



NURDS 2015

Program

7th annual

Northeast Undergraduate Research and Development Symposium

University of New England, Biddeford, Maine

March 7 and 8, 2015



Hosted by the University of New England

Students

Bronwen Boe
Jocelyn Gil
Chelsea Grandinetti
Lars Hammer
Anthony Himes
Cameron Hodgdon
Blaise Jenner
Joseph Langan
Ashleigh Novak
Kiera O'Donnell
Gwen Pelletier
Megan Perry
Brenda Rudnicky
Kelsey Schwarz
Grayson Szczepaniak
Carolyn Wheeler
Maggie Winchester
Jaimee Winer

Faculty

Markus Frederich, Ph.D., UNE
Celeste Peterson, Ph.D., Suffolk University

Logo design

Christina Guidoboni

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Conference Schedule:

Saturday, March 7th:

11:00 – 12:45	Check-In and Registration (3 rd floor Alfond)
12:45 - 1:00	Welcome and introduction (Campus Center)
1:00 – 3:00	Keynote address and workshop by Dr. Randy Olson (Campus Center)
3:00 – 3:30	Break
3:30 – 5:00	SESSION 1: Medical Biology I (Alfond 106) & SESSION 2: Chemistry/Biochemistry (Alfond 205)
5:00 – 6:00	Dinner (Decary Cafeteria)
6:00 – 7:30	POSTER SESSION I (2 nd and 3 rd floor Alfond)

Sunday, March 8th:

8:30 – 9:45	SESSION 3: Marine Biology (Alfond 106) & SESSION 4: Social Sciences (Alfond 205)
9:45 – 10:15	Break
10:15 – 11:45	SESSION 5: Marine Biology/Biology (Alfond 106) & SESSION 6: History/Data Blitz (Alfond 205)
11:45 – 1:30	POSTER SESSION II (2 nd and 3 rd floor Alfond) lunch at the poster session
1:30 – 2:45	SESSION 7: Biology (Alfond 106) & SESSION 8: Ecology/Genetics (Alfond 205)
2:45 – 3:00	Closing remarks and award ceremony (Alfond 205)

Saturday March 7th:

SESSION 1: MARINE BIOLOGY I (Alfond 106)

- 3:30-3:45 **Ellis, Randall J; Vertes, Robert P;** Florida Atlantic University, Boca Raton, FL
Antidepressant Efficacy of Dextromethorphan: A New Paradigm for Clinical Depression Research
- 3:45-4:00 **Morrissey, Rhiannon; Axen, Heather; Liptak, Stephanie; Clifton, Kari B; Zhang, Songhua; Moss, Steven F; Swanson, John-David;** Salve Regina University, Newport, RI
Gastric Adenocarcinoma Cell Cycle Arrest Effectuated by Gallic Acid Treatment
- 4:00-4:15 **Ortiz, Christine; Grassette Tessa M; Shakarian Alison M;** Salve Regina University, Providence, RI
Amplified Fragment Length Polymorphism (AFLP) Analysis to Detect Genetic Differences among Leishmania Species
- 4:15-4:30 **Palanza, Kenneth M; Nesta, Alex V; King, Thomas R; Davis, Michael A;** Central CT State University, New Britain, CT
Development of a Bacteria-Based Screen for Gyrate Atrophy of the Choroid and Retina (GACR).
- 4:30-4:45 **Casazza, Rebecca; Sheehy, Ann;** College of the Holy Cross, Worcester, MA
Identifying Essential Regions in the Human Anti-HIV Protein Apobec3G
- 4:45-5:00 **Neff, Samantha; Toltin, Abigail C; Symington, Steven B;** Salve Regina University, Newport, RI
Characterization of Voltage-Gated Calcium Channels in *Xenopus laevis* Oocytes

SESSION 2: PHYSICS (Alfond 205)

- Doucette, Cherie-Jean; Hoehle, Lloyd; Silva, Courtney; Franco, Jimmy;** Merrimack College
Detection of Neglected Diseases
- Marko, Ingrid;** Worcester Polytechnic Institute, Worcester, MA
Infrared and Circular Dichroism Spectroscopic Analysis of the Human Zinc Transporter (hZIP4) Cytosolic Domain
- Anderson, Kierstyn; Kingston, Erin; Smotkin, Eugene S;** Northeastern University, Boston, MA
Infrared spectroscopy of Cd²⁺ ion exchange polymer electrolytes as precursors to quantum dots
- Awwa, Monaf; Meschwitz, Susan;** Salve Regina University, Newport, RI
Virtual Screening of Pyrimidinone and Phevalin Derivatives Against Various Pathogenic Proteins
- Matar, Somer M; Sutherland, Jay; Baures, Paul;** Keene State College
The Screening of Synthesized Compounds for the Inhibition of *Vibrio Cholerae* Autoagglutination
- Marchetti, Louis; Katak, Abhishek; Davis, Riley; DeBoef, Brenton;** University of Rhode Island, Kingston, RI
Gold-catalyzed Regioselective C-N Bond Formation

Sunday March 8th:

SESSION 3: MARINE BIOLOGY II (Alfond 106)

- 8:30-8:45 **Bernstein, Emily P; Morrison, Francoise; Menden-Deuer, Susanne;** University of Rhode Island, Kingston, RI
Characterizing the Narragansett Bay Phytoplankton Community using the FlowCAM
- 8:45-9:00 **Bishop, Emily E; Tonnes, Dan; Gibson, Caroline;** University of Rhode Island, Kingston, RI
Developing a boat-based survey protocol for floating kelp in Puget Sound, Washington
- 9:00-9:15 **Jones, Katherine M; Kane, Jennifer A; Nicholson, Heather J; Chace, Jameson F; Borkman, David;** Salve Regina University, Newport, RI
Distribution, Abundance and Skewed Sex Ratios Among Crabs and Lobsters Along Coastal Rhode Island
- 9:15-9:30 **Langan, Joseph A; Quinlan, James E; Arciero, Michael J; Mandelman, John W; Dean, Micah J; Hoffman, William S; Zemeckis, Douglas R; Capizzano, Connor W; Stettner, Marc; Sulikowski, James;** University of New England, Biddeford , ME
Evaluating the Management Implications of Discard Mortality in the Gulf of Maine Recreational Atlantic cod (*Gadus morhua*) Fishery
- 9:30-9:45 **Novak, Ashleigh J; Carlson, Amy E; Wippelhauser, Gail; Zydlewski, Gayle; Kinnison, Michael; Sulikowski, James A;** University of New England, Biddeford, ME
Observations on diet and prey availability of Atlantic sturgeon (*Acipenser oxyrinchus oxyrinchus*) in the Saco River, Maine.
- 9:45-10:15 Break

SESSION 4: SOCIAL SCIENCES (Alfond 205)

- Attarpour, Maryam; Hughes, Donna M.;** University of Rhode Island, Kingston, RI
Women’s Civil Disobedience in the Islamic Republic of Iran: Analysis of “My Stealthy Freedom”
- Dunham, Rachel E; Tillman, Lucy A; Hughes, Donna M;** University of Rhode Island, Kingston, RI
Sex Trafficking Cases in Rhode Island: Traffickers Criminal Background and Use of the Internet
- Carter, Kelly; Eduljee, Nina;** Saint Joseph’s College, Standish, ME
Omission and Commission in Moral Situations
- Chantel Cote, Nina Eduljee;** Saint Joseph’s College, Standish, ME
Gender Differences: Body Satisfaction, Body Surveillance, and Self-Objectification with Undergraduate College Students
- Maureen Mazur, Nina Eduljee;** Saint Joseph’s College, Standish, ME
Bereavement and Grief: A Study of Undergraduate College Students

SESSION 5: MARINE BIOLOGY / BIOLOGY (Alfond 106)

- 10:15-
10:30 **Rudnicky, Brenda N; Reynolds, Julia M; Smith, Kayla M; Sulikowski, James;** University of New England, Biddeford, ME
Abiotic Influences on the Juvenile Fish Assemblage of the Saco River Estuary, Maine
- 10:30-
10:45 **Wheeler, Carolyn R; Gallagher, Austin J; Prohaska, Bianca K; Hammerschlag, Neil; Sulikowski, James A;** University of New England, Biddeford, ME
Linking site fidelity to reproduction in tiger sharks (*Galeocerdo cuvier*) using non-invasive steroid hormone analysis and ultrasonography
- 10:45-
11:00 **Reynolds, Julia M, James A. Sulikowski;** University of New England, Biddeford, ME
Using Total Lengths of Teleosts in the Saco River Estuary System to Determine Size Classes Then Used to Investigate Spawning Periods and Residency Times
- 11:00-
11:15 **Clifford, Coleman G; Cram, Erin;** Northeastern University , Boston, MA
Evaluation of RHO-1 (GF) Effects on Ovulation and Calcium Signaling in *C. elegans* Spermatheca
- 11:15-
11:30 **Gula, Jonah; Matula, George; Bibles, Brent,** Unity College, Unity, ME
Black Bear Spatial Use in Two Population in Maine
- 11:30-
11:45 **McDermott, Kristin L.; Porneluzi, Paul; Chace, Jameson F.;** Salve Regina University, Newport, RI
Wood Thrush (*Hylocichla mustelina*) breeding habitat use and evaluation of population health in southern Missouri

SESSION 6: HISTORY AND DATA BLITZ (Alfond 205)

- Hall, Kyle, Laughran, Michelle;** Saint Josephs College of Maine, Standish, ME
The Ars Amatoria, a Symbol of Defiance
- 10:30-11:45 Data blitz session, see next page

SESSION 6: HISTORY AND DATA BLITZ (Alfond 205)

10:30-10:35 **DeCastro, Racquel S; Luca, Magdalena;** MCPHS University, Boston, MA
DNA hypomethylating effects of curcumin in comparison to Decitabine for use in sequential treatment with doxorubicin.

10:35-10:40 **Hassoun, Lynn; Pino, Alejandro,** Massachusetts College of Pharmacy, Boston, MA
Sustainable methods of fish collection for aquaria: an overview

10:40-10:45 **Kyrollos, Alfred A.;** Northeastern University, Boston, MA
Ecosystem based modeling to determine carrying capacity for shellfish aquaculture in Cobscook Bay, Maine.

10:45-10:50 **Morin, Monica I; Dufault, Michelle,N.; Byron, Carrie, J.;** University of New England, Biddeford, ME
Ecosystem based modeling to determine carrying capacity for shellfish aquaculture in Cobscook Bay, Maine.

10:50-10:55 **Irene Bloomer,** University of New England, Biddeford, ME
The Secrets Of NIMH for the ZooScope Archive Project

10:55-11:00 **Lauren Duffin,** University of New England, Biddeford, ME
Dolphin Tale for the ZooScope Archive Project

11:00-11:05 **Sarah Fleischmann,** University of New England, Biddeford, ME
Cats Don't Dance for the ZooScope Archive Project

11:05-11:10 **Anne Goodall,** University of New England, Biddeford, ME
The Life Aquatic with Steve Zissou for the ZooScope Archive Project

11:10-11:15 **Jazmyn Ireland,** University of New England, Biddeford, ME
The Lady and the Tramp II: Scamp's Adventure for the ZooScope Archive Project

11:15-11:20
Melanie Kolacy, University of New England, Biddeford, ME
Flicka for the ZooScope Archive Project

11:20-11:25
Brittney Logan, University of New England, Biddeford, ME
The Elephant in the Living Room for the ZooScope Archive Project

11:25-11:30
Michelle Olson, University of New England, Biddeford, ME
Duma for the ZooScope Archive Project
When Xan and his father first find the orphaned cheetah Duma as a cub, Duma has that

11:30-11:35
Halie Pruitt, University of New England, Biddeford, ME
Once Upon a Forest for the ZooScope Archive Project

11:35-11:40
Alanna Sachse, University of New England, Biddeford, ME
Mouse Hunt for the ZooScope Archive Project

11:45-1:30

Poster Session 2 and lunch

SESSION 7: BIOLOGY (Alfond 106)

1:30-1:45

Hamblin, Meagan; Dao, Christine; Sohn, Saebom; Gomez-Chiarri, Marta; Nelson, David; Worthen, David; Rowley, David; University of Rhode Island, Brookline, NH
Novel Formulations of Probiotic Bacteria for Commercial Shellfish Larviculture

1:45-2:00

Heroth, Abigail R; McCready, Jessica; Assumption College, Worcester, MA
Thyroid hormone regulation of the crabp1 promoter

2:00-2:15

Herrera-Vasquez, Carlos; Hampshire College, Amherst, MA
A double-blind study of pasture-raised bovine meat on the status of n-3:n-6 lipid ratios in buccal cells and laboratory measures of attention and impulsivity.

2:15-2:30

Prayson, Elise M; McCready, Jessica; Assumption College, Worcester, MA
Crabp1 regulates lipid accumulation in mammary gland adipocytes

2:30-2:45

Smith, Maria D; Johnson, Shelby L; Chace, Jameson, F; Meschwitz, Susan; Salve Regina University, Newport, RI
Comparing Yield and Beta Carotene Content between Organic and Inorganic Hydroponics and Traditional Organic Farming

2:45-3:00

Closing remarks, awards for best talk and poster presentation, ASBMB awards (Alfond 205)

SESSION 8: ECOLOGY AND GENETICS (Alfond 205)

Hays, Nicole M; Rosengaus, Rebecca B; Smith, Wendy A; Northeastern University, Boston, MA
Transgenerational Immunity in *Manduca sexta*

Mann, Zachary T.; Unity College, Unity, ME
Changes in land snail biodiversity associated with logging in eastern hemlock woodlots

Stantial, Nicole; Crowley, David; Assumption College, Worcester, MA
Transcription-Coupled Repair: Maintaining the Integrity of DNA in *Haloferax volcanii*

Sylvia, Megan M; Spencer, Nicole; Swanson, J.D.; Salve Regina University, Newport, RI
The Application of Blackberry Molecular Markers on Cultivar Fingerprint Analysis

Hall, Kyle J; Laughran, Michelle; Saint Josephs College of Maine, Standish, ME
Socioeconomic Health Disparities in the United States of America

POSTER Session 1 (Saturday)

Biology

1. RNA editing sites of the *Drosophila melanogaster* KCNQ Potassium Channel; **Ahmed, A; Gurahoo, C; Hoopengardner, B.** Central Connecticut State University, New Britain, CT
2. Microanalysis of photo-active gradients in the colonial cyanobacteria *Nostoc* using fiber-optic probe technology. **Arvidson, B. N.; Baker, A. L.** University of New Hampshire, Durham, NH
3. Gallic Acid Nutraceutical Cancer Treatment With Gastric Adenocarcinoma Cell Lines AGS and MKN28. **Gwen Beaman, Rhiannon Morrissey, Meaghan Trzasko, JD Swanson, Steven F. Moss, Kari B. Clifton.** Salve Regina University, Newport, RI
4. The *Bombus terrestris* Shaker gene: Editing, Splicing, and Epigenetics. **Magnano, Victoria; Becroft, Emma; Hoopengardner, Barry.** Central Connecticut State University, New Britain, CT
5. Prevalence of Parasitic Infections in Dogwhelks (*Nucella lapillus*). **Blackburn, Samantha; Lambert, Walter J.** Framingham State University, Framingham, MA
6. Evaluation of RHO-1 (GF) Effects on Ovulation and Calcium Signaling in *C. elegans* Spermatheca. **Clifford, Coleman G; Cram, Erin.** Northeastern University, Boston, MA
7. RNA editing sites of the *Drosophila melanogaster* KCNQ Potassium Channel. **Gurahoo, Ceilena A; Ahmed Affrin A;** Central Connecticut State University, New Britain, CT
8. Investigating the Effect of Environmentally Realistic Herbicide and Pharmaceutical Exposure on Mating Behavior in Sailfin Mollies. **Holmes, Vaughn C; Noncent, Darryl; Walak, Alessandra; Maclaren, Ronald D.** Merrimack College, North Andover, MA
9. Isolation and Analysis of Vinca Alkaloids from Hydroponically Grown *Catharanthus roseus*. **Johnson, Shelby L; Smith, Maria; Chace, Jameson F; Meschwitz, Susan M.** Salve Regina University, Newport, RI
10. The effect of light quality on the metamorphic development of the African Clawed Frog (*Xenopus laevis*). **Jones, Veronica M; Stake, Joel L.** Rivier University, Nashua, NH
11. Biological Reporters. **Kogut, Lauren E; Torroni, Raphael; Torres, Hayley; Shah, Nabila J; Gonzalez, Emerly E; Lopsz, Angelica.** Central Connecticut State University, New Britain, CT
12. The effects of whole honey, honey extracts and invertase on biofilm production by *Pseudomonas aeruginosa*. **Langdon, Emily R; Barbaro, Susan E.** Rivier University, Nashua, NH
13. The *Bombus terrestris* Shaker gene: Editing, Splicing, and Epigenetics. **Magnano, Victoria; Becroft, Emma; Hoopengardner, Barry.** Central Connecticut State University, New Britain, CT
14. Study of Endogenous Microbiota in Planaria, a Novel Animal Model for Host-Microbe Interaction. **Malachowsky, Beth; Gupta, Bisu; Delgado, Dan; Thumma, Ben; Jeon, Jamie; Coleman, Elissa; Tysh, Olga; Campanelli, Dylan; Aldieri, Jenna; Johnson, Peter; Fitzgerald, Emily; Sejjic, Azra; Davis, Michael.** Central Connecticut State University, New Britain, CT
15. Novel Protein, TruD, Binds to Oxidized RNA and Increases Cell Viability in E.coli under Oxidative Stress. **Mills, Darius A; Li, Zhongwei.** Florida Atlantic University, Boca Raton, FL
16. Using Pollution Tolerant and Intolerant Macroinvertebrates as Bioindicators of Stream Water Quality in Three Rhode Island Watersheds. **Moskwa, Zoë; Senack, Meaghan; Chace, Jameson F;** Salve Regina University, Newport, RI
17. Effect of Curcumin on the Production of Interleukin-6 from MDA-MB-231 Breast Cancer Cells. **Paciotti, James R; Salas, Ramiro C, Rojas, Ricardo J; Pino-Figueroa, Alejandro.** MCPHS University, Boston, MA

18. Investigating the effects of environmentally realistic herbicide and pharmaceutical exposure on hormone concentrations and aggressive behavior in convict cichlids. **Panarese, Brian P; Preston, Anthony; MacLaren, R.David**. Merrimack College, North Andover, MA
19. RNA Editing In Amiloride-Sensitive Cation Channel 2 Gallus Gallus. **Parisi, Daniel; Hoopengardner, Barry**. Central Connecticut State University, New Britain, CT
20. Investigating Retinoic Acid Signaling in the Zebrafish Spinal Cord. **Patel, Roshni; Schiessl, Curt; Dobbs-McAuliffe, Betsy**. Central Connecticut State University, New Britain, CT
21. Use of Specific Bacteriophage to Decontaminate Fresh Produce. **Rabah, Mohammed; Goodwin, Deanna; Davis, Michael**. Central Connecticut State University, New Britain, CT
22. Isolation of Antimycobacterial Compounds from Natural Sources as Potential Antibiotics for Treatment of Tuberculosis. **Sagnelli, Matthew, Davis, Michael**. Central Connecticut State University, New Britain, CT
23. Assessing recovery after liver damage due to acetaminophen and ethanol treatment in zebrafish embryos. **Soracco, Ryan D; Libert, Andrei N; Dobbs-McAuliffe, Betsy**. Central Connecticut State University, New Britain, CT
24. The Effects of Anthropogenic and Natural Noise on the Song Intensity, Frequency and Duration of the Song Sparrow. **Spring, Kimberly A; Chace, Jameson F**. Salve Regina University, Newport, RI
25. Analysis of Autophagy in Zebrafish Embryos Treated with Acetaminophen, Ethanol and a Combination of the Two. **Amela Sulejmanovic, Audra Kohm, Semra Efendic, Betsy Dobbs-McAuliffe**. Central Connecticut State University, New Britain, CT
26. Characterization of a Collection of Bacteriophage Specific for the Opportunistic Pathogen *Propionibacterium acnes*. **Parent, Sydney; Hedges, Angela; Rourke, Christine; McBride, Shannon; Lewis, Eryn; Hibbert, Dustin; Dunning, Haley; and Davis, Michael**. Central Connecticut State University, New Britain, CT
27. Investigating effects of retinoic acid on planarian regeneration. **Vossoughi, E; Raimo, R; Giri, R; and Dobbs-McAuliffe; B**. Central Connecticut State University, New Britain, CT
28. RNA editing in components of nervous signal transduction. **Benet, Gabriel E; Hoopengardner, Barry**. Central Connecticut State University, New Britain, CT
29. Toxicity of pro-oxidants to the developing zebrafish, *Danio rerio*. **Mangar, Roshni S**. College of the Atlantic, Bar Harbor, ME

Marine Biology

30. The effect of ocean acidification on the sensory capabilities and predator evasion in *Neomysis americana*. **Andrews, Nathan E; Kolbe, Jason J; Ober, Gordon T**. University of Rhode Island, Kingston, RI
31. Scanning electron microscopy reveals a complex biofilm in shell lesions of the American lobster (*Homarus americanus*). **Amanda Campbell, Sandra Connors, Brittany Guay, Robert Morefield, Brian Tarbox**. Southern Maine Community College, South Portland, ME
32. Diet Composition of Grey Seals (*Halichoerus grypus*) in New England from Scat Analysis. **Gilbert, Katelyn M; Ono, Kathryn A**. University of New England, Biddeford, ME
33. Incidental Finfish Bycatch in the Gulf of Maine Commercial American Lobster (*Homarus americanus*) Fishery. **Jenner, B; Langan, J; Sulikowski, J**. University of New England, Biddeford, ME
34. Stranding pattern analyses for resident and migratory seal species along the coast of Maine, 2000-2013. **Kelley, Kristina; McKenna, Jim; Reese, Betsy**. Maine Maritime Academy, Castine, ME

35. A Preliminary Investigation Into the Effects of Temperature on Behavior and Brain Development of the Little Skate (*Leucoraja erinacea*). **Kolacy, Melanie T; Sulikowski James**. University of New England, Biddeford, ME
36. Filtration rate of the blue mussel, *Mytilus edulis*, during exposure to plankton and furoid zygote diet treatments. **Marissa A. McNally**. Maine Maritime Academy, Castine, ME
37. Influence of shell weight on shell selection preference in long clawed hermit crabs, *Pagurus longicarpus*. **Mitchell, A**, Maine Maritime Academy, Castine, ME
38. Marine Species-Specific Habitat Models Used to Predict Future Distributions with Sea Level Rise along Newport Neck. **Nicholson, Heather J; Borkman, David G; Chace, Jameson F**. Salve Regina University, Newport, RI
39. Simulated Larvae Trajectories of *Hemigrapsus sanguineus* in the Delaware Bay. **O'Donnell, Kiera; Tilburg, Charles**. University of New England, Biddeford, ME
40. What to Feed Lobsters in Captivity. **Staples, Lauren A; Kim, Anita; Tlusty, Michael F**, University of New England, York, ME
41. Assessing Reproductive Steroid Hormone Concentrations in Shark Species Captured off the Coast of Southern Florida. **Furbeck, Michelle; Mohr, Morin**. University of New England, Biddeford, ME

Oceanography

42. Currents in the Biddeford Pool, **Falcinelli, Kristen; Tilburg, Charles**, University of New England, Biddeford, ME
43. Functional forms analysis of *Emiliana huxleyi* interactions with host specific viruses. **Middleton, Julia E; Record, Nicholas**; Colby College, Waterville, ME
44. Effects of Latitudinal Variations on Tidal Change and Temperature on Benthic Organisms' Habitats and Migration, **Wester, Ethan NL; Tilburg, Charles**, University of New England, Biddeford, ME

POSTER Session 2 (Sunday)

Biochemistry

1. Engineering Elastin-like Polymer Materials with Tunable Affinity Protein-Protein Interaction Domains; **Boe, Bronwen E; Balog, Eva Rose M.** University of New England, College of Arts and Sciences, Biddeford, ME
2. A Novel Truncated Form of DNA Polymerase β Protein in Mouse and Zebrafish Early Stage Embryos. **Dobosh, Brian S; Kaplan, Nicole L; Strauss, Phyllis R.** Northeastern University, Boston, MA
3. Fusion of stimuli-responsive elastin-like polymers with a lobster carapace carotenoprotein. **Glover, Christopher R; Balog, Eva R; Ciani, Michele.** University of New England, Biddeford, ME
4. Development of a Luciferase Reporter Gene Assay for RET. **Huestis, Mikayla; Chow, Jennifer; Rauch, Simone; Whitty, Adrian.** Boston University, Boston, MA
5. ENHANCING THE ACTIVITY OF ANTIMICROBIAL PEPTIDES BY CONJUGATION TO THE AMINO TERMINAL COPPER AND NICKEL (ATCUN) BINDING UNIT. **Pierce, Scott; Nagella, Sai; Lugo, Andrea; Aguilera, Stephanie; Angeles-Boza, Alfredo.** University of Connecticut, Farmington, CT
6. Synthesis of Adenylates for Bioluminescent Studies. **Salituro, Leah; Branchini, Bruce; Behney, Curran; Fontaine, Danielle; Southworth, Tara.** Connecticut College, New London, CT
7. Chemical Characterization of Phytoliths with Raman Spectroscopy: What is inside? **Sanchez, Jessica R; Garcia, Alba A; Santos, Guaciara M; Harutyunyan, Araks; Gallagher, Kim; Potma, Eric O.** California State University of Fullerton, Fullerton, CA
8. Enzyme Laboratory Project: Fluorescence Detection. **Silva, Courtney; Pachon-Posada, Camila; Franco, Jimmy.** Merrimack College, North Andover, MA
9. Luciferase Variants for Dual Color Reporter Assays & Bioluminescence Imaging. **Talukder, Munya H; Fontaine, Danielle M; Behney, Curran E; Southworth, Tara L & Branchini, Bruce R.** Connecticut College, New London, CT

Chemistry

10. Fragmentation and Ring Opening during Collisions between Cyclic GGKG-H⁺ and a Perfluorinated Self Assembled Monolayer. **Blackwood J; Shaikh K; Barnes G.** Siena College, Loudonville, NY
11. Exploration of the Synthesis of 1-Methyl-4-silatrane: A Hyperstable Lactam and an Unprecedented Silatrane. **Dunlap-Smith, Azaline I; Rauch, Matthew; Greenberg, Arthur.** University of New Hampshire, Durham, NH
12. Quorum Sensing Inhibition through the Design and Synthesis of Phevalin and Derivatives. **Grande M; Meschwitz S.** Salve Regina University, Newport, RI
13. FT-IR and Raman Spectroscopic Studies of Ferric Sulfates at Different Relative Humidities and Temperatures. **Hu, Yu P; Lesher, Emily.** Saint Joseph's College of Maine, Standish, ME
14. Substituted pyrimidinones as quorum sensing inhibitors of *Pseudomonas aeruginosa*. **Hulme, A.; Dancause, S.; Meschwitz, S.** Salve Regina University, Newport, RI
15. Microchip based Immunosensor Array for Electrochemical Detection of IL-6 and IL-8 Cancer Biomarker Proteins in Serum using PEG coated Multi-labeled bioconjugate. **Clarissa Morganti, Kathleen Gamez, Bernard S. Munge,** Salve Regina University, Newport, RI
16. Identification of a novel drug target for the treatment of Histoplasmosis. **Shimanski DesRoches, L, Maurais, A Franco, J.** Merrimack College, North Andover, MA

17. Ultrasensitive detection of cancer biomarkers using electrogenerated chemiluminescence. **Stracensky, Thomas S; Munge, Bernard S.** Salve Regina University, Exeter, RI
18. An Upstream Battle: Examining the Groton Shopper Mart's Plaza as a Non-Point Pollutant Source. **Smith, Susan A; Hogan, Ashley; Granger, Dr. Julie.** University of Connecticut (UCONN), Storrs, CT

Bioinformatics

19. Gene Set Analysis using Phenotypic Screening Data. **Hoyt, Charles; Gregori-Puigjane, Elisabet; Camargo, Miguel.** Northeastern University, Boston, MA
20. Novel Method of Presenting Quantitative Digital Models. **Piper, Aidan.** Amherst College, Amherst, MA

Energy

21. Identify, Streamline, and Save: Breaking down Barriers to Energy Efficiency. **Rix, Ethan E; Griffin, Lindsay; DiSanto Kristina.** University of Rhode Island, Kingston, RI

Ecology

22. Death Metal: Modeling Heavy Metal Accumulation From Waste Amendment Application. **Bercaw, Robert; Long, Rebecca; Amador, Jose.** University of Rhode Island, Saunderstown, RI
23. Three-year comparison of herring gull (*Larus argentatus*) survival rates on Great Duck Island. **Manandhar, Porcia; Anderson, J.G.T.** College of the Atlantic, Bar Harbor, ME
24. Lymphoproliferative Disease Virus in Maine Wild Turkeys. **Markham, J; Ripley, T; Garthoff, S; Sullivan, K; Bibles, B; Milligan, P.** University of Maine Augusta. Augusta, ME
25. Stream conductivity in relation to winter storms in southern Rhode Island. **Roosa, T.S.; Chace, Jameson.** Salve Regina University, Newport, RI
26. Ecological Impacts of Rockweed (*Ascophyllum nodosum*) Harvesting, **Walder, Christine E; Gannon, Damon P.** Bowdoin College, Brunswick, ME

Education

27. Assessment of Process-Oriented Guided Inquiry Learning in General Chemistry at Norwich University. **Jarvis, Stacey L; Hoppe, Mary H.** Norwich University, Northfield, VT

Earth Sciences

28. Detecting the effects of atmospheric rivers on glacier mass balance; Denali National Park, Alaska. **Bradford, A; Campbell, S; Kreutz, K; Osterberg, E; Wake, C; Introne, D; Burrows, R; Capps, D.** University of Maine, Orono, Orono, ME

Genetics

29. Determining the Effective Range of Gallic Acid Dose and Exposure Time on Mammalian Cell Cancers. **Carragher, Erika; Axen, Heather; Liptak, Stephanie; Morrissey, Rhiannon; Clifton, Kari; Zhang, Songhua; Moss, Steve; Swanson, JD.** Salve Regina University, Newport, RI
30. Determining the Effective Range of Gallic Acid Dose and Exposure Time on Mammalian Cell Cancers. **Carragher, Erika; Axen, Heather; Liptak, Stephanie; Morrissey, Rhiannon; Clifton, Kari; Zhang, Songhua; Moss, Steve; Swanson, JD.** Salve Regina University, Newport, RI
31. Genetic Diversity of Green Crab Following the introduction of the Asian Shore Crab, **Enxuto, Adriana; Axen, Heather; Swanson, John David,** Salve Regina University, Newport, RI

32. The recessive wellhaarg (we) mutations in mice result from defects in the epidermal transglutaminase (Tgm3) gene on Chromosome 2. **Huynh, Minh T; Shaw, Hailie; Brennan, Brett; King, Thomas R.** Central CT State University, New Britain, CT

Medical Biology

33. Analysis of Apoptosis through the Caspase Pathway in Zebrafish Embryos Treated with Acetaminophen, Ethanol and a Combination of the Two. **Kegler, B; Sacco, R; Gould, A; Tardif, M; Dobbs, B.** Central Connecticut State University, New Britain, CT
34. TRANSITIVE APPLICATIONS OF FLUORESCENT PROTEINS IN EFFICIENCY OF CANCER TREATMENT THERAPIES FROM 2000-2013. **Ogden, Patrick M; Doczi, Megan A.** Norwich University, Northfield, VT
35. Identification of Microsatellite Genetic Markers in *Leishmania mexicana* and *Leishmania major*. **Sultana, Syeda A; Shakarian Alison M.** Salve Regina University, Newport, RI

Microbiology

36. Analyzing Bacterial Communities in *Pediculus humanus capitis*. **Mollie Plekan¹, Megan E St Amand, Vanja Klepac-Ceraj and Celeste N Peterson.** Wellesley College, Wellesley, MA, Suffolk University, Boston, MA
37. Optimizing a ClpP^{trap} assay for studying degradation under stressful conditions in *E. coli*. **Pauline Ngo, Tatjana Von Rosen, Celeste N Peterson.** Suffolk University, Boston, MA,
38. Bacterial proteins necessary for F plasmid maintenance. **Griffith, Michael; Johns, Taylor; Martin, Kathy.** Central Connecticut State University, New Britain, CT
39. Studying planarian regeneration through immunofluorescence. **Pokhrel, Astha; Gregory, Ryan and McAuliffe Dobbs, Betsy.** Central Connecticut State University, New Britain, CT

Neuroscience

40. Knowledge Acquisition, Integration and Reward: a Neuronal / Synaptic Perspective of STEM Learning. **Bryant, Annie G; O'Malley, Donald M.** Northeastern University, Boston, MA
41. Native Voltage-Sensitive Sodium Channels Microtransplanted into *Xenopus laevis* Oocytes. **Conboy, Heather L; Symington, Steven B.** Salve Regina University, Newport, RI
42. Serotonin Regulation by Primary Culture Neonatal Rat Astrocytes. **Dunning, Haley; Baclawski, Damien; Lopez, Lexa; Watson, Cheryl.** Central Connecticut State University, New Britain, CT
43. Emulating conventional disc electrode with the outer ring of the tripolar concentric ring electrode in phantom and human electroencephalogram (EEG) data. **Lawal, Habib O; Besio, Walter G; Oleksandr, Mayalek.** University of Rhode Island, Narragansett, RI
44. A novel dopamine signaling pathway in *C. elegans* **McDermott, Ryan; Pierpont, Marissa; Rabah, Will; Shaikh, Akil; Lewis, Eryn; Chase, Daniel.** Central Connecticut State University, New Britain, CT
45. **R.McDermott; M.Pierpont; W.Rabah; A.Shaikh; E. Lewis and D.Chase,** University, New Britain, CT
46. Noninvasive Focused Static Magnetic Field Helmet for Brain Damage Rehabilitation. **Davis, Riley; Dezrick, Shante; Jacobson, Zachary; Wang, Tanya; Sun, Ying ; Silver, Brian,** University of Rhode Island, RI