

NEURO NEWS

NP Alumni: Christina Celestino Utah's biology teacher of the year knows anatomy, 'Avatar'

Christine Celestino wasn't a fan of anatomy class when she was a student. Memorizing Latin and Greek names of muscles didn't hold her attention.

Then how does the doctorate-holder find herself teaching anatomy and other biology classes at Juan Diego? "I think because I didn't really like it so much when I was younger is why [students] seem to like the way I teach it now,"

Celestino said. "I teach it in a way I would have liked when I was taking it. I try to figure out ways to make it interesting and relatable, to keep their attention. Otherwise, memorizing a bunch of Latin names is just terrible."

She does this by appealing to the teenage crowd. It can be as simple as using the films such as "Avatar" and "Star Wars" in a lesson plan on how to tell which characters are "good" and which are not. It's all about locating the sternocleidomastoid muscle — the large one that stretches down the neck from the skull to the clavicle. "To help them remember that one, I was talking about how in "Avatar" and "Star Wars" and "Star Trek," they use this muscle [in the neck] to show humanoid aliens," Celestino said. "James Cameron gave the Na'vi people sternocleidomastoids so we would look at them and be sympathetic to them."

"If you watch "Star Wars" and "Star Trek," the good aliens have sternocleidomastoids and the evil aliens do not." In the world of education, Celestino definitely is one of the "good guys." She recently earned the honor as Utah's Biology Teacher of the Year, presented by the National Association of Biology Teachers.

Celestino, who earned her doctoral degree at the University of Utah, received the recognition as much for her work outside the classroom as in it.

She helped create and organize Juan Diego's Academy of Sciences — a program geared toward encouraging students to pursue careers in science, engineering, math and technology — and created the Summer Science Internship Program.

She also is the adviser of the school's Pre-Med Club and has developed internship programs, among several extracurricular activities on her calendar.

She also seems to get through to her students. "She does a lot of labs and talks a lot about the practical applications of what we are learning," said senior Marley Lebrecht. "It's not just about the vocabulary."

Said senior Alex Gudac, "She's outstanding, different from a lot of other teachers. There's a lot of hands-on experience that really gets you in the mode and goes into your long-term memory."

Through the internship program, Juan Diego students serve summer internships at the University of Utah. Senior Elodie Gorgeon studied the encephalitis virus' role in epilepsy during her internship, and is a student in Celestino's Anatomy & Physiology and Concurrent Human Biology classes.

"She knows almost anything," Gorgeon said. "You can ask her a question, and she'll know about it. She really makes it interesting and makes you want to look into it further, and get more information for yourself."

Celestino became a teacher in 2006 after doing neuroscience research at the University of Utah. She said the award means her hard work improving as an educator has paid off.

"I don't necessarily see myself as being that special," said Celestino, who is originally from upstate New York. "I'm surrounded by really great teachers here."

"It's really nice to get the recognition. I've worked really hard and done a lot of professional development. It's something I've really had to focus on, to be a good educator. It's nice to hear recognition for that."

One Postdoctoral Positions @ Utah

K.C. Brennan Lab, Department of Neurology

We are studying the origins of post-traumatic headache, a debilitating migraine-like condition that affects millions of military personnel and civilians after traumatic brain injury. Our Department of Defense-funded study examines the recovery from traumatic brain injury in mouse models, using optical and 2 photon imaging, electrophysiology, and behavior. Please direct any inquiries to KC Brennan (k.c.brennan@hsc.utah.edu).

Two Postdoctoral Positions @ Creighton

Two postdoctoral positions are available in the laboratories of Dr. Kristina Simeone and Dr. Timothy Simeone (NP'03) at Creighton University School of Medicine. The positions are for highly motivated individuals interested in studying the mechanisms of epilepsy and sleep disorder co-morbidities and identifying novel anticonvulsant targets and treatments (for details, search 'Simeone, Kristina' in the NIH Reporter). We use a combination of in vitro and in vivo molecular/cellular, histochemical, electrophysiological and behavioral approaches in our experiments.

The first position is for an electrophysiologist. Ideally, the candidate will have a strong background and expertise in electrophysiology and neuroscience with a broad knowledge of ion channels and experience in patch clamp electrophysiology. The second position is for an individual with a strong background and expertise in molecular, cellular, or behavioral neuroscience.

Qualified applicants must have a Ph.D. degree. Evidence of strong written and verbal communication skills, organizational skills, as well as the ability to work collaboratively within a team environment is required. Past research experience and publications will be strongly considered in the selection process. To apply, please email a curriculum vitae, a statement of research interests and career goals, and letters from three references to Dr. Kristina Simeone at KristinaSimeone@Creighton.edu.

From the Recruitment Committee chair- Ed Levine

Thanks to the following students who returned to their undergraduate institutions to give seminars and promote the Neuroscience Program:

Randi Rawson: Bates College
Jared Neilsen: BYU
Andrea Schwager: Drake University

****Other Important Dates****

Feb. 15: Neuroscience Program Recruitment. Our annual reception devoted to recruiting student candidates for the upcoming academic year will be held at the Jewish Community Center, 2 North Medical Drive, Friday, February 18th from 5:00-9:00pm. There will be, *of course*, the usual amounts of food and drink AND chocolate fountain!

March 12-18: National Brain Awareness Week. **Jeff Yarch** and **Judd Cahoon** are co-chairs of the committee this year.

May 16: Annual Neuroscience Student Symposium
Student organizer: **Tony Umpierre**

Nov. 1: Annual Snowbird Symposium
Student organizers: **Judd Cahoon, Meredith Gibbons, Jaycie Loewen and Punitha Subramaniam**

****SEMINAR SERIES 2011-2012****

January 15: Randy Buckner, Ph.D., Harvard U
February 19: Thomas Südhof, M.D., Stanford U
March 19: Nephi Stella, Ph.D., U Washington
April 16: Michela Marinelli, Ph.D., Rosalind Franklin U

see more details at:
<http://neuroscience.med.utah.edu/Meetings.html>

****STUDENT AWARDS****

Randi Rawson (Jorgensen lab) has been awarded the Dale A. Stringfellow Graduate Fellowship in Cell Biology or Microbiology. The award is \$5,000 to help with educational costs related to her research.

NP students that received travel award \$\$ to present at the Annual SfN meeting in New Orleans, LA, November 11-18, 2012:

Maryam Bijanzadeh (Angelucci lab)
Jason Cooperrider (Lainhart lab)
Yelena Filchakova (McIntosh lab)
Danielle Friend (Keefe lab)
Caitlin Mencio (Balagurunathan lab)
Elissa Pastuzyn (Keefe lab)
Christina Rossi (Dudek lab)
Dan Ryskamp (Krizaj lab)
Elliot Smith (Greger lab)
Lingyan Xing (Bonkowsky lab)
Jeff Yarch (Angelucci lab)

ACADEMIC DEFENSES

Since the last issue of NeuroNews, the Neuroscience Program congratulates the following students on successfully passing their qualifying exams: **Leo Parra (Jorgensen lab)**.

INTERMOUNTAIN CHAPTER and BAW news

Jan. 12: Utah Brain Education Alliance

The Utah Brain Education Alliance event will take place on Saturday, January 12, 2013, from 10 a.m. to 3 p.m., in the Sorenson Molecular Biotechnology Building (SMBB) at the University of Utah.

RSVP: <http://forms.utah.edu/brain/utah-brain-awareness-week.html>

Agenda Overview:

10:00 a.m. - noon Groups of students from Weber, BYU and the U will present their favorite educational modules to the group

12:15 - 1:00 p.m. Catered Lunch in SMBB

1:10 - 2:00 p.m. Guest lecturer Molly Malone, Senior Education Specialist at the Genetic Science Learning Center, will speak on Effective K-12 Outreach: Developing Classroom-ready Educational Modules

2:00 - 3:00 p.m. Hands-on time to check out interactive modules and the Brain Institute's Lending Library (Try on the intoxication goggles! Listen to the cockroach beatbox! Hold a human brain!)

Grants from the Castle Foundation and the Society for Neuroscience make this event possible. We hope to see faculty, staff, postdocs, graduate and undergraduate students from around the state at this event!

Snowbird Symposium 2012

A record 195 neuroscientists came to this year's Neurosciences Snowbird Symposium, Super-Glue: Roles for Glia in the Nervous System, and the Third Annual Society for Neuroscience Intermountain Chapter Poster Presentation held on November 2 at Snowbird Resort. Researchers from the University of Utah and Brigham Young University presented 29 posters, with an unprecedented eight posters from undergraduates.

"This year we encouraged undergraduate participation for the first time because we thought it would be good to increase undergraduate involvement in the Intermountain Branch," said chapter president, Jeff Edwards, Ph.D., from BYU. The top presenters in each category earned cash prizes.

The first place undergraduate winner, Justin Pinto from BYU, impressed judges with his ability to explain his work, its background, and significance. He also performed the research by himself, a rarity among undergraduates. "We will continue to encourage undergraduate participation," said Edwards. "I think it was successful and a positive for the meeting."

Congratulations to the poster presentation winners!

Undergraduate students

1st place: Justin Pinto (Jesse Gray Lab), BYU, "Algorithms by which the genome interprets neural activity"

2nd place: Amanda Oechsle (Pat McAllister Lab), U of U, "Decorin attenuates the development of communicating hydrocephalus in juvenile rats"

Graduate students

1st place: Melissa Barker-Haliski (Kristen Keefe Lab), U of U, "Subcellular expression of immediate early genes Arc/Arg3.1 and zif268/egr-1 in striatal efferent neurons and disruption by METH induced neurotoxicity"

2nd place: Dipan C. Patel (Karen Wilcox Lab), U of U, "Cross-talk between inflammation and oxidative stress in an infection induced model of epilepsy"

Postdoctoral fellow

1st place: Scott Lauritzen (Robert Marc Lab), U of U, "Connectomics analysis of rod-cone interaction networks"

****ALUMNI NEWS****

Bob Renden: has moved back to the states. He is now: Director, Neural Imaging Research Core COBRE for Integrative Neuroscience University of Nevada, Reno

Benedict C. Albenis's: laboratory has been posted online at the Alzheimer's Society of Manitoba website.

<http://alzheimer.mb.ca/researchmb/albenis.html>

He was also interviewed by the CTV Canadian television network for their Modern Medicine series. He spoke mostly about studies in basic memory and also some about Alzheimer's disease, etc.

Renee Bend: thought that getting her Ph.D. was tough. As a scientist-turned-science teacher she now manages classrooms full of teens, bringing an entirely new set of challenges.

Read her story, <http://www.exploreutahscience.org/science-topics/science-and-society/item/76-from-lab-to-classroom>, on Explore Utah Science ([exploreutahscience.org](http://www.exploreutahscience.org)).

Sharon Cahoon-Metzger: was promoted last year to Associate Director for Medical and Outcomes Sciences Liaisons at Biogen Idec. She continues to see key decision makers (medical and pharmacy directors) at insurance companies, but is now also building out a team that she is managing. They anticipate launching 3 new drugs in 2013--one in MS and 2 in hemophilia.

David Daberkow: and wife, Tiffany, a baby boy, Oscar Dayton Daberkow, into the world on Sept 7, 2012. Additionally, he has finally given birth to his first authored publication out of his postdoctoral fellowship - it has been accepted into the Journal of Neuroscience. The title of the paper is "Amphetamine paradoxically augments exocytotic dopamine release and phasic dopamine signals."

NEWS WORTHY

Robert Fujinami has received a 2 year award from Citizens United for Research in Epilepsy (CURE), entitled "New Treatments for Epilepsy that Regulate Complement Activity."

Tammy Nguyen, MD/PhD student in the Janet Shaw laboratory, was awarded an F31 grant from NIH for her grant titled "Relationship Between Miro GTPase Directed Mitochondrial Movement and Neurodegeneration"

Lee Leavitt, NURP (Neuroscience Undergraduate Research Program) student (Keefe lab) has had his research accepted for presentation at "Research Posters on the Hill" day, and will be presenting his work to the State Legislature on January 31st.

RECENTLY PUBLISHED

Barker-Haliski, M.L., **Pastuzyn, E.D.**, and **Keefe, K.A.** (2012) Expression of the core exon-junction complex factor eIF4A3 is increased during behavioral activation and striatally mediated learning. *Neuroscience*, 226:51-61.

Barker-Haliski, M.L., Oldenberger, K., and **Keefe, K.A.** (2012) Impaired Arc/Arg 3.1 mRNA expression in striatal efferent neurons following partial monoamine loss induced by methamphetamine. *The Journal of Neurochemistry*, 123(5): 845-855.

Das, G., Clark, A.M., and **Levine, E.M.** (2012) Cyclin D1 inactivation extends proliferation and alters histogenesis in the post-natal mouse retina. *Developmental Dynamics*, 241:941-952

Friend, D.A., **Keefe, K.A.**, and Fricks-Gleason, A.N. (2012) Nitric oxide synthase isoforms in methamphetamine-induced striatal dopamine toxicity. *The Journal of Pharmacology and Experimental Therapeutics*, Dec 10. [Epub ahead of print]

Gibbons, M.B., Smeal, R.M., **Takahashi, D.K.**, Vargas, J.R., and **Wilcox, K.S.** (2012). Contributions of astrocytes to epileptogenesis following status epilepticus: Opportunities for preventive therapy? *Neurochem Int*, accepted.

Hansen, S., Pratap, M., Otis, T., and **Pulst, S.M.** (2013) Changes in Purkinje cell firing and gene expression precede behavioral pathology in a mouse model of SCA2. *Human Molecular Genetics*, in press.

Hansen, S.T., and **Pulst, S.M.** (2012) Response to ethanol induced ataxia between C57BL/6J and 129X1/SvJ mouse strains using a treadmill based assay. *Pharmacol Biochem Behav*, 24;103(3):582-588.

Hekman, K.E., Yu, G.Y., Brown, C.D., Zhu, H., Du, X., Gervin, K., Undlien, D.E., Peterson, A., Stevanin, G., Clark, H.B., **Pulst, S.**, Bird, T., White, K.P., and Gomez, C.M. (2012) A conserved eEF2 coding variant in SCA26 leads to loss of translational fidelity and increased susceptibility to proteostatic insult. *Hum Mol Genet*, Sep 21, in press.

Kareus, S.A., Figueroa, K.P., Cannon-Albright, L.A., and **Pulst, S.M.** (2012) Shared predispositions of parkinsonism and cancer: A population-based pedigree-linked study. *Archives of Neurology*, Sep 3:1-6.

Scoles, D.R., Pflieger, L.T., Thai, K.K., Hansen, S.T., Dansithong, W., and **Pulst, S.M.** (2012) ETS1 regulates the expression of ATXN2. *Human Molecular Genetics*, 21(23):5048-5065.

Smith, E., Kellis, S., House, P., and **Greger, B.** (2013) Decoding stimulus identity from multi-unit activity and local field potentials along the ventral auditory stream in the awake primate: implications for cortical neural prostheses. *J. Neural Eng.*, accepted. doi:10.1088/1741-2560/10/016010

Son, J-H, Kuhn, J., and **Keefe, K.A.** (2012) Perseverative behavior in rats with methamphetamine-induced neuro-toxicity. *Neuropharmacology*, 67C:95-103.

Wang, X., Kopinke, D., Lin, J., **McPherson, A.D.**, **Duncan, R.N.**, Otsuna, H., Moro, E., Hoshijima, K., **Grunwald, D.J.**, Argenton, F., **Chien, C.-B.**, Murtaugh, L.C., and **Dorsky, R.I.** (2012) Wnt signaling regulates postembryonic hypothalamic progenitor differentiation. *Dev Cell*, Sep 11;23(3):624-36. doi: 10.1016/j.devcel.2012.07.012.

Zielinski, B.A., **Anderson, J.S.**, Froehlich, A.L., **Prigge, M.B.D.**, **Nielsen, J.A.**, **Cooperrider, J.R.**, Cariello, A.N., Fletcher, P.T., Alexander, A.L., Lange, N., Bigler, E.D., and **Lainhart, J.E.** (2012) scMRI reveals large-scale brain network abnormalities in autism. *PLoS One*, 7(11):e49172. Epub 2012 Nov 21.

Zou, C. and **Levine, E.M.** (2012) Vsx2 controls eye organogenesis and retinal progenitor identity via homeodomain and non-homeodomain residues required for high affinity DNA binding. *PLoS Genetics*, 8(9):e1002924

Do you have something to submit in the next issue of NeuroNews?
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