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NEURO NEWS

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FROM THE ADMISSION CHAIR: Sabine Fuhrmann, Ph.D.

I am very pleased to welcome 11 new graduate students (including 3 international, and 2 MD/PhD students) into the Neuroscience Graduate Program this fall: **Robert Duncan** (U. of Oregon)**, Eerik Elias** (New Mexico Tech)**, Olena Filchakova** (Kharkiv National U.)**, Cornelia Stacher Horndli** (U. of Zurich)**, Eli Iacob** (U. of Michigan)**, Shaili Johri** (Maharaja Sayajirao U.)**, Rebecca Parker** (U. of Utah)**, Andrea Schwager** (Drake U.)**, Elliott Smith** (U. of Washington)**, Ryan Constantine** (U. of Utah, MD/PhD Program)**,** and **James Tucker** U. of Utah MD/PhD Program).

Congratulations to the first year students **Eerik Elias, Eli Iacob** and **Rebecca Parker** and the second year students **Eric Bend, Renee Bend** and **Randi Rawson** for their appointment to the NIH Neuroscience Training Grant.

I would like to thank the Neuroscience Admissions Committee (**Alessandra Angelucci, Jeanne Frederick, Bradley Greger, Ray Kesner, Shannon Odelberg,** and **Gary Rose**) for their time and excellent work in our recruiting efforts. They reviewed more than 100 applications and personally interviewed 23 applicants this past spring. In addition, we greatly appreciate the help from additional Neuroscience Faculty who participated in interviewing the candidates. Special thanks to the current graduate students **Fred Federer** (Angelucci lab)**, James Anderson** (Marc Lab)**, Sean Flynn** (White Lab), **Shushruth** (Angelucci lab), and **Andrew Zayachkivsky** (Dudek Lab) who hosted the candidates and helped organizing the recruitment days.

And special thanks to **Tracy Marble**, our Program Coordinator, who is invaluable for organizing our admission and recruitment activities. Lastly, I thank all those who presented posters at our successful recruitment reception last February.

For our Admissions efforts in 2008, the Admissions Committee will continue to serve (however, additional members are welcome!). Furthermore, we have a great service opportunity for one of our junior faculty: we are looking for a Chair of Recruitment to enhance our recruitment efforts for future candidate students (e.g. for identifying opportunities to contact US and minority undergraduates in colleges and universities, for attending career day events for undergrads etc.). Finally, please, mark your calendar for two important events: the 2007 Welcome Reception for our new students will be held on **Thursday, September 20th** at the JCC. The 2008 Recruitment Reception with dinner and poster presentations will be held **February 16th, 2008** (Friday of President's weekend).

****ALUMNI NEWS****

Arie Sitthichai Mobley (Lucero lab) is starting a postdoc at Yale University for Dr. Charles Greer, Dept. of Neurosurgery beginning Sept. 10th.

Ben Albensi (Filloux lab) has been awarded 2 new grants: July '07 - June '08: Regulation of GABAergic Interneuron Migration and Differentiation in the Vertebrate Forebrain by DLX Transcription Factors. Manitoba Inst. of Child Health (MICH), Co-Applicant, $45,000 CAD. 2006 - 2007:Programmable Stimulus Generator and Multielectrode Array to Investigate New Electrical Stimulation Protocols for Relief from Seizure-Like Activity, Natural Sciences and Research Council of Canada (NSERC), Research Tools and Instruments Grant. Co-Applicant $79,835 CAD.

Thiessen, J.D., Collister, K.A., Kurjewicz, L.M., Del Bigio, M.R., **Albensi, B.C.**, and Martin, M. (2007) Magnetic Resonance Imaging and Behavioural Test Comparisons in a Mouse Model of Alzheimer's Disease. *Physics in Canada*, in press. **Albensi, B.C.** (2007) The NMDA Receptor/Ion Channel Coplex: A Drug Target for Modulating Synaptic Plasticity and Excitotoxicity. *Current Pharmaceutical Design,* in press.

Terry van Raay (Vetter lab) has accepted a tenure-track faculty position as an Assistant Professor at the University of Guelph in Ontario, Canada. He will start on July 1, 2008. It is an excellent university and a beautiful campus.

Darin Messina (Tresco lab) has been promoted to Senior Research Scientist at the Stem Cell Internal Venture, a division of Johnson & Johnson, Radnor, PA.

Lund, R.D., Wang, S., Lu, B., Girman, S., Holmes, T., Sauvé, Y., **Messina, D.J.**, Harris, I.R., Kihm, A.J., Harmon, A.M., Chin, F.Y., Gosiewska, A., and Mistry, S.K. (2007) Cells isolated from umbilical cord tissue rescue photoreceptors and visual functions in a rodent model of retinal disease. *Stem Cells*, Mar;25(3):602-11. Epub 2006 Oct 19.

Mary Logan (Vetter lab) was awarded a postdoctoral fellowship: $138,000 American Cancer Society Postdoctoral Fellowship, 3 years.

Logan, M.A., and Freeman, M.R. The scoop on the fly brain: glial engulfment functions in Drosophila. *Neuron Glia Biology*, in press.

Andrew Pittman (Chien lab) has started a postdoctoral position in Marc Tessier-Lavigne's lab at Genentech (San Francisco, CA). He is studying the mechanisms of axonal regeneration.

*****POTPOURRI*****

Matt Riedy (Keefe lab) and Jessica Nordstrom were married in Ohio on August 25th. They will honeymoon in Europe where Matt will be presenting part of his dissertation work at the Triennial International Basal Ganglia Meeting in The Netherlands, Sept. 2-6.

****POSTDOC AWARDS****

Felix Vazquez (**Marc and Levine Labs**) was awarded three fellowships to fund his salary and project on the "Modulation of retinal glial activation using cell-cycle inhibitors": NIH Developmental Biology Training Grant fellowship, Fight for Sight fellowship, and The International Retinal Research Foundation's The Charles D. Kelman, M.D. Postdoctoral Scholar Award. His manuscript "Genetic influences on retinal gene expression and wound healing" has been accepted for publication in *Gene Regulation and Systems Biology*.

****CURRICULUM COMMITTEE****

As we prepare for fall semester I want to welcome all of our new students and make sure that everyone is aware of recent changes to the Neuroscience Policies and Procedures, which have now been updated online: (http://neuroscience.med.utah.edu/Policies_Procedures2.html).

First, we have implemented curriculum guidelines for MD/PhD students who will earn their PhD through the Neuroscience Program. Please consult the Policies and Procedures for details. I am also happy to answer any questions from prospective students or faculty.

Second, we have changed the guidelines for the qualifying exam. Most importantly, students are now required to submit two pre-proposal abstracts instead of three. Further, we ask the faculty on the committees to keep the abstract selection meeting focused on assessing which pre-proposal is likely to be developed into a successful proposal and providing constructive feedback to the student.

Third, I want to welcome our new student representatives to this committee: **Fred Federer (Angelucci lab)** and **Samantha Covington (Capecchi lab)**. Students with any concerns about the curriculum can ask these student reps to bring concerns to the committee so that we can resolve any problems as soon as possible.

Finally, **Franz Goller**, Biology, has agreed to take over as Chair of the Neuroscience Curriculum Committee beginning in Spring Semester, 2008. I know he will do a wonderful job and serve the students well. Thank you Franz.

Thank you to everyone serving on this committee. We all appreciate your work and look forward to a successful year.

Monica Vetter
Chair, Neuroscience Curriculum Committee

For those of you who missed the State of the Program meeting and/or the Mentoring the Mentors meeting, both held June 5th, you can see the presentation for both meetings on our web page: http://neuroscience.med.utah.edu

****Important Dates****

Sept. 20: New Graduate Student Reception. Our annual reception devoted to welcoming the incoming Neuroscience graduate students will be held at the Jewish Community Center, 2 North Medical Drive, Thursday from 5:00-8:00 pm. There will be the usual amounts of food and drink.

Sept. 25: Bioscience Symposium. University Marriott Park Hotel, 1:00-7:00pm. Dinner at 7:00pm. Pre-registration required.

Oct. 12: Annual Neuroscience Program Symposium @ Snowbird http://neuroscience.med.utah.edu/Snowbird

Nov. 3-7: The Society for Neuroscience Annual Meeting held this year in San Diego, CA.

ACADEMIC DEFENSES

Since the last issue of NeuroNews, the Neuroscience Program has had the following students successfully defend their dissertation; **Arie Sitthichai Mobley (Lucero lab), Joshua Cameron (Zhang lab), Suzanna Gribble (Dorsky lab),** and **Vijay Vishwanath (McIntosh lab)**.

James Anderson (Marc lab), Pei-Wen Chu (Fleckenstein lab), Molly DuBray (Lainhart lab) and **Sarah Farnsworth (Fleckenstein lab)** have successfully passed their Qualifying Exams. **Kerry-Ann Stewart (White lab)** and **Peter Westenskow (Fuhrmann lab),** have successfully passed their dissertation proposals.

*****Recently Published*****

Bigler, E.D., Mortensen, S., Neeley, E.S., Ozonoff, S., Krasny, L., Johnson, M., Lu, J., Provencal, S.L., McMahon, W., and **Lainhart, J.E.** (2007) Superior temporal gyrus, language function, and autism. *Dev Neuropsychol.,* 31(2):217-238.

Campbell, D.S., Stringham, S.A., Timm, A., Xiao, T., **Law, M.Y.**, Baier, H., Nonet, M.L., and **Chien, C.B.** (2007) Slit1a inhibits retinal ganglion cell arborisation and synaptogenesis via Robo2-dependent and -independent pathways. *Neuron*, 55:241-235.

Cameron*, D.J., Yang*, Z., Gibbs*,, D., Chen*, H., Kaminoh, Y., Jorgensen, A., Zeng, J., Luo, L., Brinton, E., Brinton, G., Brand, J.M., Bernstein, P.S., Zabriskie, N.A., Tang, S., Constantine, R., Tong, Z., and **Zhang, K.** (2007) HTRA1 variant confers similar risks to geographic atrophy and neovascular age-related macular degeneration. *Cell Cycle*, 6(9):1122-1125. Epub 2007. *co-first author

Cameron*, D.J., Tong*, Z., Yang, Z., Kaminoh, J., Kamayah, S., Chen, H., Zeng, J., Chen, Y., Luo, L., and **Zhang, K.** (2007) Essential role of Elovl4 in very long chain fatty acid synthesis, skin permeability barrier function, and neonatal survival. *Int J Biol Sci,* 3:111-119. Epub 2007 Feb 6. *co-first author

Chalasani, S., Sabol, A., Xu, H., Gyda, M., Rasband, K., Granato, M., **Chien, C.B.**, and Raper, J. (2007) Stromal cell derived factor-1 (SDF-1) antagonizes Slit/Robo signaling *in vivo*. *Journal of Neuroscience*, 27:973-980.

Crowley, W.R., Ramoz, G., Torto, R., **Keefe, K.A.**, Wang, J.J., and Kalra, S.P. (2007) Neuroendocrine actions and regulation of hypothalamic neuropeptide Y during lactation. *Peptides*, 28:447-452.

Daberkow, D.P., **Riedy, M.D., Kesner, R.P.**, and **Keefe, K.A.** (2007) Arc mRNA induction in striatal efferent neurons associated with response learning. *Eur J Neurosci,* 26:228-241.

Frank, D.U., Elliott, S.A., Park, E.J., Hammond, J., **Saijoh, Y.**, and Moon, A.M. (2007) System for inducible expression of cre-recombinase from the Foxa2 locus in endoderm, notochord, and floor plate. *Dev Dyn*, Apr;236(4):1085-1092.

Hardy, M.E., Ross, L.V., and **Chien, C.B.** Focal gene misexpression in zebrafish embryos induced by local heat shock using a modified soldering iron. *Developmental Dynamics*, in press.

Hobbs, K., Kennedy, A., **DuBray, M.**, Bigler, E.D., Petersen, P.B., McMahon, W., and **Lainhart, J.E.** (2007) A Retrospective Fetal Ultrasound Study of Brain Size in Autism. *Biol Psychiatry*, Jun 5.

Horner, K.A., Westwood, S.C., **Hanson, G.R.**, and **Keefe, K.A.** (2006) Multiple, high doses of methamphetamine increase the number of preproneuropeptide Y mRNA-expressing neurons in the striatum of rat via a dopamine D1 receptor-dependent mechanism. *Journal of Pharmacology and Experimental Therapeutics*, 319:414-421.

Kirkman, N.J., Libbey, J.E., Sweeten, T.L., Coon, H.H., Miller, J.N., Stevenson, E.K., **Lainhart, J.E.**, McMahon, W.M., and **Fujinami, R.S.** (2007) How Relevant are GFAP Autoantibodies in Autism and Tourette Syndrome? *J Autism Dev Disord*, Jun 20; [Epub ahead of print]

Lee, J.E., Bigler, E.D., Alexander, A.L., Lazar, M., **DuBray, M.B.**, Chung, M.K., Johnson, M., Morgan, J., Miller, J.N., McMahon, W.M., Lu, J., Jeong, E-K., and **Lainhart, J.E.** Diffusion Tensor Imaging of White Matter in the Superior Temporal Gyrus and Temporal Stem in Autism. *Neuroscience Letters*, in press.

Li*, W., Chen*, Y., **Cameron*, D.J.**, Wang, C., Karan, G., Yang, Z., Zhao, Y., Pearson, E., Chen, H., Deng, C., Howes, K., and **Zhang, K.** (2007) Elovl4 haploinsufficiency does not induce early onset retinal degeneration in mice. *Vis Res,* 47(5):714-722. Epub 2007 Jan 23. *co-first author

RECENT PUBLICATIONS CONTINUED:

Libbey, J.E., Tsunoda, I., Whitton, J.L., and **Fujinami, R.S.** (2007) Infectious RNA isolated from the spinal cords of mice chronically infected with Theiler's murine encephalomyelitis virus. *J. Virol.,* 81(6):3009-3011.

Libbey, J.E., McCoy, L.L., and **Fujinami, R.S.** (2007) Molecular mimicry in multiple sclerosis. *Int. Rev. Neurobiol.,* 79C:127-147.

Libbey, J.E., Coon, H.H., Kirkman, N.J., Sweeten, T.L., Miller, J.N., **Lainhart, J.E.**, McMahon, W.M., and **Fujinami, R.S.** (2007) Are there altered antibody responses to measles, mumps or rubella viruses in autism? *J. NeuroVirol.,* 13:252-259.

Libbey, J.E., Coon, H.H., Kirkman, N.J., Sweeten, T.L., Miller, J.N., Stevenson, E.K., **Lainhart, J.E.**, McMahon, W.M., and **Fujinami, R.S.** (2007) Are There Enhanced MBP Autoantibodies in Autism? *J Autism Dev Disord*., Jun 22.

Neeley, E.S., Bigler, E.D., Krasny, L., Ozonoff, S., McMahon, W., and **Lainhart, J.E.** (2007) Quantitative temporal lobe differences: autism distinguished from controls using classification and regression tree analysis. *Brain Dev.,* Aug;29(7):389-99. Epub 2007 Jan 3.

Peterson, L.K., and **Fujinami, R.S.** (2006) Molecular mimicry. In: *Autoantibodies, Second Edition*. Y Shoenfeld, ME Gershwin and P-L Meroni (Eds.), Elsevier Press, Philadelphia, pp. 13-20.

Peterson, L.K., Tsunoda, I., Masaki, T., and **Fujinami, R.S.** (2007) Polyreactive myelin oligodendrocyte glycoprotein antibodies: Implications for systemic autoimmunity in progressive experimental autoimmune encephalomyelitis. *J. Neuroimmunol.*, 183(1-2):69-80.

Peterson, L.K., and **Fujinami, R.S.** (2007) Inflammation, demyelination, neurodegeneration and neuroprotection in the pathogenesis of multiple sclerosis. *J. Neuroimmunol. (Special Issue on Neurodegeneration),* 184(1-2):37-44.

Sakamoto, Y., Hara, K., Kanai-Azuma, M., Matsui, T., Miura, Y., Tsunekawa, N., Kurohmaru, M., **Saijoh, Y.**, Koopman, P., and Kanai, Y. (2007) Redundant roles of Sox17 and Sox18 in early cardiovascular development of mouse embryos. *Biochem Biophys Res Commun.*, 360(3):539-544.

Smeal, R.M., **Gaspar, R.C.**, **Keefe, K.A.**, and **Wilcox, K.S.** (2007) A rat brain slice preparation for characterizing both thalamostriatal and corticostriatal afferents. *Journal of Neuroscience Methods*, 159:224-235.

Tate, D.F., Bigler, E.D., McMahon, W., and **Lainhart, J.** (2007) The relative contributions of brain, cerebrospinal fluid-filled structures and non-neural tissue volumes to occipital-frontal head circumference in subjects with autism. *Neuropediatrics*, Feb;38(1):18-24.

Tsunoda, I., Terry, E.J., Marble, B.J., Lazarides, E., Woods, C., and **Fujinami, R.S.** (2007) Modulation of experimental allergic encephalomyelitis by VLA-2 blockade. *Brain Pathol.,* 17(1):45-55.

Tsunoda, I., Tanaka, T., Terry, E.J., and **Fujinami, R.S.** (2007) Contrasting roles for axonal degeneration in an autoimmune versus viral model of multiple sclerosis: When can axonal injury be beneficial? *Am. J. Pathol.,* 170(1):214-226.

Tsunoda, I., Tanaka, T., Saijoh, Y., Doyle, S.E., Terry, E.J., and **Fujinami, R.S.** (2006) Axonal damage targets inflammatory demyelinating lesions to sites of Wallerian degeneration: Inside-Out model for multiple sclerosis. In: *Proceedings of the 8th International Conference of Neuroimmunology (ISNI 2006)*, T. Tabira, T. Yamamura and J. Kira (Eds.), Medimond, Bologna, Italy, pp. 37-40.

Tuo, J., Bojanowski, C.M., Zhou, M., Shen, D., Ross, R.J., Rosenberg, K.I., **Cameron, D.J.**, Yin, C., Kowalak, J.A., Zhuang, Z., **Zhang, K.**, and Chan, C. (2007) Murine Ccl2/Cx3cr1 deficiency results in retinal lesions mimicking human age-related macular degeneration. *Invest Ophthalmol Vis Sci.,* 48(8):3827-3836.

Volz, T.J., **Farnsworth, S.J.**, King, J.L., **Riddle, E.L.**, **Hanson, G.R.**, and **Fleckenstein, A.E.** (2007) Methylphenidate Administration Alters Vesicular Monoamine Transporter-2 Function in Cytoplasmic and Membrane-Associated Vesicles. *JPET*, Published August 10.

Wang, G., and **Scott, S.A.** (2007) Onset of ETS expression is not accelerated by premature exposure to signals from limb mesenchyme. *Dev Dyn.,* 236:2109-2117.

Welsh, R.M., and **Fujinami, R.S.** (2007) Pathogenic epitopes, heterologous immunity, and vaccine design. *Nat. Rev. Microbiol.*, 5(7):555-563.

Do you have something to submit in the next issue of NeuroNews?
Send your information to: Tracy Marble, Program in Neuroscience

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