibromide-induced cellular and developmental abnormalities in the pond snail <i>Lymnaea palustris</i> : Analysis of calcium dysregulation and cytoskeletal targets.
11:45-12:00		Aaron David Nard, Tanya Khan, James Wood, Devyn Ferguson, Madison Huffman, Michaela Colvin	The effects of <i>Justicia americana</i> removal on macroinvertebrate communities in two northern West Virginia Creeks.

### Session 1: 11-12:15 continued

CHS 216: Biology/Environmental Science

Moderated by: Jordge LaFantasie

11:00-11:15	Audrey Michelle Sykes, Zachary J. Loughman, Zachary J. Loughman, Matthew McKinney, Matthew McKinney	Crayfishes of the Potomac River Basin in West Virginia
11:15-11:30	Nicole Marie Sadecky, Matthew McKinney, Zachary Loughman	Life History of <i>Cambarus veteranus</i> (Guyandotte River Crayfish); an imperiled West Virginia endemic
11:30-11:45	Tanya N. Khan, David Lieb, Matthew McKinney, Zachary Loughman	Reassessment of the Crayfishes of the Upper Ohio River Basin in Pennsylvania.
11:45-12:00	Emmy Delekta	Re-defining burrowing crayfish in a new way using morphometrics.
12:00-12:15	Gregory Allen Myers	Life History and Observational Notes of <i>Cambarus robustus</i> .

CHS 314: Chemistry, Forensic Science

Moderated by: Erica Harvey

11:00-11:15		David Stone	Aqueous Metal Ion Extraction: Manganese (II), Nickel (II), Copper (II), and Zinc
11:15-11:30		Ryan Matthew Mizia, David O'Dell	Modeling the Transport of Manganese through Packed and Undisturbed Soil Columns
11:30-11:45		Hannah Dawn Nelson	Comparison of commercial touch DNA extraction systems utilizing the polymerase chain reaction technique
11:45-12:00		Kevanna Nicole Tyler	Enhancement of latent fingerprints on the adhesive side of tapes using various methods.



**Session 2: 1:30-2:45**

RRC 330: Biology (Environmental, Health, Natural Products)

Moderated by: Hannah Payne

1:30-1:45	Michael Winters, Annika Naylor, Jordana LaFantasie, Melissa Thomas-VanGundy	Hypo-virulent <i>Cryphonectria parasitica</i> and distribution/infection factors in southern Appalachia.
1:45-2:00	Rhiannon Virginia Macom, Joseph Horzempa	Anti-Bioterror Vaccine: Utilization of <i>Francisella tularensis</i> LVS to Generate a Plague/ Tularemia Vaccine
2:00-2:15	MacKenzie Lynn Jacobs	Whitebark Pine Extract Augments Immune Responses that Diminish Bacterial Infection
2:15-2:30	Daryll High, Steven Roof	Seeking antibiotic resistant bacteria.
1:30-1:45	Riley W Aulick	The Habitat Preferences of the Data Deficient, <i>Cambarus spicatus</i>
1:45-2:00	Eric Tidmore, Zachary Loughman	Using maximum entropy modeling to predict suitable habitat locations for the Cutshin Crayfish ( <i>Cambarus taylori</i> )

CHS 217: Biology (Ecology)/Environmental Science

Moderated by: Jodge LaFantasie

1:30-1:45	Craig Barrett	Plastid genome evolution in the mycotrophic orchid genus <i>Hexalectris</i> Raf.
1:45-2:00	Annika Naylor, Michael Winters, Jordana LaFantasie, Melissa Thomas-VanGundy	Differences among Chestnut Hybrids and Their Litter Fauna
2:00-2:15	Brandon T. Sinn, Christina Daragan, John V. Freudenstein, Craig F. Barrett	Phylogenomics in <i>Asarum</i> section <i>Hexastylis</i> : serial innovations in floral form spawned from two geographically-widespread species.
2:15-2:30	Samuel Ansley Canfield	Evaluation of habitat characteristics associated with <i>Podostemum ceratophyllum</i> Michx. (Hornleaf riverweed), a foundation species in eastern North American rivers
2:30-2:45	James Wood	A vanishing forest at the bottom of the river: the ecology of <i>Podostemum ceratophyllum</i>

## Session 2: 1:30-2:45 continued

CHS 216: Biology (Ecology)/Environmental Science  
Moderated by: Jacquelyn Cole

1:30-1:45	Riley Aulick	The Habitat Preferences of the Data Deficient, <i>Cambarus spicatus</i>
1:45-2:00	Eric Tidmore, Zachary Loughman	Using maximum entropy modeling to predict suitable habitat locations for the Cutshin Crayfish ( <i>Cambarus taylori</i> )
2:00-2:15	Christopher Vopal, Emmy Delekta, Matthew McKinney, Zachary Loughman	Development of a Captive Rearing Protocol for Threatened & Endangered Appalachian Crayfish
2:15-2:30	Dan T Meyer, Mathew McKinney, Zachary Loughman	Habitat requirements of two common aquatic snakes, <i>Regina septemvittata</i> and <i>Nerodia sipedon sipedon</i>
2:30-2:45	Gregory Allen Myers	Life History and Observational Notes of <i>Cambarus robustus</i> .

CHS 313: Mechanical Engineering  
Moderated by: Joanna Webb

1:30-1:45	Mohammed Alkhabbaz	Influence of Non-Equidiffusivity and Boundary Conditions on Finger Flame Acceleration
1:45-2:00	Abdulafeez Akinola Adebisi, Amanda Cathreno, Elizabeth Ridgeway, V'yacheslav Akkerman	Oscillating vs Accelerative Trends of Premixed Flame Propagation in Open Obstructed Channels
2:00-2:15	Abdulafeez Akinola Adebisi, Konstantin Kemenov, V'yacheslav Akkerman	Numerical Simulation of Oxy-Fuel Premixed Combustion in a Supercritical CO <sub>2</sub> -diluted Environment.
2:15-2:30	Kenan Hatipoglu, Yogendra Panta, Gregory Bottenfield	Feasibility Analysis of Advanced Rail Energy Generation and Storage Technology Implementation for State of West Virginia

## Poster Presentations:

**3:00—4:30** Social Hall (3<sup>rd</sup> floor of Benedum Campus Center)

- 1 **The role of FTL\_1684 during Erythrocyte Invasion by *Francisella tularensis*.**  
Lisa Marie Nachtwey, Joseph Horzempa
- 2 **Aralia spinosa Extract Produces an Immunostimulatory Response Diminishing Infection by *Francisella tularensis***  
Jennifer Rose Myers
- 3 **The Role of FTL\_1228 in Erythrocyte Invasion by *Francisella tularensis*.**  
Dylan Thomas Anderson
- 4 **The role of FTL\_0893 during Erythrocyte Invasion by *Francisella tularensis***  
Katelyn Yauch, Lisa Nachtwey, Joseph Horzempa
- 5 **Growth of Community-Acquired MRSA strain USA300 Multi-drug Transporter Mutants is inhibited by Extracts of Tyrol Knapweed, *Centaurea nigrescens*.**  
Kyra P. Lasko, Kathryn D. Robinson
- 6 **Characterizing the Production of Extracellular Vesicles over Time by LLC1, B16F0, and WISP1 KO B16F0 Cell Lines**  
Benjamin Thomas Lanham
- 7 **Investigation of the antibacterial activity of herbal leaves, extracts, and essential oils**  
Samantha Studer, Skye Clark, Laura Robertson
- 8 **Efficacy of Resazomycins Against *Burkholderia cepacia* and *Bordetella bronchiseptica***  
Isaiah Michael Selmon-Miller, Deanna Schmitt
- 9 **Identification of plant extracts with antimicrobial activity against drug-resistant bacteria**  
Kéren Lubembo, Joseph Horzempa
- 10 **Efficacy of Resazomycins Against LoIDF-Expressing Gram-Negative Bacteria**  
Jaclyn Kitts
- 11 **A High-Throughput Screen of a Natural Extract Library for the Identification of Novel Antibiotics against *Burkholderia cepacia***  
Joseph Angelo Ierulli, Joseph Horzempa

- 12 **Antimicrobial Effects of *Arctostaphylos uva ursi* Extract against *Acinetobacter baumannii***  
Dicey Stewart\*, Elliot Collins\*, James Healy\*, Caleb Martin\*, Francisco Leon#, Joseph Horzempa\*.
- 13 **Susceptibility of *Brucella ovis* to resazurin and resorufin pentyl ether.**  
Amy L. Rawson, Deanna M. Schmitt
- 14 **Vaccine development for protection against both Tularemia and Ebola**  
Gage Michael Pyles
- 15 **In Vitro Effects of Mushroom Extracts on Brain Tumor Cells**  
Oddai Gharib
- 16 **The characterization of *F. tularensis*-mosquito interactions following acquisition of these bacteria from nectar.**  
Kole Alan Starkey
- 17 **In Vitro Effects of Coal and Progesterone on Glioblastoma Proliferation and Progesterone**  
Victoria Gayle Ramey, Edgar Lopez, Gerald Hankins
- 18 **Applying an Xbox Kinect to the Two-Compartment Model of Body Composition**  
Rachel Elaine Fulks, Kristy Henson, Greg Popovich
- 19 **Osteological Analysis of Indian Black Market Human Remains**  
Daria Laine Securro
- 20 **Losing 100 pounds: case-study analysis of the implementation of hypercaloric “cheat” meals to facilitate progressive weight loss.**  
Haley K McGuffin
- 21 **Treatment strategy for responders in a combinatorial OXP and IL12 therapy based on a calibrated cancer model**  
Dallas Gianniny, Zhijun Wang, Qing Wang, David J. Klink
- 22 **Treatment strategy for non-responders and partial-responders based on a calibrated cancer model in response to an immuno-chemotherapy**  
Brendan Jarrell, Zhijun Wang, Qing Wang, David J. Klink
- 23 **Stability analysis of the high-tumor equilibrium of a tumor growth model in response to combination therapy involving 4-1BB and IL-12**  
Yitian Yao, Zhijun Wang, Qing Wang, DAVID J. Klink
- 24 **Solving Ordinary Differential Equations in Java.**  
Morgan Cadle, Jason Rafe Miller

- 25 **Blockchain: Catching On.**  
Nicolette Bruley, Osman Guzide
- 26 **Deep Learning in Natural Language Processing**  
Jacob Russell Neterer, Osman Guzide
- 27 **GPU Computing: The Future of Computing**  
Parker Anthony
- 28 **Internet of Intelligent Things and Applications**  
Levi Parrett, Weidong Liao
- 29 **Bilateral internal thoracic arteries emerging distal to the anterior scalene muscles: Implications in coronary artery bypass grafting.**  
Brooke E. Bertus, Matthew J Zdilla, H. Wayne Lambert
- 30 **The prevalence of the accessory infraorbital foramen among sexes: preliminary results.**  
Branigan Leora McGowan
- 31 **Sexual Dimorphism of the Zygomatic Bone**  
Benjamin Louis Wharton
- 32 **Investigating the effects of summer 2016 floods on mosquito density in West Virginia and the potential relationship between flooding and West Nile Virus transmission in mosquito pools**  
Tim Niyogusaba, Mark Brian Watson, Eric Dotseth
- 33 **Prevalence of orthopedic complaints in a rural population in West Virginia.**  
Marissa Chase Workman, Greg E Popovich
- 34 **The Viable but Non-Culturable State of *Francisella tularensis***  
Kailee Cunningham, Jacob Pancake
- 35 **Towards a Revision of Diastema within Central America**  
Scott Wentz
- 36 **Trainability of functional deficits in adults with scoliosis.**  
Madison Stevenski, Greg E Popovich, Kristy Henson
- 37 **Screening of a Natural Product Library for the Discovery of Novel Leukemia Therapeutics**  
Kayla Michelle Hancher, Deanna Schmitt, Joseph Horzempa

- 38 **Enhanced *in vivo* zebrafish larvae imaging using a novel micro-fluidic mounting technique**  
Brady Shrader, Ashley Reid, James Walters
- 40 **Evaluation of Shortest Path Algorithms for Solving Mazes.**  
Brian Crutchley, Jason Rafe Miller
- 41 **Nanopore Sensors And Signal Processing**  
Melvin L. Bowers
- 42 **Automating parameter change and data virtualization for simulations of a combinational cancer therapy**  
Yitian Yao, Christian Burns, Zhijun Wang, Qing Wang, David J. Klink
- 43 **How to use R to generate Violin Plots to assist in sensitivity analysis of a cancer model**  
Brian Crutchley, Zhijun Wang, Qing Wang, David J. Klink
- 44 **Software development for data analysis using multiple-curve graphs through excel spreadsheets**  
Yitian Yao, Zhijun Wang, Qing Wang, David J. Klink
- 45 **Genetic diversity and morphological variation in a vulnerable WV native orchid, *Corallorhiza bentleyi***  
Nicole Fama
- 46 **Microbial substrate utilization in soils of two WV watersheds with different vegetation structures.**  
Aida E Jimenez Esquilin, Zachary Harris, Caleb Duncan
- 47 **Coal run stream rehabilitation**  
Mark Flood, Makayla Metzger, and Chhoksum Bista
- 48 **Investigating the Decline of *Podostemum ceratophyllum* In West Virginia Rivers**  
Destinee Austin Davis, Edward B Beaumont, James L Wood
- 49 **Tick surveillance and identification in Upshur County, WV**  
Wyatt H Adkins, Chaise C Bertocci, James L DeMarco, Kimberly A. Bjorgo-Thorne
- 50 **Tick Collection and Identification Methods**  
Jimmy DeMarco, Chaise Bertocci, Wyatt Adkins, Kimberly A. Bjorgo-Thorne
- 51 **Distribution and habitat preferences of eastern hellbenders within the Greenbrier River**  
James Hartley

- 52 **Utilizing Environmental DNA to Assess Fish Community Composition of the West Run Watershed, Monongalia County, WV** Michelle Williams
- 55 **Analysis of the effect of drugs and alcohol on adult differentiated neuronal stem cells.**  
Emily Morgan Knight, Bruce Charles Anthony
- 56 **Analysis of GABA receptor expression in differentiated embryonic neuronal stem cells after treatment with opioids, methamphetamine, and alcohol**  
Sydney Taylor Stewart, Bruce Anthony
- 57 **Immunocytochemical Analysis of Neuronal Phenotype in Long Term Differentiation of Rodent E14 Neuronal Stem Cells.**  
Erick Hunter Trent
- 58 **The Analysis of DNA Damage and Cell Loss due to Alcohol and Opiate Drug Exposure on Undifferentiated Stem Cells.**  
Connor Levi Thomas
- 59 **Analysis of Neuronal Stem Cell Vesicle Packaging After Treatment with Drugs of Abuse.**  
Sabrina Pauline Burtner
- 60 **Anti-tumor activity of Organometallic Compounds**  
Abha Maskey, Sharon Molnar, Gerald Hankins
- 61 **Molecular dynamics investigation of surfactant micelles as a potential drug delivery vehicle**  
Rebecca Rutherford, Erica Harvey, Blake Mertz
- 62 **Blood Octopamine levels affiliated with righting and exploration behaviors in *Gromphadorhina portentosa*, a Madagascar hissing cockroach**  
Allison M. Lott, Sierra Badley, Ruth A. Conley
- 63 **Differential effects of endocannabinoid modulation of gastric inflammation following exposure to ethanol or nonsteroidal anti-inflammatory drugs.**  
Hunter Lee Aliff, Matthew L. Eckard, Kristen R. Trexler, Steven G. Kinsey, Emily Silvestri
- 64 **Duck Potato Extract May Lead to the Inhibition of Biofilm Formation of *Pseudomonas aeruginosa***  
Adam Edward Bert, Joseph Horzempa, Roger Seeber
- 65 **Net Acidity Titration and Water Quality Results for Acid Mine Drainage Water Samples from Morris Creek**  
Jacob Mosteller, Juliana Serafin

- 66 Method Development for the Determination of Octopamine in Insect Hemolymph by HPLC with Electrochemical Detection**  
Sierra Badley, Josue Montenegro, Dan DiLella, Ruth Conley
- 67 Sampling and testing for Fe, Cu and Pb using atomic absorption spectroscopy in Coal Run Hollow stream.**  
Matthew Scanlon, Caroline Thompson
- 68 Instrumental Analysis of Methyl Salicylate**  
Mikhaela Pizana, Haley Price, Jacquelyn Cole
- 69 Synthesis and characterization of a cobalt complex bearing a chiral nitrogen-based ligand.**  
Seth Keith, Kasumi Hayashi, Joanna Webb
- 70 Testing metal oxides for potential as photoelectrocatalysts using SEAL.**  
CJ Porter, Roger Cogar, Erica Harvey
- 71 SHaRK and SEAL investigations of mixed metal oxides with photoelectrocatalytic potential.**  
Ashley Nicole Ruza, Jessica Michelle Johnson, Lindsey Marie LaNeve, Erica Harvey
- 72 Optical Properties of Donor/Acceptor Chalcone Materials in Solution and the Solid State**  
Christopher A. DeRosa, Frederik Broendsted
- 73 Spin-Labeling of Proteins via Genetically Encoded Unnatural Amino Acids**  
Jeffrey Mcniell
- 74 Scale Control in Oilfield Applications**  
Thomas Robert Nagy
- 75 Development of magnetic solder for improved solder joints formed in microgravity.**  
Joseph Graves Iv, Sierra Portillo, Bryan Swauger, John Kuhlman, Aaron Dunkle
- 85 Creating Chemistry Outcomes and Methods of Assessment: A Proposal**  
Juliana Serafin, Beth Pauley, Donna Lewis
- 86 The NSF S-STEM Scholarship Program at Shepherd: major activities and outcomes**  
Qing Wang, Zhijun Wang
- 87 Steric-Induced Fluorescence via Methyl Substitution in Chalcone Dyes**  
Christopher A. DeRosa, Garrett Wilkins



**88 A Piperidine-Substituted Chalcone as a Molecular Rotor for Luminescent Viscosity Sensing**

Christopher A. DeRosa, Michael Inman

**For those of you that are here Saturday Evening**

**Campus Planetarium 8:00 pm**

The planetarium show is on Saturday evening at 8 pm will feature the fulldome video Molecularium: Riding a Snowflake. This video is a magical musical adventure exploring the world of atoms and molecules and is appropriate for all ages, including very young children. After the video, we will take a tour of the night sky, highlighting prominent springtime constellations. The Planetarium is located on the 2nd floor of the Christopher Hall of Science.



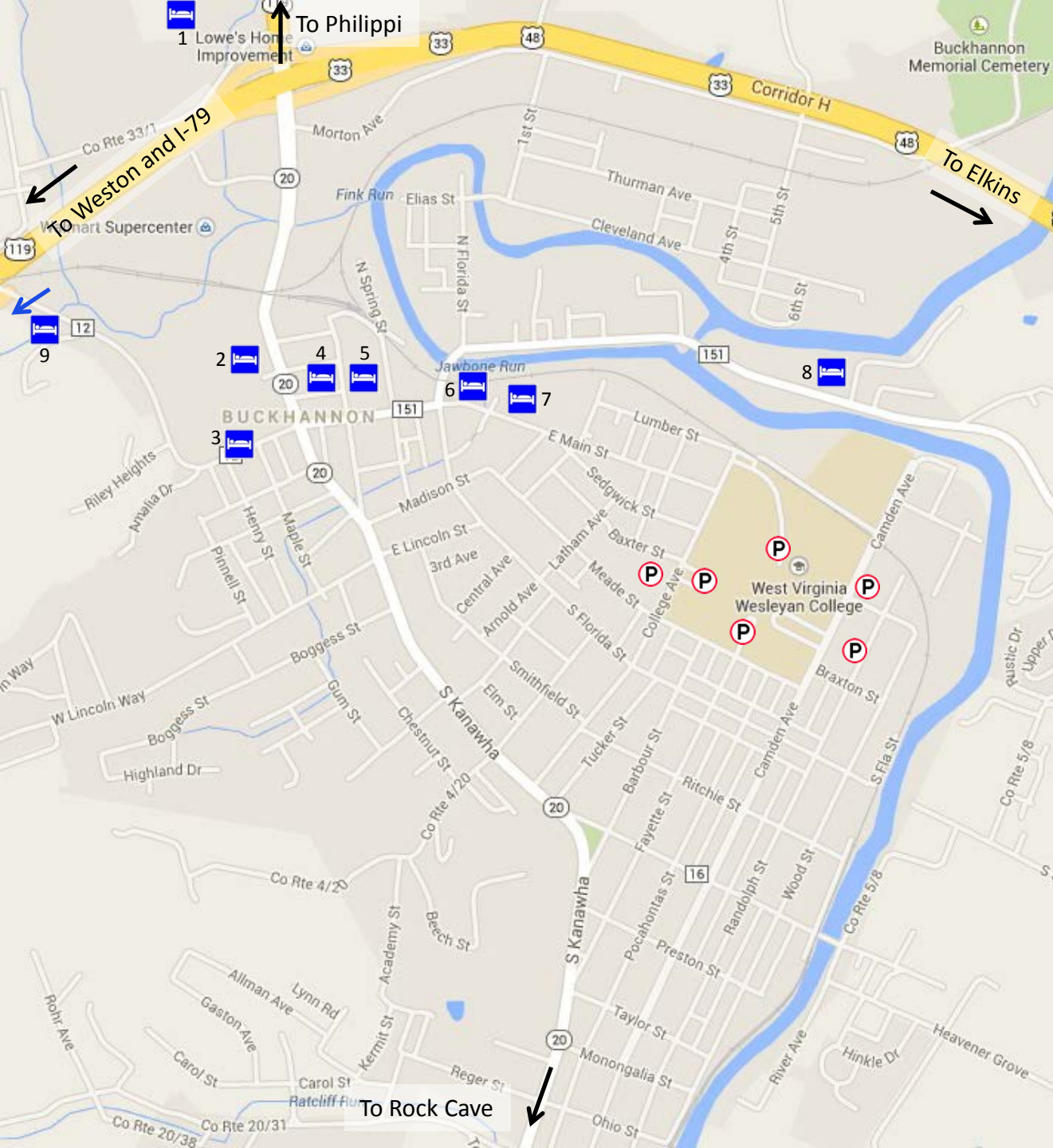
# WEST VIRGINIA WESLEYAN COLLEGE

- |  |                                 |                              |
|--|---------------------------------|------------------------------|
| 1. Reemsnyder Research Center                  | 10. McCusky Hall                | 20. Rockefeller Center       |
| 2. Dunn Hall                                   | 11. Doney Hall                  | 21. Middleton Hall           |
| 3. Wellness Center                             | 12. Fleming Hall                | 22. Ross Field               |
| 4. Law Center for the Performing Arts          | 13. Haymond Hall                | 23. Ellis Field              |
| 5. Agnes Howard Hall                           | 14. Jenkins Hall                | 24. Culpepper Field          |
| 6. Wesley Chapel                               | 15. Loar Music Hall             | 25. Wood Street Park         |
| 7. Annie Merner Pfeiffer Library               | 16. Benedum Hall                | 26. Erickson Alumni Center   |
| 8. Benedum Campus Center/<br>See Dining Center | 17. Holloway Hall               | 27. English Annex            |
| 9. Lynch-Raine Administration Building         | 18. Camden Village              | 28. Guest House              |
|  | 19. Christopher Hall of Science | 29. Chapel Oval and Fountain |



Indicates public parking areas after hours and on weekends





**Directions to WV Wesleyan College**

**From I-79:**

- Take exit 99 onto US-33 (Corridor H)
- Travel east 12 miles to Buckhannon
- Exit US-33 at Route 20
- Make a right off the exit
- Drive ½ mile to 2<sup>nd</sup> stoplight
- Turn left onto Main Street
- Drive to the end of Main Street at the intersection with College Avenue

**Parking:** P

- Parking areas (except handicapped spots) are not restricted on weekends or after 5 pm on weekdays.
- Follow College Avenue north-northeast (left off of Main St.) until just before it ends. Turn right into a long parking lot. At the end of the lot, near the center of campus, is Christopher Hall (19).
  - On College Avenue next to the Performing Arts Center (4) or on the oval in front of the Admin building (9).
  - On Meade Street between Jenkins Hall (14) and Loar Hall (15).
  - On Camden Avenue next to Middleton Hall (21).
  - On Camden Avenue behind Camden Village (18).

**Nearby Lodging:** I

1. Microtel Inn: 304-460-2525 [www.microtelinn.com](http://www.microtelinn.com)
2. Centennial Motel: 304-472-4100 [www.centennialmotelwv.com](http://www.centennialmotelwv.com)
3. Sir Charles Inn: 304-472-1415
4. Colonial Motel: 304-472-3000 [www.colonialinnwv.com](http://www.colonialinnwv.com)
5. Baxa Motel: 304-472-2500 [www.baxainn.com](http://www.baxainn.com)
6. A Governor's Inn: 304-472-2516
7. Bi-Centennial Inn: 304-472-5000 [www.bicentennialinn.com](http://www.bicentennialinn.com)
8. Riverside B&B: 304-472-0796 [www.riversidewv.com](http://www.riversidewv.com)
9. Hampton Inn: 304-473-0900