

NOTE: The sole purpose of this document is to provide presenters with the days, times, and locations of their presentations. Because of this, much information that will be in the meeting program distributed to all meeting registrants was deleted from this document. Also, formatting may seem a bit strange in places, but will be correct in the printed version distributed at the meeting, as will be internally referenced page numbers.

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TECHNICAL SESSIONS

1100 (time italicized and underlined) identifies a student presentation

* identifies the speaker from among several authors listed

63 (bolded number) is the abstract number

I. SYMPOSIA

Monday, 25 June 2012

Library Science and Archives

SNAKE RIVER ROOM

Monday

8:25 a.m. – 3:00 p.m.

Organizers: *Crystal Goldman* (Scholarly Communications Librarian, Dr. Martin Luther King, Jr. Library, San Jose State University) and *Michal Walden* (Archivist, Idaho State Archives, Division of the Idaho State Historical Society).

Session Co-Chairs: *Crystal Goldman* and *Michal Walden*

8:25 *Introductory Remarks*

8:30 **5** *A Course in Scholarly Publishing for Undergraduates at the University of Utah*, **PETER L KRAUS** (University of Utah, J. Willard Marriott Library).

9:00 **6** *Using the Institutional Repository as an Affordable Learning Solution*, **CRYSTAL GOLDMAN*** and **SILKE HIGGINS** (King Library, San Jose State University).

9:30 **7** *Identifying University Publishing Trends Through Institutional Repository Data*, **MICHELLE ARMSTRONG** (Albertsons Library, Boise State University).

10:00 BREAK

10:20 **8** *An Overview of Special Collections and Archives Content in the Institutional Repository at Boise State University*, **JULIA STRINGFELLOW** (Special Collections and Archives, Albertsons Library, Boise State University).

10:50 **9** *Assessing the Strategic Credibility of Special Collections*, **ERIN PASSEHL^{1*}** and **RICK STODDART^{2*}** (¹Western Oregon University, Hamersly Library; ²Oregon State University, The Valley Library).

11:20 LUNCH

1:30 **10** *More Than Asphalt and Snowplows: Preserving Idaho's Transportation Past*, **MICHAL WALDEN** (Idaho State Archives, Idaho State Historical Society).

2:00 **11** *Assessing Value from the Digital Collection End-User: The Western Writers Series Digital Editions Experience*, **RICK STODDART^{1*}** and **THOMAS HILLARD^{2*}** (¹Oregon State University, The Valley Library; ²Boise State University).

2:30 **12** *Case Study: Design, Workflows, and Final Results of a Large-scale and In-house Oral History Digitization Project At a Small Institution*, **KENT RANDELL** (Albertsons Library, Special Collections and Archives, Boise State University).

Long Term Space Flight and Health

SALMON RIVER

Monday

8:30 a.m. – 11:35 a.m.

Organizer: *Julia Oxford* (Department of Biological Sciences, Boise State University) and *Barbara Morgan* (Distinguished Educator in Residence, Boise State University).

Session Chair: *Julia Oxford*

8:30 **13** *Long term Space Flight and Health*, **JULIA THOM OXFORD** (Department of Biological Sciences, Biomolecular Research Center, Musculoskeletal Research, Boise State University).

8:50 **14** *Changes in Solvent Accessibility of Wild-type and Deamidated bB2-crystallin Following Complex Formation with aA-crystallin Chaperone*, **KIRSTEN J LAMPI^{1*}**, **CADE B FOX¹**, and **LARRY L DAVID²** (¹Oregon Health and Science University, Integrative Biosciences; ²Oregon Health and Science University, Biochemistry and Molecular Biology).

9:10 **15** *Effects of Simulated Microgravity on Articular Chondrocytes*, **LILIANA MELLOR^{1*}**, **LINDSEY**

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CATLIN¹, RAQUEL BROWN¹, WARREN KNUDSON², and JULIA THOM OXFORD¹ (¹Boise State University, Biomolecular Research Center; ²East Carolina University, Brody School of Medicine).

9:30 16 *A Role for PTHrP in Expression of Minor Fibrillar Collagens*, NEDA SHEFA*, MINOTI HIREMATH, and JULIA THOM OXFORD (Biological Sciences Department, Boise State University).

9:50 BREAK

10:10 17 *Interactions of Osteoblasts, Inflammation, and the Extracellular Matrix in Simulated Free Fall*, JAKE GOYDEN*, BENJAMIN DAVIS, JULIA THOM OXFORD, and CHERYL JORCYK (Department of Biological Sciences, Biomolecular Research Center, Musculoskeletal Research, Boise State University).

10:30 18 *Going Green in Space?* KEITH LAMPI (Hydration Technology Innovations, LLC, Albany, OR).

10:50 19 *Calcium Flux During Cell-Cell Communication – BSU Microgravity University 2012*, REILLY CLARK, LINDSEY CATLIN*, LANDON NYE, KELLEN MATHER, TRAVIS BAKER, DAVID CONNOLLY, MATTHEW DOLAN, JASON ARCHER, EUGENE CASTRO, AUDRA PHELPS, NIC BAUGHMAN, DANIEL LAMBERT, MARIE THARP, JOSHUA ANGHEL, BENJAMIN DAVIS, ROBERT HAY, ALARK JOSHI, SARAH HAIGHT, ELISA BARNEY SMITH, JULIA OXFORD, and BARBARA MORGAN (Department of Biological Sciences, Department of Electrical and Computer Engineering, Department of Mathematics, Department of Mechanical and Biomedical Engineering, Department of Business Management, Department of Computer Science, Division of Research, Boise State University).

11:10 20 *Device Design and Development for Imaging Cellular Behavior – BSU Microgravity University 2012*, DAVID CONNOLLY, MATTHEW DOLAN*, JASON ARCHER, EUGENE CASTRO, REILLY CLARK, KELLEN MATHER, LINDSEY CATLIN, LANDON NYE, TRAVIS BAKER, AUDRA PHELPS, NIC BAUGHMAN, DANIEL LAMBERT, MARIE THARP, JOSHUA ANGHEL, BENJAMIN DAVIS, ALARK JOSHI, ROBERT HAY, SARAH HAIGHT, ELISA BARNEY SMITH, BARBARA MORGAN, and JULIA OXFORD (Department of Electrical and Computer Engineering, Department of Mechanical and Biomedical Engineering, Department of Computer Science, Department of Business Management, Department of Mathematics, Department of

Biological Sciences, Division of Research, Boise State University).

11:30 *Closing Remarks*, JULIA OXFORD

Forensic Psychology in Evaluating a Lone Wolf Terrorist: An Analysis of the Norway Killer

PAYETTE RIVER ROOM

Monday

8:40 a.m. – Noon

Program organizer: Ronn Johnson (Clinical Mental Health Program, University of San Diego)

Program Chair: Ronn Johnson

8:40 21 *Overview and Questions for Forensic Psychology in Homegrown Lone Wolf Terrorism Cases*, RONN JOHNSON (Clinical Mental Health Program, University of San Diego).

9:10 22 *Forensic Psychology Cultural and Ethical Considerations in Homegrown Lone Wolf Terrorism Cases*, KRISTEN N GREIDER*, CHRIS WEHRLE, NICK BOYD, and RONN JOHNSON (Clinical Mental Health Program, School of Leadership and Education Sciences, University of San Diego).

9:40 23 *Identifying, Securing, Organizing and Reviewing Mental Health Data in the Norway Killer Case*, RONN JOHNSON*, CHRIS WEHRLE, and KRISTEN GREIDER (Clinical Mental Health Counseling, School of Leadership and Education Sciences, University of San Diego).

10:10 BREAK

10:30 24 *Opposing Psychological Reports on the Norway Killer Case*, NICK BOYD*, LINH TRAN, and RONN JOHNSON (Clinical Mental Health Counseling, School of Leadership and Education Sciences, University of San Diego).

11:00 25 *Women and Children Suicide Bombers: The Next Terrorist Frontier*, CHRIS WEHRLE*, ERICA BESSEN, and RONN JOHNSON (Clinical Mental Health Counseling, School of Leadership and Education Sciences, University of San Diego).

11:30 26 *Antiterrorism from an Alternate Behavioral Threat Assessment Perspective*, CHRIS WEHRLE*,

KRISTIN, DESCANIO, and RONN JOHNSON (Clinical Mental Health Counseling, School of Leadership and Education Sciences, University of San Diego).

Penalty Cases III: Other Mental Health Issues, **LINH TRAN* and RONN JOHNSON** (Clinical Mental Health Counseling, School of Leadership and Education Sciences, University of San Diego).

The Forensic Psychology of Women Death Penalty Cases

PAYETTE RIVER ROOM
Monday
1:30 p.m. – 4:50 p.m.

Computability and Complexity in Mathematics, Session I

PONDEROSA PINES 1 & 2
Monday, 1:30 p.m. – 5:15 p.m.
Tuesday, 9:00 a.m. – 11:25 a.m.

Program organizer: *Ronn Johnson* (Clinical Mental Health Program, University of San Diego)

Program organizer: *Liljana Babinkostova* (Department of Mathematics, Boise State University)

Program Chair: *Ronn Johnson*

Program Chair: *Liljana Babinkostova*

1:30 27 Overview of Questions for Forensic Psychology in Women Death Penalty Cases: Teresa Lewis as a Framework, **RONN JOHNSON* and KRISTEN N GREIDER** (Clinical Mental Health Program, School of Leadership and Education Sciences, University of San Diego).

1:30 33 *DNA-rearrangement During Macronuclear Development in Ciliates*, **FRANZISKA JONSSON** (Department of Health, Institute of Cell Biology, University of Witten/Herdecke, Germany).

2:00 28 Can a Forensic Psychological Report be Crafted in the Most Recent Women Death Penalty Cases of Lynda Lyon Block and Aileen Wuornos? **KRISTEN N GREIDER* and RONN JOHNSON** (Clinical Mental Health Program, School of Leadership and Education Sciences, University of San Diego).

2:20 34 *Genome Remodeling in Developmental Time: Algorithms for Ciliates*, **CHRISTOPHER ANDERSON¹, HELEN WAUCK^{2*}, MARLENA WARNER³ and MINGJIA YANG⁴** (¹Department of Mathematics, Lewis and Clark College; ²Department of Mathematics, Gustavus Adolphus College; ³Department of Psychology and Communication Studies, University of Idaho; ⁴Department of Mathematics, Albion College).

2:30 29 Forensic Mental Health Cultural and Ethical Considerations in Death Penalty Cases: Wanda Jean Allen, Teresa Lewis, and Frances Newton, **KELLY RAINS*, KRISTIN DESCANIO, NICK BOYD, and RONN JOHNSON** (Clinical Mental Health Counseling, School of Leadership and Education Sciences, University of San Diego).

2:40 34 *Genome Remodeling in Developmental Time: Algorithms for Ciliates*, **CHRISTOPHER ANDERSON^{1*}, HELEN WAUCK², MARLENA WARNER³ and MINGJIA YANG⁴** (¹Department of Mathematics, Lewis and Clark College; ²Department of Mathematics, Gustavus Adolphus College; ³Department of Psychology and Communication Studies, University of Idaho; ⁴Department of Mathematics, Albion College).

3:00 BREAK

3:20 30 Dependent Personality Disorder as a Mitigating Factor in Death Penalty Cases, **ERICA J BESSEN* and RONN JOHNSON** (Clinical Mental Health Counseling, School of Leadership and Education Sciences, University of San Diego).

3:00 34 *Genome Remodeling in Developmental Time: Algorithms for Ciliates*, **CHRISTOPHER ANDERSON¹, HELEN WAUCK², MARLENA WARNER^{3*} and MINGJIA YANG⁴** (¹Department of Mathematics, Lewis and Clark College; ²Department of Mathematics, Gustavus Adolphus College; ³Department of Psychology and Communication Studies, University of Idaho; ⁴Department of Mathematics, Albion College).

3:50 31 Forensic Psychology in Select Female Death Penalty Cases II: Black Widows, **CHRIS WEHRLE*, KRISTEN N GRIEDER, and RONN JOHNSON** (Clinical Mental Health Counseling, School of Leadership and Education Sciences, University of San Diego).

4:20 32 Forensic Psychology in Select Female Death

3:20 34 *Genome Remodeling in Developmental Time: Algorithms for Ciliates*, **CHRISTOPHER**

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ANDERSON¹, HELEN WAUCK², MARLENA WARNER³ and MINGJIA YANG^{4*} (¹Department of Mathematics, Lewis and Clark College; ²Department of Mathematics, Gustavus Adolphus College; ³Department of Psychology and Communication Studies, University of Idaho; ⁴Department of Mathematics, Albion College).

3:40 BREAK

4:00 **35** *Exploring Phylogenetic Relationships in Drosophila with Ciliate Operations*, MARION SCHEEPERS¹, ANNA NELSON^{1*}, and JACOB HERLIN². (¹Department of Mathematics, Boise State University; ²Department of Mathematical Sciences, University of Northern Colorado).

4:20 **36** *Geometry, Topology, and Complexity of Virtual Knots*, ASHLEY EARLS^{1*}, GABRIEL ISLAMBOULI², and RACHAEL KELLER³ (¹Department of Mathematics, St Olaf College; ²Department of Mathematics, University of Virginia; ³Department of Mathematics, Louisiana State University).

4:40 **36** *Geometry, Topology, and Complexity of Virtual Knots*, ASHLEY EARLS¹, GABRIEL ISLAMBOULI^{2*}, and RACHAEL KELLER³ (¹Department of Mathematics, St Olaf College; ²Department of Mathematics, University of Virginia; ³Department of Mathematics, Louisiana State University).

5:00 **36** *Geometry, Topology, and Complexity of Virtual Knots*, ASHLEY EARLS¹, GABRIEL ISLAMBOULI², and RACHAEL KELLER^{3*} (¹Department of Mathematics, St Olaf College; ²Department of Mathematics, University of Virginia; ³Department of Mathematics, Louisiana State University).

Program continues on Tuesday, 26 June.
Please refer to page 27 in these *Proceedings*.

Responses of Sagebrush-Steppe Ecosystems to a Changing Climate

SALMON RIVER ROOM

Monday

1:30 p.m. – 4:50 p.m.

Program organizers: Kevin P. Feris and Marie-Anne de Graaff (Department of Biology, Boise State University)

Session Co-Chairs: Marie-Anne de Graaff and Kevin P Feris

1:30 37 *Changes in Soil Aggregate Dynamics and*

Carbon Storage Following 18 Years of Experimentally Increased Precipitation in a Cold Desert Ecosystem, MARIE-ANNE de GRAAFF^{1*}, JESS van der VEEN², MATTHEW GERMINO², and JAMIE HICKS¹ (¹Department of Biological Sciences, Boise State University; ²USGS Forest and Rangeland Ecosystem Science Center, Boise, ID).

2:00 38 *Influence of Precipitation Regime on Microbial Decomposition Patterns and Community Structure in Semi-Arid Ecosystems: Altered Roles of Bacteria and Fungi*, KEVIN FERIS^{1*}, CARRIE JILEK¹, DAVID HUBER², KEITH REINHARDT², MARIE-ANNE de GRAAFF¹, KATHERINE LOHSE², and MATT GERMINO³ (¹Department of Biological Sciences, Boise State University; ²Department of Biological Science, Idaho State University, Pocatello; ³USGS FRESC, Boise ID).

2:30 **39** *Effects of Climate Shifts and Plant-Community Transformations on Carbon and Nitrogen Cycling in Semi-Arid Rangelands*, DAVID P HUBER^{1*}, KATHERINE LOHSE¹, MATT HERMINO², KEITH REINHARDT¹, KEVIN FERIS³, and MARIE-ANNE de GRAAFF³ (¹Department of Biological Science, Idaho State University, Pocatello; ²USGS FRESC, Boise ID; ³Department of Biological Sciences, Boise State University).

3:00 BREAK

3:20 **40** *Identifying Holocene Relationships among Climate, Vegetation, Fire and Fire-related Erosion using Alluvial Charcoal and Fossilized Woodrat (Neotoma) Middens at City of Rocks National Reserve, Idaho*, KERRIE WEPPNER^{1*}, JEN PIERCE¹, and JULIO BETANCOURT² (¹Department of Geosciences, Boise State University; ²USGS NRP, Tucson, AZ).

3:50 41 *At home on the Range: Loss of Sagebrush May Open New Habitat for Harvester Ants, and Imperil a Threatened Mustard Endemic to Southwest Idaho*, IAN ROBERTSON (Department of Biological Sciences, Boise State University).

4:20 **42** *Insect Responses to Intra- and Interannual Variations in Weather: Implications for Climate Change in Sagebrush Steppe*, ASHLEY ROHDE^{1,2*}, DAVID PILLIOD¹, and STEPHEN NOVAK² (¹U.S. Geological Survey, Forest and Rangeland Ecosystem Science Center, Boise, ID; ²Department of Biology, Boise State University).

***Expert and Novice Learning in STEM:
Exploring Assumptions and
Indicators of Success***

WILLOWS 1
Monday
1:30 p.m. – 3:30 p.m.

Program organizers: *Louis Nadelson* (Boise State University) and *Carl Maida* (University of California, Los Angeles)

- 1:30** *Welcome*, **KIMBERLY D TANNER** (San Francisco State University)
1:40 *Introductory Remarks*, **LOUIS NADELSON** (Boise State University).

- 2:00** *Panel: Expert and Novice Learning In STEM: Exploring Assumptions and Indicators of Success*

Moderator:

Louis Nadelson

Panelists:

Suzanne H. Broughton (Utah State University)
J. Richard Jordan (Timberline High School, Boise)
Jay Vavra (High Tech High, San Diego)
Sasha Wang (Boise State University)

Discussant:

Carl Maida (University of California, Los Angeles)

Discussion:

Audience and Panelists

- 3:15** *Closing Remarks*, **LOUIS NADELSON**

Tuesday, 26 June 2012

***Computability and Complexity
in Mathematics, Session II***

PONDEROSA PINES 1 & 2

Program continues from Monday.

Please refer to page 24 of these *Proceedings* for the full description of the program.

Tuesday, 9:00 a.m. – 11:25 a.m.

Program Co-Chairs: *Jens Harlander* and *Marion Scheepers*

- 9:00 43** *Elliptic Curves: From Diophantus to Modern Cryptography*, **LAWRENCE C WASHINGTON** (Department of Mathematics, University of Maryland, College Park, MD 20742; lcw@umd.edu).

- 9:50 44** *Computability and Complexity in Elliptic Curves and Cryptography*, **KEVIN BOMBARDIER^{1*}**, **MATTHEW COLE²**, **THOMAS MORRELL³**, and **CORY SCOTT⁴** (¹Department of Mathematics, Wichita State University; ²Department of Mathematics, University of Notre Dame; ³Department of Mathematics, Washington University in St. Louis; ⁴Department of Mathematics, Colorado College).

- 10:10 44** *Computability and Complexity in Elliptic Curves and Cryptography*, **KEVIN BOMBARDIER¹**, **MATTHEW COLE²**, **THOMAS MORRELL^{3*}**, and **CORY SCOTT⁴** (¹Department of Mathematics, Wichita State University; ²Department of Mathematics, University of Notre Dame; ³Department of Mathematics, Washington University in St. Louis; ⁴Department of Mathematics, Colorado College).

- 10:30 44** *Computability and Complexity in Elliptic Curves and Cryptography*, **KEVIN BOMBARDIER¹**, **MATTHEW COLE²**, **THOMAS MORRELL³**, and **CORY SCOTT^{4*}** (¹Department of Mathematics, Wichita State University; ²Department of Mathematics, University of Notre Dame; ³Department of Mathematics, Washington University in St. Louis; ⁴Department of Mathematics, Colorado College).

- 10:50 44** *Computability and Complexity in Elliptic Curves and Cryptography*, **KEVIN BOMBARDIER¹**, **MATTHEW COLE^{2*}**, **THOMAS MORRELL³**, and **CORY SCOTT⁴** (¹Department of Mathematics, Wichita State University; ²Department of Mathematics, University of Notre Dame; ³Department of Mathematics, Washington University in St. Louis; ⁴Department of Mathematics, Colorado College).

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11:10 45 *Symmetric Key Cryptography Over Non-binary Algebraic Structures*, **LILJANA BABINKOSTOVA¹, KAMERYN WILLIAMS^{1*}, ALYSSA BOWDEN², and ANDREW KIMBALL³** (¹Department of Mathematics, Boise State University; ²Department of Mathematics, Loyola Marymount University; ³Department of Mathematics and Computer Science, Western Carolina University).

Following this symposium Tuesday afternoon will be the workshop, *Programmed Genome Remodeling in Ciliates and Computing*. In the middle of the workshop will be the contributed paper, *Cantor's Original Proof that the Reals are Uncountable*. For information about the workshop, please refer to page 35 of these *Proceedings*. For information about the oral presentation, please refer to page 40 of these *Proceedings*.

Biofuel: Computational Modeling of Cellulose and Cellulase

DOUGLAS FIR 1 & 2

Tuesday

9:00 a.m. – 11:50 a.m.

Program organizer: *C. Mark Maupin* (Department of Chemical and Biological Engineering, Colorado School of Mines)

Session Chair: *C. Mark Maupin*

9:00 46 *Computational Evaluation of Alternative/Renewable Energy Solutions*, **C MARK MAUPIN** (Department of Chemical and Biological Engineering, Colorado School of Mines).

9:30 47 *Multi-resolution Computational Studies of Cellulose*, **GIOVANNI BELLESIA, PARTHASARATHI RAMAKRISHNAN, ANURAG SETHI, and S GNANAKARAN*** (Theoretical Biology and Biophysics Group, Los Alamos National Labs).

10:00 48 *Computer Simulation of Lignocellulosic Biomass*, **LOUKAS PETRIDIS** (Oak Ridge National Laboratory).

10:30 BREAK

10:50 49 *Identification of Conserved Binding Motifs for Cellulase Enzymes and the Creation of a Novel Approach to Identifying the Enzymatic Mode of Action*, **SAMBASIVARAO V SOMISETTI** (Department of Chemical and Biological Engineering, Colorado School of Mines).

11:20 50 *Biomass to Biofuels: Computer Modeling of*

Cellulose and Cellulases, **MICHAEL F CROWLEY^{1*}, GREGG T BECKHAM^{2,3}, LINTAO BU², and JAMES F MATTHEWS¹** (¹Biosciences Center, National Renewable Energy Laboratory; ²National Bioenergy Center, National Renewable Energy Laboratory; ³Department of Chemical Engineering, Colorado School of Mines).

Water Resource Management in the Arid West: Historical Perspectives and Emerging Issues

PAYETTE RIVER

Tuesday

9:00 a.m. – Noon

Program organizer: *Scott E. Lowe* (Department of Economics, Boise State University)

Program Chair: *Scott E. Lowe*

9:00 *Introductory Comments*, **SCOTT E LOWE**

9:10 51 *An Evaluation of Water Transactions for Environmental Benefits in the Pacific Northwest*, **KELLY WENDLAND^{1*} and SHANNA KNIGHT²** (¹Department of Conservation Social Sciences, University of Idaho; ²Department of Law, University of Idaho).

9:40 52 *Fixed Yet Variable: The Effects of Water Rights Institutions on Agricultural Land Use in the Arid West*, **SCOTT LOWE and WENCHAO XU*** (Department of Economics, Boise State University).

10:10 BREAK

10:30 53 *Enhancing Economic Effectiveness of Water Use within Prior Appropriations Doctrine in the Western United States*, **LEVAN ELBAKIDZE and HANNAH VINSON*** (Department of Agricultural Economics and Rural Sociology, University of Idaho).

11:00 54 *Calculator: Optimized Surface Water Allocation in Drought (OSWAD)*, **DAVID J HOEKEMA* and JAE RYU** (Department of Biological and Agricultural Engineering, University of Idaho).

11:30 55 *The Political Economy of Major Water Infrastructure Investments in the Western United States and the Impact on Agriculture: An Historical Analysis*, **ZEYNEP K HANSEN¹, GARY D LIBE-CAP², and SCOTT E LOWE^{1*}** (¹Department of Economics, Boise State University; ²Bren School of

Environmental Science and Management, University of California, Santa Barbara).

***Modeling, Simulation, and
Data Visualization***

DOUGLAS FIR 1 & 2

Tuesday

1:00 p.m. – 5:20 p.m.

Program organizers: *Tim Andersen* (Department of Computer Science and Engineering, Boise State University) and *Jeff Habig* (Department of Chemistry and Biochemistry, Boise State University)

Program Co-Chairs: *Tim Andersen* and *Jeff Habig*

1:00 56 *Modeling Spatiotemporal Dynamics in Viral and Bacterial Systems with Discrete Models*, **SUZY VASA, JAMESON MILLER, and MORGAN C GIDDINGS*** (College of Arts and Sciences, Boise State University; ²Department of Microbiology and Immunology, University of North Carolina, Chapel Hill).

1:30 57 *A New Bioinformatics of Shape for Regenerative Science*, **DANIEL LOBO* and MICHAEL LEVIN** (Center for Regenerative and Developmental Biology, and Department of Biology, Tufts University).

2:00 58 *Automating Discovery of Agent-based Models of Complex Pattern Formation – Development to Regeneration*, **JEFF HABIG^{1*} and TIM ANDERSEN²** (Departments of ¹Chemistry and Biochemistry and ²Computer Science, Boise State University).

2:30 59 *Systems Modeling of Retinoid Metabolism in Alcoholic Disease*, **JENNIFER R CHASE** (Department of Biology, Northwest Nazarene University).

3:00 BREAK

3:20 60 *Inverse Modeling for Advanced Simulation*, **JODI MEAD** (Department of Mathematics, Boise State University).

3:50 61 *Immersive Visualization: An Interactive Interface to Multivariate Data*, **ALARK JOSHI** (Department of Computer Science, Boise State University).

4:20 62 *Volume Visualization and Statistical Analysis of Rotating and Sheared Homogeneous Turbulence*, **FRANK G JACOBITZ^{1*}, KAI SCHNEIDER², WOUTER J T BOS³, and MARIE FARGE⁴** (¹Mechanical Engineering Program, University of

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San Diego; ²M2P2-CNRS and CMI, Université de Provence, France; ³LMFA-CNRS, Ecole Centrale de Lyon, Université de Lyon, France; ⁴LMD-CNRS, Ecole Normale Supérieure, France).

4:50 63 *Massively Parallel Multiphysics Simulation of Complex Processes*, **DEREK GASTON** (Computational Frameworks Group Lead, Fuel Modeling and Simulation Department, Idaho National Laboratory).

Transport Across Membranes

PAYETTE RIVER

Tuesday

1:30 p.m. – 3:30 p.m.

Program organizers: *Daniel Fologea* (Department of Physics, Boise State University) and *James R. Groome* (Department of Biology, Idaho State University, Pocatello)

Session Co-Chairs: *Daniel Fologea* and *James R. Groome*

1:30 64 *Atomic Force Microscopy: Potential Applications on the Study of Transmembrane Proteins*, **BYUNG KIM** (Department of Physics, Boise State University).

2:00 65 *Multivalent Ions Control the Transport through Lysenin Channels*, **DANIEL FOLOGEA** (Department of Physics, Boise State University).

2:30 66 *Modulation of Ionic Transport through Lysenin Channels by Charged Nanoparticles*, **SHEENAH BRYANT*, DANIEL FOLOGEA, JORDAN CHESS, GORDON ALANKO, and ALEX PUNNOOSE** (Department of Physics, Boise State University).

3:00 67 *State Transitions in Sodium Channels: Role of the Voltage Sensing Module*, **JAMES GROOME* and VERN WINSTON** (Department of Biology, Idaho State University, Pocatello).

Science-Themed Fiction

SALMON RIVER

Tuesday

1:30 p.m. – 4:20 p.m.

Program Organizer: *Robert L. Chianese* (Emeritus, Department of English, California State University Northridge)

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Program Chair: *Robert L. Chianese*

1:30 68 *Broken Webs in T. C. Boyle's Eco-novel When the Killing's Done*, **ROBERT LOUIS CHIANESE** (Emeritus, Department of English, California State University Northridge).

2:00 69 *Cosmology in Literature*, **JOHN WILLIAM (BILL) COPELAND**.

2:30 70 *George G. Simpson, Concession to the Ineluctable in His Sci-fi Novel, The Dechronization of Sam Magruder*, **LÉO FLAPORTE** (Emeritus, University of California Santa Cruz).

3:00 BREAK

3:20 71 *The Emergence of Consciousness in Neurobiologist Terrence Deacon and Novelist James Joyce*, **JESSE J THOMAS** (Department of Religious Studies, San Diego State University).

3:50 72 *The Tragic Commons: Population, Resources, and Freedom in Garrett Hardin and Jonathan Franzen*, **CARLA MAIDA** (Institute of the Environment and Sustainability, University of California, Los Angeles).

Mechanisms of Tumor Progression and Cancer Therapeutics

SNAKE RIVER

Tuesday

1:30 p.m. – 4:50 p.m.

Program organized by: *Cheryl Jorcyk* (Department of Biology, Boise State University)

Session Chair: *Cheryl Jorcyk*

1:30 73 *Breast Cancer Metastasis: A Role for the Inflammatory Cytokine Oncostatin M?* **CHERYL JORCYK** (Department of Biological Sciences, Boise State University).

2:00 74 *A Brief History of Myeloma: How Bench Research Has Transformed Treatments at the Bedside*, **PAUL MONTGOMERY** (St. Luke's Mountain States Tumor Institute, Boise, ID).

2:30 75 *Zinc Oxide Nanoparticle Toxicity Against Tumor Cells*, **JOHN RASMUSSEN** (Department of

Biological Sciences, Boise State University).

2:45 76 *Stromal Signaling in the Pathogenesis of Breast Cancer*, **MINOTI HIREMATH^{1*}, LAURA BOND¹, and JOHN J WYSOLMERSKI²** (¹Department of Biological Sciences, Boise State University; ²Department of Internal Medicine, Section of Endocrinology, Yale University).

3:00 BREAK

3:20 77 *The Role of Autophagy in the Development and Treatment of Colon Cancer*, **TOM DONNDELINGER* and JOELLA SKYLES** (Department of Pathology, St. Alphonsus Hospital, Nampa, ID).

3:50 78 *Inter-omic Analysis of Breast Cancers to Uncover How Genomic Aberrants Lead to Cancer Phenotypes*, **MORGAN C GIDDINGS*, BRIAN RISK, JOHN WROBEL, and JAINAB KHATUN** (School of Arts and Sciences, Boise State University).

4:20 79 *Oncostatin M Interacts with ECM Components: Implications for Chronic Inflammation and Tumor Metastasis*, **RANDALL RYAN*, BRYAN MARTIN, LILIANA MELLOR, OWEN McDOUGAL, REED JACOB, CHERYL JORCYK, and JULIA OXFORD** (Department of Biological Sciences, Department of Chemistry and Biochemistry, Biomolecular Research Center, Boise State University).

Wednesday, 27 June 2012

***Emerging and Re-Emerging
Infectious Diseases***

DOUGLAS FIR 1 & 2

Wednesday

8:00 a.m. – Noon

Program organized by: *Michael J. Aldape* (Veterans Affairs Medical Center)

Session Chair: *Michael J. Aldape*

8:00 80 *Toxin Production by Methicillin Resistant Strains of Staphylococcus aureus (MRSA): The Effect of Antibiotics*, **DENNIS L STEVENS^{1,2*}**, **AMY E BRYANT^{1,2,3}**, **STEPHANIE HAMILTON^{1,3}** and **YONGSHENG MA¹** (¹Department of Veterans Affairs Medical Center; ²University of Washington School of Medicine; ³Department of Life Sciences, University of Idaho).

8:30 81 *Yersinia pestis Ompx Virulence Factor and Role in Host Cell Attachment, Internalization, and Immune Modulation*, **ANNA M KOLODZIEJEK^{1*}**, **SCOTT A MINNICH¹**, **CAROLYN J HOVDE¹**, and **GREGORY A BOHACH²** (¹School of Food Science, University of Idaho; ²Division of Agriculture, Forestry and Veterinary Medicine, Mississippi State University, Starkville).

9:00 82 *Construction and Characterization of Non-toxic Bacterial Enterotoxins as Vaccine Adjuvants*, **LAVANYA VEMPATI*** and **JULIETTE TINKER** (Department of Biological Sciences, Boise State University).

9:30 83 *Norovirus Genotype Dynamics Among Outbreak Associated Strains in Alaska, Idaho, Montana, and Wyoming 2010-2012*, **AMANDA J BRUESCH** and **CHRISTOPHER L BALL*** (Idaho Bureau of Laboratories, Boise, ID).

10:00 BREAK

10:30 84 *Campylobacter jejuni Exploits Host Cell Processes to Enhance Disease*, **MICHAEL E KONKEL** (School of Molecular Biosciences, Washington State University).

11:00 85 *Effects of Selective and Non-selective NSAIDs on Initiation, Progression and Antibiotic Efficacy of Experimental Group A Streptococcal Myonecrosis*, **STEPHANIE HAMILTON^{1,2*}**, **CLIFFORD R BAYER¹**, **DENNIS L STEVENS^{1,3}**, and **AMY E BRYANT^{1,2,3}** (¹U.S. Department of Veterans Affairs

Medical Center, Boise, ID; ²Department of Life Sciences, University of Idaho; ³University of Washington School of Medicine).

11:30 86 *Modeling HIV-1 Latency in Primary Central Memory Lymphocytes*, **LAURA MARTINS***, **ALBERTO BOSQUE**, **MARYLINDA FAMILLETTI**, **PETER RAMIREZ**, **CAMILLE NOVIS**, and **VICENTE PLANELLES** (Division of Microbiology and Immunology, Department of Pathology, University of Utah).

***Recent Advances in
Pharmacology and Toxicology***

PAYETTE RIVER

Wednesday

8:30 a.m. – 11:45 a.m.

Program organizer: *Kristen Mitchell* (Department of Biological Sciences, Boise State University)

Session Chair: *Kristen Mitchell*

8:30 87 *Inhibition of Growth of Cervical Cancer Cells by a Chymotrypsin-Like Protease Inhibitor*, **KIMBERLY J JURGENSEN***, **KRISTIN A ECKERT**, and **GARY A CLAWSON** (Jake Gittlen Cancer Research Foundation, Pennsylvania State University College of Medicine).

8:55 88 *From Our Phones To Our Bones: Mechanisms of Cadmium-Induced Osteotoxicity*, **SARA J HEGGLAND** (Department of Biology, The College of Idaho).

9:20 89 *Mechanism of Acrylonitrile Carcinogenesis in Rat Brain: The Potential Involvement of Oxidative Stress*, **XINZHU PU^{1*}**, **ZEMIN WANG²**, **SHAOYU ZHOU²**, **LISA M KAMENDULIS²**, and **JAMES E KLAUNIG²** (¹Department of Biological Sciences, Boise State University; ²Department of Environmental Health, Indiana University).

9:45 90 *Modulation of Atrogin-1 and the Ubiquitin Proteasomal System by Anthracyclines in Left Ventricular Tissue in Rats*, **NICOLE FRANK^{1,2*}**, **SUELA KUMBULLA¹**, **ADITI JAIN¹**, **JAMES C K LAI^{1,2}**, **RICHARD OLSON^{1,2}**, **BARRY CUSACK^{1,2,3}**, and **ALOK BHUSHAN^{1,2}** (¹Department of Biomedical and Pharmaceutical Sciences, College of Pharmacy and ISU Biomedical Institute, Idaho State University, Pocatello; ²Mountain States Tumor and Medical

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Research Institute, Boise; ¹Research Service, Department of Veterans Affairs Medical Center, Boise).

10:10 BREAK

10:30 91 *The Role of Anti-mesothelial Cell Antibodies in Asbestos-Induced Pleural Disease*, **JEAN C PFAU*** and **KINTA SERVE** (Department of Biological Sciences, Idaho State University, Pocatello).

10:55 92 *Assessment of Amphiphilic Quantum Dot Disposition in Two Human Liver Models*, **WESLEY E SMITH^{1*}**, **JESSICA BROWNELL³**, **COLLIN C WHITE¹**, **ZAHRA ASHFARINAJAD¹**, **JESSE TSAI¹**, **XIAOGE HU²**, **STEVEN J POLYAK³**, **XIAOHU GAO²**, **TERRANCE J KAVANAGH¹** and **DAVID L EATON¹** (Departments of ¹Environmental and Occupational Health Sciences, ²Bioengineering and ³Global Health/Pathobiology, University of Washington).

11:20 93 *Modulation of Hepatic Stellate Cell Activation by Ah Receptor Ligands*, **KRISTEN A MITCHELL** (Department of Biological Sciences, Boise State University).

Biophysical Insights from Experimental Approaches to Computational Simulations

WILLOWS 1 & 2

Wednesday

8:30 a.m. – 4:30 p.m.

Program organizer: *Dong Xu* (Department of Chemistry and Biochemistry, Boise State University)

Program Chair: *Dong Xu*

8:30 94 *Discovery of a Nanoscale Clamp for Protein and Chromatin Binding*, **RICCARDO BARON** (Department of Medicinal Chemistry, College of Pharmacy, The Henry Eyring Center for Theoretical Chemistry, University of Utah).

9:00 95 *Deconstructing and Reconstructing a Protein Capsid*, **KENNETH WOYCECHOWSKY** (Department of Chemistry, University of Utah).

9:30 96 *Determining Realistic Structural Ensembles for Intrinsically Disordered Proteins*, **F MARTY YTREBERG** (Department of Physics, University of Idaho).

10:00 BREAK

10:30 97 *Chromatographic Stationary Phase Development for the Analysis of Solute Interactions with Phospholipid Membranes*, **ERIC E ROSS** (Department of Chemistry and Biochemistry, Gonzaga University).

11:00 98 *Biomolecular Motors and Switches: From Machines to Drugs*, **BARRY J GRANT** (Center for Computational Medicine and Bioinformatics, University of Michigan Medical School).

11:30 99 *An Unusual HMG-CoA Reductase from Burkholderia cenocepacia: Kinetic and Structural Characterization*, **JEFF WATSON** (Department of Chemistry and Biochemistry, Gonzaga University).

12:00 LUNCH

1:30 100 *Simulation of Drug-Binding Kinetics*, **CHUNG F WONG** (Department of Chemistry and Biochemistry and Center for Nanoscience, University of Missouri-Saint Louis).

2:00 101 *Computational Studies of Ras Dynamics, Membrane Binding and Assembly*, **ALEMAYEHU (ALEX) GORFE** (Integrative Biology and Pharmacology, University of Texas Medical School – Houston).

2:30 102 *Observing Intermolecular Unbinding Mechanisms Through Forced Unbinding Studies Using AFM*, **JONATHAN WALSH** (Department of Physics, Boise State University).

3:00 BREAK

3:30 103 *Ab initio QM/MM Molecular Dynamics with AMBER and TeraChem: Exploring Environmental Effects on the Absorption Spectrum of Photoactive Yellow Protein*, **ANDREAS W GOETZ** (San Diego Supercomputer Center)

4:00 104 *Characterizing the Conformations and Dynamics of PEGylated Human Interferon β -1a via Molecular Dynamics Simulation*, **NIKOLAI SMOLIN** (Department of Chemistry and Biochemistry, Boise State University).