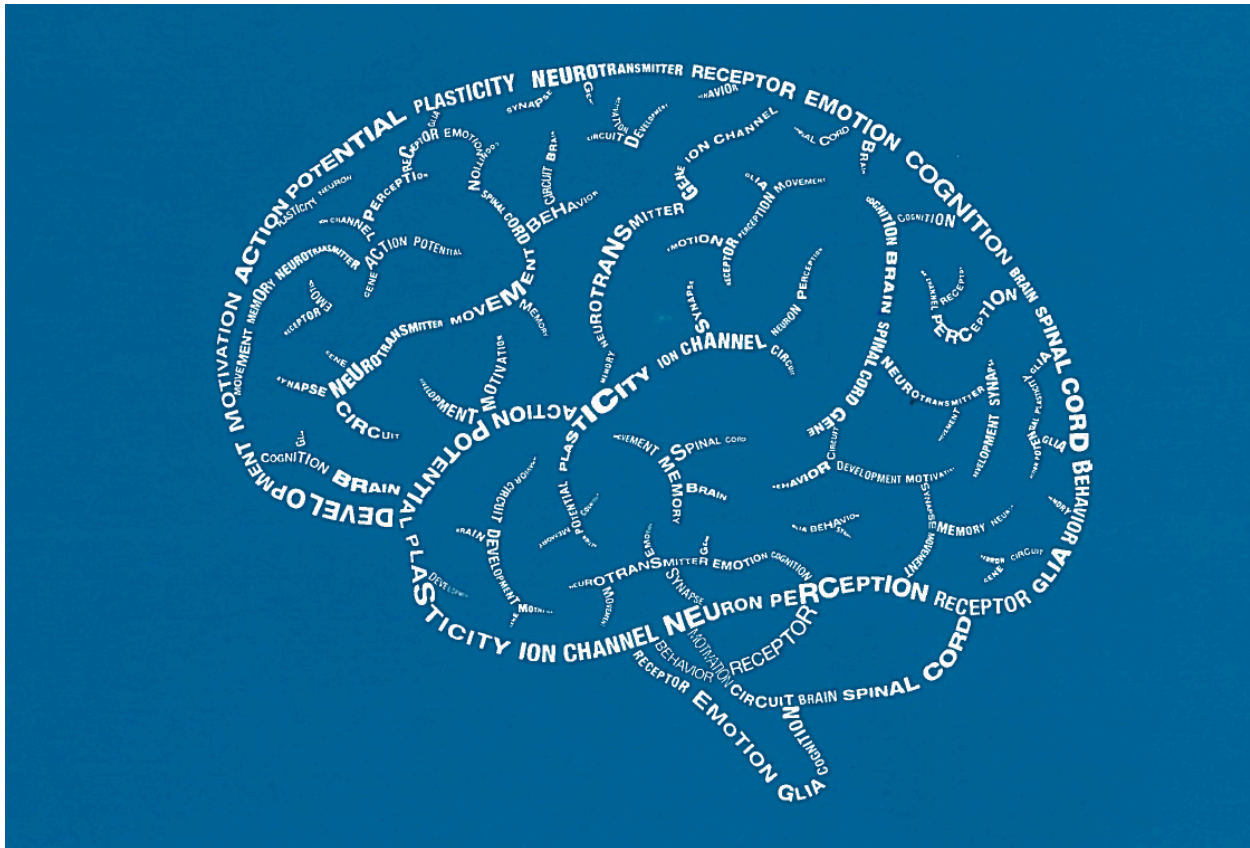


# Western Massachusetts Chapter of the Society for Neuroscience

## 2019 Meeting

### Tuesday, October 15, 2019

Tsotsis Family Academic Center, Assumption College  
500 Salisbury Street, Worcester MA



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**Organizing Committee – 2019 Chapter Meeting:**

William Armstrong	undergraduate	Assumption College	
Inseyah Bagasrawala	Scientist I	Biogen	
Alo Basu	faculty	College of the Holy Cross	
Heather Bates	undergraduate	Assumption College	
Michael Francis	faculty	UMass Medical School	Chapter Treasurer
Gabriel Jacobs*	undergraduate	UMass Amherst	
Mary Harrington	faculty	Smith College	
Paul Katz	faculty	UMass Amherst	
Michele Lemons	faculty	Assumption College	Primary Host
Emily Norman	undergraduate	Assumption College	
Devyn Oliver	grad student	UMass Medical School	
Peter Reinhart	faculty	UMass Amherst	Chapter Co-President
Anthony Sacino	faculty	Assumption College	
Jagan Srinivasan*	faculty	WPI	
David Weaver	faculty	UMass Medical School	Chapter Co-President

\*Unable to attend

**Thanks to our Sponsors:**

Assumption College; Worcester Polytechnic Institute; Institute for Applied Life Sciences, UMass Amherst; Department of Neurobiology, UMass Medical School; NeuroNexus Institute, UMass Medical School; Society for Neuroscience



**WPI**



**UMassAmherst**

Institute for Applied Life Sciences



## PROGRAM

### Western Massachusetts Chapter of the Society for Neuroscience - 2019 Meeting Tsotsis Family Academic Center, Assumption College, Worcester MA. 10/15/2019.

- 12:15 – 1:00 p.m. Registration and Check-in; Poster set-up; Networking
- 1:00 – 1:20 p.m. Welcoming Remarks**
- Paula Fitzpatrick, Ph.D.**  
Dean, College of Liberal Arts and Sciences, Assumption College
- Michele Lemons, Ph.D.**  
Professor of Biology and Director of the Center for Neuroscience,  
Assumption College
- Chapter Co-Presidents:  
**Peter Reinhart, Ph.D.**, Director, Institute for Advanced Life Sciences  
(IALS), UMass Amherst (possible conflict)  
**David Weaver, Ph.D.**, Professor of Neurobiology, UMass Medical School
- Session 1:** Chair: **Alo Basu, Ph.D.**,  
Associate Professor of Biology, College of the Holy Cross
- 1:20 - 1:35 p.m. **Heather L. Gray-Edwards, D.V.M, Ph.D.**  
Assistant Professor, Department of Radiology, UMass Medical School  
“Gene therapy in large animal models of human disease”
- 1:35 - 1:50 p.m. **Christopher C. Hemond, M.D.**  
Assistant Professor, Department of Neurology, UMass Medical School  
“Altered cytotoxic immune response to Epstein-Barr virus in Multiple  
Sclerosis”
- 1:50 – 2:05 p.m. **Amanda L. Woerman, Ph.D.**  
Assistant Professor, Department of Biology and IALS, UMass Amherst  
“Using cellular assays to identify disease-causing alpha-synuclein and tau  
Strains”
- 2:05 - 2:20 p.m. **Michael A. Lodato, Ph.D.**  
Assistant Professor, Department of Molecular, Cell and Cancer Biology,  
UMass Medical School  
"Your brain is a mosaic: single-cell analysis of somatic mutations in  
human neurons"
- 2:20 - 2:35 p.m. **Stephanie L. Padilla, Ph.D.**  
Assistant Professor, Department of Biology and IALS, UMass Amherst  
“Reciprocal exchange between reproductive and circadian circuits”
- 2:35 – 3:00 p.m. Coffee & Refreshments & Cheese & Crackers Break  
Poster set-up; Networking**

**Session 2:**

Chair: **Mary Harrington, Ph.D.**,  
Professor, Neuroscience Program, Smith College

3:00 – 3:15 p.m.

**Alexis Hill, Ph.D.**

Assistant Professor, Department of Biology, College of the Holy Cross  
“Neuronal and muscle DEG/ENaC channels impact synaptic transmission and behavior”

3:15 – 3:30 p.m.

**Travis Thomson, Ph.D.**

Assistant Professor, Department of Neurobiology, UMass Medical School  
“Gold in a DNA junkyard; roles for retrotransposons and viral-capsids in neuroplasticity”

3:30 - 3:45 pm

**Nicolas Lessios, Ph.D.**

Assistant Professor, Department of Biology, Assumption College  
“Unexpected visual system complexity and behavior in sea monkey relatives (Crustacea: Branchiopoda)”

3:45 – 4:00 p.m.

**Ali Yousefi, Ph.D.**

Assistant Professor, Department of Arts and Sciences, Worcester Polytechnic Institute  
“Decoding cognitive states from behavior and physiology”

4:00 - 4:15 p.m.

**Karine Fénelon, Ph.D.**

Assistant Professor, Department of Biology and IALS, UMass Amherst  
“Synaptic transmission and neural circuits underlying sensory information filtering”

**4:15 - 4:45 p.m.**

**Business Meeting; Break; Poster set-up**

**Session 3: DataBlitz** Chaired by Mike Francis and Dave Weaver, UMass Medical School

4:45 – 5:05 p.m.

1 minute presentations by Poster presenters (voluntary)

Duration of session to be defined by number of presenters

**Poster Session**

~ 5:15 - ~ 7:15 p.m.

**Heavy hors d'oeuvres available during posters.**





## Poster and DataBlitz (DB) presentations

**Poster 1** (poster only). **Jessica Wornham**, Undergraduate, Assumption College.  
Measuring Social Synchronization in Young Adults.

<sup>1</sup>Wornham J, <sup>1</sup>Fitzpatrick P.

<sup>1</sup>Department of Neuroscience and Psychology, Assumption College

**Poster 2** (+DB). **Emily Norman and Heather Bates**, Undergraduates, Assumption College.  
Integrins Regulate Motor Neuron Commissural Patterning in a Cell Specific Manner.

<sup>1</sup>Norman E, <sup>1</sup>Bates H, <sup>2</sup>Oliver D, <sup>2</sup>Francis MM, <sup>1</sup>Lemons M.

<sup>1</sup>Department of Biological and Physical Sciences, Assumption College; <sup>2</sup> Neurobiology Department, University of Massachusetts Medical School

**Poster 3** (+DB). **William P. Armstrong IV**, Undergraduate, Assumption College.  
Functional Characterization of DD Remodeling Mutations in *C. elegans*.

<sup>1</sup>Armstrong W, <sup>2</sup>Alexander K, <sup>2</sup>Francis MM, <sup>1</sup>Lemons M.

<sup>1</sup>Department of Biological and Physical Sciences, Assumption College; <sup>2</sup>Department of Neurobiology, UMass Medical School

**Poster 4** (poster only). **Alicia K. Polak**, Undergraduate, Assumption College and UMass Medical School.

The Role of the Medial Habenula-Interpeduncular Nucleus Circuit in Nicotine Addiction and Withdrawal.

<sup>1,2</sup>Polak AK, <sup>1,2</sup> Sacino AV, <sup>2</sup>Chung L, (2), <sup>2</sup>Tapper AR.

<sup>1</sup>Department of Natural Sciences, Assumption College; <sup>2</sup>Department of Neurobiology, UMass Medical School

**Poster 5** (+DB). **Kasturi Biswas**, Graduate Student, UMass Medical School  
Finding 'X': A genetics Based Search for Postsynaptic Binding Partner of Neurexin in *Caenorhabditis elegans*.

<sup>1</sup>Biswas K, <sup>1</sup>Oliver D, <sup>1</sup>Philbrook A, <sup>1</sup>Alexander K, <sup>1</sup>Francis MM.

<sup>1</sup>Department of Neurobiology, UMass Medical School

**Poster 6** (poster only). **Shuwen Cao**, Postdoc, UMass Medical School.

Modulators of promyelocytic leukemia nuclear body phenotype in models of amyotrophic lateral sclerosis.

<sup>1</sup>Cao S, <sup>1,2</sup>Ko HK, <sup>3</sup>Parelkar S, <sup>1</sup>Zhou H, <sup>3</sup>Thompson PR, <sup>1,2</sup>Hayward LJ.

<sup>1</sup>Department of Neurology, <sup>2</sup>Department of Cell and Developmental Biology, and <sup>3</sup>Department of Biochemistry and Molecular Pharmacology, UMass Medical School.

**6a. DataBlitz only: Heather Learnard**, Graduate Student, UMass Medical School  
Investigating DPRs contribution to DNA damage in a mouse model of Frontotemporal Dementia.

<sup>1</sup>Learnard H, <sup>1</sup>Lopez-Gonzalez R, <sup>1</sup>Gao F-B.

<sup>1</sup>Department of Neurology, UMass Medical School

**6b. DataBlitz only: Luke Daly**, Graduate Student, UMass Medical School  
Investigating the Role of Microgliosis in a Mouse Model of FTD.

<sup>1,2</sup>Daly L, <sup>1</sup>Choi SY, <sup>1</sup>Lopez-Gonzalez R, <sup>2</sup>Greer P, <sup>1</sup>Gao FB.

<sup>1</sup>Department of Neurology, UMass Medical School; <sup>2</sup>Program in Molecular Medicine, UMass Medical School

**Poster 7 (+DB). Akshay Iyer**, Graduate Student, Worcester Polytechnic Institute.  
Comparisons of Machine Learning Techniques in the MRI Based Prediction of Alzheimer's Disease.

<sup>1</sup>Iyer A, <sup>2</sup>Shen Y, <sup>2</sup>Kulkarni O, <sup>3</sup>Liu S, <sup>4,5</sup>Nephew B, <sup>5</sup>Cali R, <sup>5</sup>Chumachenko SY, <sup>3</sup>Korkin D.  
<sup>1</sup>Departments of Robotics, <sup>2</sup>Data Science, <sup>3</sup>Computer Science and <sup>4</sup>Biology and Biotechnology, Worcester Polytechnic Institute; <sup>5</sup>Department of Psychiatry, UMass Medical School.

**Poster 8 (+DB). Benjamin C. Nephew**, Faculty, WPI and UMass Medical School.  
Traffic-related particulate matter affects behavior, inflammation, and neural integrity in a developmental rodent model.

<sup>1,2</sup>Nephew BC\*, <sup>3</sup>Nemeth A, <sup>4</sup>Hudda N, <sup>5</sup>Beamer G, <sup>6</sup>Mann P, <sup>7</sup>Petitto J, <sup>2</sup>Poirier G, <sup>1,2</sup>King JA, <sup>4,8</sup>Durant JL, <sup>4,8,9,10</sup>Brugge D. <sup>1</sup>Department of Biology and Biotechnology, Worcester Polytechnic Institute; <sup>2</sup>Department of Psychiatry, University of Massachusetts Medical School; <sup>3</sup>Cummings School of Veterinary Medicine, Tufts University; <sup>4</sup>Department of Civil and Environmental Engineering, Tufts University; <sup>5</sup>Department of Infectious Disease and Global Health, Cummings School of Veterinary Medicine; <sup>6</sup>Department of Biomedical Sciences, Cummings School of Veterinary Medicine; Tufts University <sup>7</sup>Bioinformatics and Computational Biology Program, Worcester Polytechnic Institute; <sup>8</sup>Department of Public Health and Community Medicine, Tufts University School of Medicine; <sup>9</sup>Jonathan M. Tisch College of Civil Life, Tufts University; <sup>10</sup>Department of Community Medicine and Health Care, University of Connecticut Health Sciences Center

**Poster 9 (+DB). Ryan Cali**, Other, Worcester Polytechnic Institute and UMMS.  
Cognitive Deficits in Female Marmosets May be Mediated by Differences in Functional Neural Connectivity.

<sup>1</sup>LaClair M, <sup>2</sup>Febo M, <sup>3</sup>Nephew B, <sup>4</sup>Gervais N, <sup>5</sup>Poirier G, <sup>7</sup>Workman K(7), <sup>6</sup>Moore CM, <sup>3</sup>King JA, <sup>7</sup>Lacreuse A, <sup>5</sup>Cali RJ. <sup>1</sup>Department of Psychology, Fairfield University; <sup>2</sup>Psychiatry Department, University of Florida <sup>3</sup>Biology and Biotechnology, Worcester Polytechnic Institute; <sup>4</sup>Department of Psychology, University of Toronto; <sup>5</sup>Department of Psychiatry, Center for Comparative NeuroImaging, UMass Medical School; <sup>6</sup>UMass Medical School; <sup>7</sup>Department of Psychological and Brain Sciences, UMass Amherst.

**Poster 10 (+DB). Ciarra Smith**, Graduate Student, UMass Medical School.  
Generation and validation of a conditional reporter mouse line for studying circadian rhythms.

<sup>1,2</sup>Smith CB, <sup>1</sup>van der Vinne V, <sup>3</sup>Stowie AC (3), <sup>4</sup>Harrington ME, <sup>5</sup>Leise T, <sup>6,7</sup>Garbutt L, <sup>3</sup>Davidson AJ, <sup>1</sup>Lambert CM, <sup>6</sup>Dallmann R, <sup>1,2</sup>Weaver DR.  
<sup>1</sup>Department of Neurobiology, UMass Medical School; <sup>2</sup>Graduate Program in Neuroscience, UMass Medical School; <sup>3</sup>Neuroscience Institute, Morehouse School of Medicine; <sup>4</sup>Neuroscience Program, Smith College; <sup>5</sup>Department of Mathematics and Statistics, Amherst College; <sup>6</sup>MRC Doctoral Training Program in Interdisciplinary Biomedical Research; <sup>7</sup>Warwick Medical School.

**Poster 11 (Poster only). Georgia Gunner**, Graduate student, UMass Medical School.  
Sensory lesioning induces microglial synapse elimination via ADAM10 and fractalkine signaling.

<sup>1</sup>Gunner G, <sup>2</sup>Cheadle L#, <sup>1</sup>Johnson KM#, <sup>3,4</sup>Ayata P, <sup>3</sup>Badimon A, <sup>1</sup>Mondo E (1), <sup>2</sup>Nagy A (2), <sup>1</sup>Liu L, <sup>5</sup>Bemiller SM, <sup>6</sup>Kim K-W, <sup>7</sup>Lira SA, <sup>5</sup>Lamb BT, <sup>1</sup>Tapper AR, <sup>8</sup>Ransohoff RM, <sup>2</sup>Greenberg ME, <sup>3,4</sup>Schaefer A, <sup>1</sup>Schaefer DP.  
<sup>1</sup>Department of Neurobiology, Brudnick Neuropsychiatric Research Institute, University of Massachusetts Medical School; <sup>2</sup>Department of Neurobiology, Harvard Medical School; <sup>3</sup>Fishberg Department of Neuroscience, Department of Psychiatry, Friedman Brain Institute, Icahn School of Medicine at Mount Sinai; <sup>4</sup>Ronald M. Loeb Center for Alzheimer's Disease, Icahn School of Medicine at Mount Sinai; <sup>5</sup>Stark Neurosciences Research Institute, Indiana University; <sup>6</sup>Department of Pathology and Immunology, Washington University School of Medicine; <sup>7</sup>Precision Immunology Institute, Icahn School of Medicine at Mount Sinai, <sup>8</sup>Third Rock Ventures, Boston, MA. #Authors contributed equally

**Poster 12 (+DB). Thuyvan Luu**, Graduate Student, UMass Medical School.  
MS4As alter microglial phagocytosis during Alzheimer's disease.

<sup>1</sup>Luu T, <sup>1</sup>Greer P. <sup>1</sup>Program in Molecular Medicine, UMass Medical School

**Poster 13 (+DB). Anna Wortman**, Graduate Student, UMass Medical School  
Functional Calcium Imaging of MS4As in HEK293 Cells.

<sup>1</sup>Dominguez C, <sup>1</sup>Jiang H-C, <sup>1</sup>Mattingly Z, <sup>1</sup>Wortman A, <sup>1</sup>Greer P.

<sup>1</sup>Department of Molecular Medicine, UMass Medical School

**Poster 14 (poster only). Nicole Folan**, Undergraduate, College of the Holy Cross.

*Drosophila* DEG/ENaC ion channel subunit *ppk29* is expressed in neuronal and glial subtypes.

<sup>1</sup>Folan NE, <sup>1</sup>Hill AS. <sup>1</sup>Department of Biology, College of the Holy Cross

**Poster 15 (poster only). Pankhuri Walia**. Other. Tufts University Cummings School of  
Veterinary Medicine

Decreased Cocaine but Increased Opioid Reward in Offspring of Males Exposed to Morphine  
during Adolescence.

<sup>1</sup>Walia P, <sup>1</sup>Vassoler FM, <sup>1</sup>Toorie AM, <sup>1</sup>Teceno DN, <sup>1</sup>Patton TD, <sup>1</sup>Byrnes EM.

<sup>1</sup>Department of Biomedical Sciences, Tufts University, Cummings School of Veterinary Medicine

**Poster 16 (+DB). Jenya Kolpakova**, Graduate Student, UMass Medical School

Cholinergic interneurons as a novel target mediating the effects of binge alcohol drinking on  
glutamatergic neurotransmission in nucleus accumbens medium spiny neurons.

<sup>1</sup>Kolpakova J, <sup>1</sup>Martin G.

<sup>1</sup>Brudnick Neuropsychiatric Research Institute, Department of Neurobiology, UMass Medical School

**Poster 17 (+DB). Marcela Fernandez-Vargas**, Postdoc, UMass Amherst.

Effects of acute aromatase inhibition on auditory scene processing in songbirds.

<sup>1</sup>Fernandez-Vargas M, <sup>1,2</sup>Macedo-Lima M, <sup>1</sup>Remage-Healey L.

<sup>1</sup>Department of Psychological and Brain Sciences, UMass Amherst; <sup>2</sup>CAPES Foundation, Ministry of  
Education of Brazil.

**Poster 18 (poster only). Leana Radzik**, Undergraduate, Stonehill College

Abnormalities in gamma band oscillations and social cognition during three-chamber task in  
schizophrenia-like mouse model.

<sup>1</sup>Radzik LK, <sup>2</sup>Aguilar DD, <sup>2</sup>McNally JM.

<sup>1</sup>Department of Neuroscience, Stonehill College; <sup>2</sup>Department of Psychiatry, VA Boston Healthcare  
System and Harvard Medical School.

**Poster 19 (poster only). Ahren Fitzroy**, Visiting Lecturer/ Postdoc, Mt. Holyoke College

Implicit metric structure in aprosodic productions of The Cat in the Hat modulates auditory  
processing.

<sup>1,2</sup>Fitzroy AB, <sup>1</sup>Breen M.

<sup>1</sup>Department of Psychology and Education, Mount Holyoke College; <sup>2</sup>Department of Psychological and  
Brain Sciences, University of Massachusetts, Amherst

**Poster 20 (poster only). Delaney Teceno**. Other. Tufts University Cummings School of  
Veterinary Medicine

Rat Behavioral Changes Due to Implanted Striatal Magnetic Particles Activated with Externally-  
Applied Magnetic Fields.

<sup>1</sup>Teceno DN, <sup>2</sup>Jafari S, <sup>2</sup>Sun D, <sup>2</sup>Stepanov P, <sup>2</sup>Hale O, <sup>2</sup>Mair CLO, <sup>2</sup>Weinberg IN, <sup>2</sup>Ropp C, <sup>1</sup>Walia P,

<sup>1</sup>Vassoler FM. <sup>1</sup>Department of Biomedical Sciences, Tufts University Cummings School of Veterinary  
Medicine; <sup>2</sup>Weinberg Medical Physics LLC

### Alphabetical List of Participants

Last Name	First Name	Type	Affiliation	Roles
Armstrong	William	UG	Assumption College	OC, Poster and DB
Bagasrawala	Inseyeh	Other	Biogen, Inc.	OC
Basu	Alo	Fac	College of the Holy Cross	OC, Chair
Bates	Heather	UG	Assumption College	OC, DB with Emily
Biswas	Kasturi	GS	UMass Med School	Poster and DB
Cali	Ryan	Other	WPI and UMMS	Poster and DB
Cao	Shuwen	PD	UMass Med School	Poster
Cavanagh	Sarah	Fac	Assumption College	Attendee
Cooper	Devon	Other	UMass Med School	Attendee
Correll	Erika	GS	UMass Amherst	Attendee
Daly	Luke	GS	UMass Med School	DB only
Delgado	Juliana	Other	UMass Med School	Attendee
EIzohiry	Dina	GS	University of New Haven	Attendee
Fenelon	Karine	Fac	UMass Amherst	Speaker
Fernandez-Vargas	Marcela	PD	UMass Amherst	Poster and DB
Fitzpatrick	Paula	Fac	Assumption College	Welcome Speaker
Fitzroy	Ahren	PD	Mt. Holyoke College	Poster
Folan	Nicole	UG	College of the Holy Cross	Poster
Francis	Michael	Fac	UMass Med School	OC, DB Chair
Frost	Matthew	Other	UMass Amherst	Attendee
Gray-Edwards	Heather	Fac	UMass Med School	Speaker
Gunner	Georgia	GS	UMass Med School	Poster
Gutierrez	Daniel	GS	UMass Med School	Attendee
Harrington	Mary	Fac	Smith College	OC, Chair
Hemond	Christopher	Fac	UMass Med School	Speaker
Hill	Alexis	Fac	College of the Holy Cross	Speaker
Iyer	Akshay	GS	WPI	Poster and DB
Jackson	Lela	GS	WPI	Attendee
Kang	Hyejoo	GS	UMass Amherst	Attendee
Katz	Paul	Fac	UMass Amherst	OC
Kolpakova	Jenya	GS	UMass Med School	Poster and DB
Kwiatkowski	Erica	GS	UMass Med School	Attendee
LaValley	Julia	GS	UMass Amherst	Attendee
Learnard	Heather	GS	UMass Med School	DB only
Lemons	Michele	Fac	Assumption College	OC
Lessios	Nicolas	Fac	Assumption College	Speaker
Lodato	Michael	Fac	UMass Med School	Speaker
Luu	Thuyvan	GS	UMass Med School	Poster and DB
Mocarski	Katherine	GS	UMass Med School	Attendee

Nasrallah	Mohamad	GS	UMass Med School	Attendee
Nephew	Ben	Fac	WPI & UMass Med School	Poster and DB
Norman	Emily	UG	Assumption College	OC, Poster and DB
Oliver	Devyn	GS	UMass Med School	OC, Attendee
Padilla	Stephanie	Fac	UMass Amherst	Speaker
Pearce	Katherine	GS	WPI	Attendee
Polak	Alicia	UG	Assumption College	Poster
Powell	Beth	Fac	Smith College	Attendee
Radzik	Leana	UG	Stonehill College	Poster
Ramachandran	Shankar	PD	UMass Med School	Attendee
Reinhart	Peter	Fac	UMass Amherst	OC
Sacino	Anthony	Other	UMass Med School	OC
Sebastian	Rebecca	GS	UMass Amherst	Attendee
Shu	Huan	PD	UMass Med School	Attendee
Smith	Ciearra	GS	UMass Med School	Poster and DB
Teceno	Delaney	Other	Tufts University	Poster
Thomson	Travis	Fac	UMass Med School	Speaker
Valla	Kaitlyn	GS	UMass Med School	Attendee
Walia	Pankhuri	Other	Tufts University	Poster
Weaver	David	Fac	UMass Med School	OC, DB Chair
Woerman	Amanda	Fac	UMass Amherst	Speaker
Wornham	Jessica	UG	Assumption College	Poster
Wortman	Anna	GS	UMass Med School	Poster and DB
Yousefi	Ali	Fac	WPI	Speaker
Zhao	Xin	PD	Mass. College of Pharmacy and Health Sciences	Attendee

Registration Type Codes: UG: Undergraduate; GS: Graduate Student; PD: Postdoc; Other: Technician, post-bac, staff scientist; Fac: Faculty

Roles Codes: OC: Organizing Committee, DB: DataBlitz Presenter, Speaker: Invited Speaker

### **Institutions Represented**

Assumption College	9
Biogen, Inc.	1
College of the Holy Cross	3
Mt. Holyoke College	1
Massachusetts College of Pharmacy and Health Sciences	1
Smith College	2
Stonehill College	1
Tufts University - Cummings School of Veterinary Medicine	2
University of Massachusetts, Amherst	11
University of Massachusetts Medical School, Worcester	27
Worcester Polytechnic Institute	5
Total from 11 Institutions	63

## Notes