PATRICK JAMES RONAN, Ph.D.

Sioux Falls VA Medical Center Research and Development 2501 W. 22nd St., Building 28 Sioux Falls, SD 57105 patrick.ronan@usd.edu

(605) 336-3230, ext. 96508

| EDUCATION | | |
|-----------|--|----------------------------|
| 2000 | Ph.D. (Biological Sciences/Neuroscience) | University of South Dakota |
| | | Vermillion, South Dakota |
| 1995 | M.A. (Biology) | University of South Dakota |
| | | Vermillion, South Dakota |
| 1988-1991 | General Sciences | University of Minnesota |
| | | Minneapolis, MN |
| 1988 | B.A. (Psychology/Spanish) | Earlham College |
| | | Richmond, Indiana |
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POST-GRADUATE TRAINING

| 2015-Present | VA Advanced Research Fellowship in Polytrauma/Traumatic Brain Injury Rehab. Denver |
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| | VA/Sioux Falls VA. |
| 2001-2003 | Ruth L. Kirschstein National Research Service Award (NRSA) Research Fellow, University |
| | of Texas Southwestern Medical Center at Dallas/Dallas VA, Dallas, Texas. |
| | Molecular/Behavioral Neuroscience. |
| 1999-2001 | Postdoctoral Research Fellow, University of Texas Southwestern Medical Center at |
| | Dallas/Dallas VA, Dallas, Texas. Systems/Molecular/Behavioral Neuroscience. |

EMPLOYMENT/APPOINTMENTS

| 2015-Present | VA Advanced Research Fellow. Denver VA/Sioux Falls VA. |
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| 2003-Present | Research Scientist, VA Research Service, Sioux Falls VA Health Care System, Sioux Falls, |
| | SD. |
| 2017-Present | Associate Professor, Department of Psychiatry, Division of Basic Biomedical Sciences, |
| | University of South Dakota Sanford School of Medicine, Sioux Falls and Vermillion, SD. |
| 2003-2017 | Assistant Professor, Department of Psychiatry, Division of Basic Biomedical Sciences, |
| | University of South Dakota Sanford School of Medicine, Sioux Falls and Vermillion, SD. |
| 2003-2014 | Research Scientist, Avera Research Institute, Avera McKennan Hospital & University |
| | Health Center, Sioux Falls, SD. |
| 2001-2003 | NRSA Postdoctoral Fellow, University of Texas Southwestern Medical Center at Dallas, |
| | Department of Psychiatry, Dallas, TX., VA Medical Research Service, North Texas VA |
| | Health Care System, Dallas, TX. |
| 1999-2001 | Postdoctoral Fellow, VA Medical Research Service, North Texas VA Health Care System, |
| | Dallas, TX., University of Texas Southwestern Medical Center at Dallas, Department of |
| | Psychiatry, Dallas, TX. |

| GRANTS /AWARDS | | | |
|----------------|--|--|--|
| 2018 | Site Co-Investigator, Pediatric Trials Network, Long-term Antipsychotic Pediatric Safety Trial (LAPS), NICHD-2016-LAP01, Phase 4 Trial. The Eunice Kennedy Shriver National Institute of Child Health and Human Development (NICHD). | | |
| 2018 | Principal Investigator. Translational Appoaches to TBI Treatment. Great Plains Medical Research Foundation. | | |
| 2015-2018 | Advanced VA Research Fellowship Research Award. VA Office of Academic Affiliations and VA Office of Research and Development, Rehabilitation Research and Development Service. | | |
| 2011-2014 | Project Director. Center for Biological Control and Analysis by Applied Photonics. South Dakota Governor's Research Center. <i>In Vivo</i> Optogenetic Control of Fear and Anxiety Responses in an Animal Model of PTSD. | | |
| 2011 | VA Equipment Award. Acquired a state of the art Zeiss 700 confocal microscope for the Sioux Falls VA Research Facility. | | |
| 2010-2011 | Principal Investigator. Avera Research Institute. Pilot Study to Evaluate the Effectiveness of Chantix® (Varenicline) on Pathological Gambling. | | |
| 2010-2013 | Co-Principal Investigator. Avera Foundation. Treatment of Cue-Induced Binge Alcohol Drinking in an Animal Model of Post Traumatic Stress Disorder. | | |
| 2005-2010 | Principal Investigator, Project 4. NIH Center of Biomedical Research Excellence. (NIH NCRR 2 P20 RR15567). Corticotropin Releasing Factor, Stress and Cocaine Addiction. | | |
| 2006 | Principal Investigator. USD School of Medicine Parsons Medical Research Fund. Development of an Adeno-Associated Viral Vector-mediated Silencing of Corticotropin Releasing Factor Expression. | | |
| 2004, 2005 | Principal Investigator. USD Center for Biomedical Research Excellence Pilot Awards. RNA Interference Mediated Silencing of Amygdalar Corticotropin Releasing Factor. | | |
| 2005, 2013 | Principal Investigator. Great Plains Medical Research Foundation. RNA Interference Mediated Silencing of Amygdalar Corticotropin Releasing Factor (2005). <i>In Vivo</i> Optogenetic Control of Fear and Anxiety Responses in an Animal Model of PTSD. | | |
| Honors | | | |
| 2014-Present | VA Office of Academic Affilitations Advanced Research Fellowship in Polytrauma/Traumatic Brain Injury Rehab, Translational Research. | | |
| 2015-Present | Editorial Board, Frontiers in Neuroendocrine Science, a specialty of Frontiers in Endocrinology and Neuroscience. | | |
| 2017 | TV News story, NBC affiliate KDLT, "VA Researchers Creating Pathway to Better Health for Veterans". | | |
| 2011 | Society for Neuroscience "Hot Topic". Presentation was featured in press release associated with annual meeting. | | |
| 2009 | NIH/NCRR supported research featured in NIH presentation to Congress. | | |
| 2009 | Newspaper Front Page Focus Article, Sioux Falls Argus Leader, "Stress and Addiction, | | |

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NIH Ruth Kirschstein National Research Service Award Fellowship. Principal Investigator

Eric Nestler, Chair, Department of Psychiatry, University of Texas Southwestern Medical

Finding Cures". 10/19/2009.

Center at Dallas.

2001-2003

| 1999-2001 | VA Postdoctoral Fellowship. Principal Investigator Fred Petty. Dallas VA Medical Center, University of Texas Southwestern Medical Center at Dallas. |
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| 1998, 1999 | Nelson Graduate Research Fellowship. |
| 1997, 1998 | Matthew Johnson Memorial Scholarship. |
| 1996-1998 | Biology Department Travel Award, University of South Dakota. |
| 1995, 1996 | Louella Cable Scholarship. |
| 1983-1988 | Earlham Alumni Endowment Scholarship. Earlham College, Richmond, IN. |
| 1983 | American Legion Citizenship Scholarship. |
| 1982 | Outstanding Science Student Scholarship. Northern States Power Co., Sioux Falls, SD. |

SERVICE

Committee and Board Membership

University of South Dakota

- USD Institutional Animal Care and Use Committee, 2004-2007, 2010-present.
- USD Sanford School of Medicine, Basic Biomedical Sciences Graduate Committee, 2018-present.
- USD Sanford School of Medical Student Research Committee, 2005-2009, 2013-2016.
- USD Institutional Biosafety Committee, 2006-2012.
- Departmental Review Committee, Biology. Graduate Student Representative. University of South Dakota, 1998.

Veterans Administration Research and Development

- Board of Directors, Great Plains Medical Research Foundation (Sioux Falls VA nonprofit corporation)
 - President, 2013-present
 - Vice-President, 2008-2013
 - Board Member, 2006-present
- VA Research & Development Committee
 - Member, 2003-present
 - Chair, 2005-2008
- VA Research & Development Committee Subcommittee on Research Safety
 - Member 2003-present
 - Chair, 2009-present
- North Texas VA (Dallas) Institutional Animal Care and Use Committee, 2002-2003.

Community Service

- Founder and Director, Mark Twain Elementary School Science Fair, Sioux Falls, SD, 2007-2014.
- Science Olympiad Instructor. A SD statewide competition between teams of high school students, 1995,1996,1997,1998.

SUPERVISORY EXPERIENCE

- Faculty Mentor/Advisor for graduate students Jazmin Yaeger(Ph.D), Clarissa Ward (M.A.), Leah Callahan (M.S.), Kristi Tschetter (Ph.D.), Amanda Jonas (M.S.), David Arendt (Ph.D.), Justin Smith (Ph.D.), Justin Achua (M.A.), Clarissa Staton (M.S.), Jazmine Dakota Ward (Ph.D.). 2005-present.
- Faculty Mentor/Advisor, USD Honors Program, Sidney Strait, Timothy Skog, Geralyn Palmer.
 2015-present.
- Graduate Committee Member for USD SSOM, Biology and Psychology Dept. M.A., M.S., and Ph.D. students, 2005-present.
- Research Mentor for Medical and Undergraduate Student Summer Fellows. Over 40 students from various NIH, NSF, NASA, USD, USDSM, SDSU, Sanford and Avera programs. 2004-present.
- Research Mentor Summer Undergraduate Research Experience (SURE), a unique opportunity for American Indian undergraduate students to receive hands-on research experience and mentoring in a cross-disciplinary training program: Samantha Ridley, 2012.
- Graduate Student Mentor, UTSW Medical Center at Dallas, Dallas, TX. 2002-2003.
- Research Mentor Research Apprenticeship Program. An introduction to biomedical research
 for American Indian high school students, funded by the National Institutes of Health: Jessica
 Swick, Summer, 1996.

SCHOLARY AND PROFESSIONAL ACTIVITIES

Professional Society/Organization Membership

- USD Center for Brain and Behavior Research (CBBRe)
- Society for Neuroscience
- International Society for Behavioral Neuroscience
- Faculty for Undergraduate Neuroscience
- JB Johnston Society for Comparative Neurobiology
- Sigma Xi

Peer Reviewer

- Review Editor, the Editorial Board of Frontiers in Neuroendocrine Science, a specialty of Frontiers in Endocrinology and Frontiers in Neuroscience, 2015-present.
- <u>Ad Hoc Reviewer</u>: Alcohol and Alcoholism, Journal of Neuroscience, Neuron, Journal of Experimental Biology, Neuroscience, Neuroscience Letters, Hormones, Frontiers in Neuroscience, Frontiers in Endocrinology, Frontiers in Neuroendocrine Science, Progress in Molecular Biology and Translational Science.

TEACHING

Course Director

 Introduction to Molecular Biology 475/575, USD Department of Biology. Advanced course for Medical Biology majors. Responsible for development and presentation of all course material and evaluations for 77 students. Fall, 2015.

Instructor/Lecturer

o *Medical Neuroscience*, USDSM. Sleep and Behavioral Arousal. 2003-2014.

- o *Neurobiology of Disease*, USDSM. Neurobiology of Addiction. 2003-present.
- o Genetic Methods, USDSM. 2004 and 2005.
- Research Techniques and Molecular Biology courses, Guest Lecturer, Augustana College.
 2004-present.
- o Special Topics Advanced Seminars in Neuroscience, USD Dept. Biology. 2004-present.
- o Molecular Neuroscience, UTSW Medical Center at Dallas, Dallas, TX. 2002-2003.
- o Neurobiology Seminar Series, University of South Dakota, 1995-1999.
- General Biology/General Biology for Majors. University of South Dakota. 1995-1999.
- o Laboratory Instructor for General Biology, 1996-1999.
- o Research Methods, Guest Instructor, Paul Quinn College, Dallas, TX. 1999-2000.
- o Laboratory Research Methods. University of South Dakota. 1997-1999.
- Cell Physiology, Cell Biology, Endocrinology, Neurobiology, Biology of Reproduction.
 Guest Lecturer, University of South Dakota. 1996-1999.

PUBLICATIONS

- **Ronan, P.J.**, Strait S.A., Palmer, G.M., Beresford, T.P. (2018). Central Administration of Cyclosporine-A Decreases Ethanol Drinking. Alcohol and Alcoholism, 53(2): 193-199.
- Beresford, T, Buchanan, J, Thumm, E, Emrick, C, Weitzenkamp, D, **Ronan, P.J.** (2017). Late Reduction of Cocaine Cravings in a Randomized, Double-Blind Trial of Aripiprazole Versus Perphenazine in Schizophrenia and Co-morbid Cocaine Dependence. Journal of Clinical Psychopharmacology, 37: 1-6, December, 2017.
- Robertson, J.M., Achua, J.K., Smith, J.P., Prince, M.A., Staton, C.D., **Ronan, P.J.**, Summers, T.R., Summers, C.H. (2017). Anxious behavior induces elevated hippocampal Cb2 receptor expression. Neuroscience 352:273-284.
- **Ronan, P.J.**, P.J., Wonganmit, N., Beresford, T.P. (2016). Molecular mechanisms of cannabis signaling in brain. Prog Mol Biol Transl Sci: Molecular basis of drug addiction 137:123-47.
- Smith, J.P., Prince, M.A., Achua, J.K., Robertson, J.M., Anderson, R.T., **Ronan, P.J.**, P.J., Summers, C.H. (2016). Intensity of anxiety is modified via complex integrative stress circuitries. Psychoneuroendocrinology 63:351-361.
- Smith, J.P., Achua, J.K., Summers, T.R., **Ronan, P.J.**, P.J., Summers, C.H. (2014). Decision making under stress: roles of BDNF and neuropeptide S. Front Behav Neurosci 8:121.
- Arendt, D.H., Hassell, J., Li, H., Achua, J.K, Guarnieri, D.J., DiLeone, R.J., **Ronan, P.J.**, P.J., Summers, C.H. (2014). Anxiolytic function of the orexin 2 / hypocretin A receptor in the basolateral amygdala. Psychoneuroendocrinology. 40:17-26.
- *Callahan, L.B., Tschetter, K.E., **Ronan, P.J.**, P.J. (2013). Inhibition of corticotropin releasing factor expression in the central nucleus of the amygdala attenuates stress-induced behavioral and endocrine responses. Front Neurosci 7:195.

 *Ranked one of the best performing articles in the Frontiers family of journals for 2013 based.
 - *Ranked one of the best performing articles in the Frontiers family of journals for 2013 based on the number of views.
- Arendt, D.H., Oliver, K.D., Callahan, L.B., Summers, T.R., **Ronan, P.J.**, P.J., Summers, C.H. (2013). Depressive behavior and activation of the orexin/hypocretin system. Behav Neurosci 127 (1):86-94.
- Hu, Y., Ehli, E.A., Kittelsrud, J., **Ronan, P.J.**, P.J., Munger, K., Downey, T., Bohlen, K, Callahan, L., Munson, V., Jahnke, M., Marshall, L.L., Nelson, K., Huizenga, P., Hansen, R., Soundy, T.J., Davies G.E. (2012). Lipid-lowering effect of berberine in human subjects and rats. Phytomedicine 19:861-867.

- **Ronan, P.J.**, P.J. and Summers, C.H. (2011). Chapter 6-Molecular signaling and translational significance of the corticotropin releasing factor system. Prog Mol Biol Transl Sci 98:235-292.
- Petersen, J.L. and **Ronan, P.J.**, P.J. (2010). Critical role of 7,8-didemethyl-8-hydroxy-5-deazariboflavin for photoreactivation in Chlamydomonas reinhardtii. J Biol Chem 285:32467-32475.
- **Ronan, P.J.**, P.J. and Summers, C.H. (2008). Biology, animal models. In: Reyes G., Elhai J.D., Ford J.D., eds. Encyclopedia of Psychological Trauma. John Wiley & Sons: Hoboken, New Jersey.
- Ronan, P.J., P.J., Gaikowski ,M.P., Hamilton, S.J., Buhl, K.J., Summers C.H. (2007). Ammonia causes decreased brain monoamines in fathead minnows (Pimephales promelas). Brain Res 1147C:184-191.
- Ronca, A.E., Abel, R.A., **Ronan, P.J.**, P.J., Renner, K.J. Alberts, J.R. (2006). Labor contractions elevate catecholamine release in newborn rats. Behavioral Neuroscience. 120:1308-1314
- Summers, C.H., Korzan, W.J., Lukkes, J.L., Watt, M.J., Forster, G.L., Overli, O., Hoglund, E., Larson, E.T., Ronan, P.J., P.J., Matter, J. M., Summers, T.R., Renner, K.J., Greenberg, N. (2005). Does Serotonin Influence Aggression? Comparing Regional Activity before and during Social Interaction. Physiol Biochem.Zool. 78:679-694.
- Ten Eyck, G. R., **Ronan, P.J.**, P.J., Renner, K.J., Summers, C.H. (2005). Serotonin metabolism in directly developing frog embryos during paternal care. Neurosci Lett 388:100-105.
- Summers, C. H., G. L. Forster, W. J. Korzan, M. J. Watt, E. T. Larson, O. Overli, E. Hoglund, P. J. Ronan, P.J., T. R. Summers, K. J. Renner, and N. Greenberg. (2005). Dynamics and mechanics of social rank reversal. J Comp Physiol A Neuroethol Sens Neural Behav Physiol 191:241-252.
- Summers C.H., Kampshoff J.L., **Ronan, P.J.** P.J., Lowry C.A., Prestbo A.A., Korzan W.J., Renner K.J. (2003). Monoaminergic activity in subregions of raphe nuclei elicited by prior stress and the neuropeptide corticotropin-releasing factor. J Neuroendocrinol 15: 1122-1133.
- Summers C.H., Summers T.R., Moore MC, Korzan W.J., Woodley S.K., **Ronan, P.J.** P.J., Hoglund E., Watt M.J., Greenberg N. (2003). Temporal patterns of limbic monoamine and plasma corticosterone response during social stress. Neuroscience 116: 553-563.
- Scammell, T.E., E. Arrigoni, M.A. Thompson, P.J. **Ronan, P.J.**, C.B. Saper and R.W. Greene (2003). Focal deletion of the adenosine A1 receptor in adult mice using an adeno-associated viral vector. J. Neuroscience. 23(13): 5762-5770.
- Summers, T.R., J.M. Matter, J.M. McKay, P.J. **Ronan, P.J.**, E.T. Larson, K.J. Renner and Summers, C.H. (2003). Rapid glucocorticoid stimulation and GABAergic inhibition of hippocampal serotonergic response; *in vivo* dialysis in the lizard Anolis carolinensis. Hormones and Behavior. 43(1): 245-53.
- Kram, M., Kramer, G.L., **Ronan, P.J.**, P.J., Steciuk, M. and Petty, F. (2002). Dopamine receptors and learned helplessness in the rat: An autoradiographic study. Progress in Neuro-Psychopharmacology & Biological Psychiatry. 26: 639-645.
- Korzan W.J., Summers T.R., **Ronan, P.J.** P.J., Renner K.J., and Summers, C.H. (2001). The role of monoaminergic nuclei during aggression and sympathetic social signaling. Brain Behavior and Evolution. 57: 317-327.
- Ronan, P.J., P.J., Steciuk, M., Kramer, G.L., Kram, M., and Petty, F. (2000). Increased 5-HIAA efflux in rats that do not develop learned helplessness after inescapable stress. Journal of Neuroscience Research. 61: 101-106.
- Emerson, A.J., D.P. Kappenman, P.J. **Ronan, P.J.**, K.J. Renner and Summers, C.H. (2000). Stress induces rapid changes in serotonergic activity: Restraint and exertion. Behavioural Brain Research 111: 83-92.
- Kram, M., Kramer, G.L., Steciuk, M., Ronan, P.J., P.J. and Petty, F. (2000). Effects of learned helplessness on brain GABA receptors. Neuroscience Research. 38: 193-198.

- Korzan, W.J., Summers, T.R., **Ronan, P.J.**, P.J., and Summers, C.H. (2000). Visible sympathetic activity as a social signal: Changes in aggression and plasma catecholamines. Hormones and Behavior. 38: 193-199.
- Atwood, H.L., Tomasso, J.R., **Ronan, P.J.**, P.J., Barton, B.A., and Renner, K.J. (2000). Brain monoamine concentrations as predictors of growth inhibition in channel catfish exposed to ammonia. Journal of Aquatic Animal Health. 12: 69-73.
- Summers, C.H., Larson, E.T., **Ronan, P.J.**, P.J., Hofmann, P.M., Emerson, A.J., and Renner, K.J. (1999). Serotonergic responses to corticosterone and testosterone in the limbic system. General and Comparitive Endocrinology. 117: 151-159.
- Deckel, A.W., R. Lillianey, P.J. Ronan, P.J. and Summers, C.H. (1998). Lateralized effects of ethanol on aggression and serotonergic systems. Brain Research 807: 38-46.
- Matter, J.M., P.J. Ronan, P.J. and Summers, C.H. (1998). Central monoamines in free-ranging lizards: Differences associated with social roles and territoriality. Brain Behavior and Evolution 51: 23-32.

MANUSCRIPTS SUBMITTED

- Beresford, T., Ronan, P.J., Schmidt, B., Thumm, B., Temple, B., Wortzel, H., Weitzenkamp, D., Emrick, C., Kelly, J., Arciniegas, D. (2018). A double-blind, placebo controlled, randomized trial of divalproex sodium for affective lability and alcohol use one year or more after traumatic brain injury. Submitted to New England J. Med 11/17/18.
- **Ronan, P.J.**, Brudvig, J.J., Callahan, L.B., Kalkman, K.K., Arendt, D.H., Summers, C.H. (2018). Anatomical evidence for functional cross-talk between orexin/hypocretin and corticotropin releasing factor systems. European Journal of Neuroscience. In Review.
- Achua, J.K., Smith, J.P., **Ronan, P.J.**, Summers, C.H. (2018). Orexin/hypocretin receptor and BDNF gene expression in dorsal and ventral hippocampus is dependent on conditioned social anxiety during decision-making. Neurobiology of Learning and Memory. In Revision.

PRESENTATIONS WITH PUBLISHED ABSTRACTS

- Ronan, P.J., Mehta, T.I., Hipp, D., Beresford, T.P. (2018). Alcohol drinking patterns in aged C57BI/6NHsd mice. Research Society on Alcoholism, San Diego, CA.
- Hipp, D., Ronan, P.J., Davatzikos, C., Beresford, T.P. (2018). Structural MRI reveals regional brain volume differences in alcoholism with TBI. Research Society on Alcoholism, San Diego, CA.
- Beresford, T.P., Ronan, P.J., Hipp, D., (2018). What does it mean? Weighting symptoms in alcohol withdrawal syndrome assessment with the severity of alcohol withdrawal scale (SEWS). Research Society on Alcoholism, San Diego, CA.
- Yaeger, J.D., Haround, F., Khalid, D.D., Seidel, T.C., Summers, T.R, Ronan, P.J., Summers, C.H. (2017).

 Anxiolytic effects of orexin 2 receptors during stressful social interaction. 2017 Abstract

 Viewer/Itinerary Planner. Washington D.C.: Society for Neuroscience, 2017.
- **Ronan, P.J.** and Beresford, T.P. (2017). Central Administration of Cyclosporin-A Decreases Ethanol Intake in a Rodent Model of Binge Drinking. Research Society on Alcoholism, Denver, CO.
- **Ronan, P.J.** and Beresford, T.P. Immunosuppressants Act in Brain to Inhibit Alcohol Intake. Society for Biological Psychiatry, San Diego, CA. May 2017.
- Staton, C.D., Yaeger, J.D.W., Khalid, D., Seidel, T.C., Haroun, F., Summers, T.R., Ronan P.J., Summers, C.H. (August, 2017). Social stress & the anyxiolytic effects of orexin 2 receptors. CBBRe Annual Neurobehavioral Research Symposium. Vermillion, SD.

- Fleischer, A., Kooima, T., Palmer, G., Fox, L., Ronan, P., Summers, C. and Forster G. (August, 2017). Naturally Cycling Sex Steroids and Their Influences on Neural Mechanisms Underlying Fear Conditioning. CBBRe Annual Neurobehavioral Research Symposium. Vermillion, SD.
- Hummel, F., **Ronan, P.J.**, Munger, K.A., Field, T,J., and Gorres-Martens, B.K. (August, 2017). Brain Analysis of the Protective Effects of Estrogens on Type 2 Diabetes. South Dakota BRIN Undergraduate Research Symposium. Pierre, SD.
- **Ronan, P.J.**, Strait, S., Palmer, G., Rollag, A., Baker, P., Beresford, T.P. Immunosuppressants Act in Brain to Inhibit Alcohol Intake. Sioux Falls VA Research Days, May 16, 2017.
- **Ronan, P.J.** and Beresford, T.P. Central Administration of Cyclosporin-A Decreases Ethanol Intake in a Rodent Model of Binge Drinking. Denver VA Research Days, May 26, 2017
- Strait, S. and **Ronan, P.J.** Central Administration of Cyclosporin-A Decreases Ethanol Intake in a Rodent Model of Binge Alcohol Drinking. Student Pierre Poster Session to Legislators, Pierre, SD., March, 2017.

 Sydney Strait was selected to present a poster at the Student Pierre Poster Session in the Capitol Rotunda in Pierre; an event to showcase impactful research at South Dakota universities, and heighten the awareness of state legislators regarding the benefits of research for the state. She was introduced to the legislators in session and gave an overview of the research. Only 10 students were selected from among the thousands who do research at colleges and universities across the state each year.
- Ronan, P.J., P.J., Skog, T.D., Brudvig, J.J., Callahan, L.B. and Summers, C.H. (2016). Topographical organization of perifornical orexin neurons; Implications for stress-induced disorders. 2016 Abstract Viewer/Itinerary Planner. San Diego, CA: Society for Neuroscience, 2016
- Prince, M.A., Achua, J.K., Smith, J.P., Robertson, J.M., **Ronan, P.J.**, P.J. Summers, T.R and Summers, C.H. (2015). Decision-making during social interaction in mice is not driven by aggression, but is related to ventral dentate gyrus expression of orexin receptors. 2015 Abstract Viewer/Itinerary Planner. Chicago, IL: Society for Neuroscience, 2015.
- Robertson, J.M., Prince, M.A., Achua, J.K., Smith, J.P., Summers, T.R., **Ronan, P.J.**, P.J. and Summers, C.H. (2015). Endocannabinoid receptor CB2 gene expression in hippocampus reflects modulation of anxious behavior. 2015 Abstract Viewer/Itinerary Planner. Chicago, IL: Society for Neuroscience, 2015.
- Achua, J. K., Callahan, L. B., Brudvig, J. J., Summers, C. H., **Ronan, P.J.**, P. J. (2014). Cross-talk between orexin/hypocretin and corticotropin releasing factor systems. 2014 Abstract Viewer/Itinerary Planner. Washington D.C.: Society for Neuroscience, 2014.
- Prince, M. A., J. P. Smith, J. Robertson, J. K. Achua, R. T. Andersone, C. Donohoe, T. Summers, P. J. Ronan, P.J., C. H. Summers (2014). Winning repeated aggression stimulates protracted AVP and NPS gene expression as well as anxious behavior. 2014 Abstract Viewer/Itinerary Planner. Washington D.C.: Society for Neuroscience, 2014.
- Robertson, J., J. P. Smith, J. K. Achua, M. A. Prince, T. R. Summers, P. J. **Ronan, P.J.**, C. H. Summers (2014). Decision-making across a gradient of anxiety differentially influences central amygdala NPS and BDNF gene expression. 2014 Abstract Viewer/Itinerary Planner. Washington D.C.: Society for Neuroscience, 2014.
- **Ronan, P.J.**, P.J. (2013). Neuropeptide Mechanisms and Treatment Targets in Stress-Induced Psychiatric Disorders. International Behavioral Neuroscience Society Annual Meeting, Dublin, Ireland, 2013. Invited Speaker.
- Arendt, D.H., Hassell, J., Li, H., Achua, J.K, Guarnieri, D.J., DiLeone, R.J., Ronan, P.J., P.J., Summers, C.H. (2013). Anxiolytic function of the orexin 2/hypocretin A receptor in the basolateral amygdala. 2013 Society for Neuroscience Annual Meeting. San Diego, CA.

- Smith, J.P., Achua, J.K., Callahan, L.B., **Ronan, P.J.**, P.J., Summers, T.R., Summers, C.H. (2013) Patterns of neural and behavioral change during subsequent novel aggression. 2013 Society for Neuroscience Annual Meeting. San Diego, CA.
- Arendt, D. H., Brudvig, J.J., Kalkman, K. L., Callahan, L. B., Summers, C. H. and **Ronan, P.J.**, P. J. (2012) Evidence for cross-talk between corticotropin releasing factor and orexin/hypocretin systems. 2012 Abstract Viewer/Itinerary Planner. New Orleans, LA: Society for Neuroscience, 2012.
- Callahan, L. B., Tschetter, K. E. and Ronan, P.J., P. J. (2012). Afferent corticotropin releasing factor (CRF) projections to the nucleus accumbens. 2012 Abstract Viewer/Itinerary Planner. New Orleans, LA: Society for Neuroscience, 2012.
- Brudvig, J. J., Callahan, L. B. and **Ronan, P.J.**, P. J. (2012). Immunohistochemical characterization of Organic Cation Transporter 3 (OCT3) expression in monoaminergic projection regions. 2012 Abstract Viewer/Itinerary Planner. New Orleans, LA: Society for Neuroscience, 2012.
- Smith, J. P., **Ronan, P.J.**, P. J., Summers, T. R. and Summers, C. H. (2012). Amygdalar gene expression following stressful social decision making. 2012 Abstract Viewer/Itinerary Planner. New Orleans, LA: Society for Neuroscience, 2012.
- Arendt, D. H., Oliver, K. D., Goetz, R. A., Callahan, L. B., Summers, T. R., **Ronan, P.J.**, P. J., Summers, C. H. (2012). Mapping orexin / hypocretin signaling in depression. 2012 Abstract Viewer/Itinerary Planner. New Orleans, LA: Society for Neuroscience, 2012.
- *Tschetter K.E., Callahan, L., Ronan, P.J., P.J. (2011). Early life stress alters brain corticotropin releasing factor and serotonergic systems and a leads to the development of a drug-seeking phenotype in adolescence. 2011 Abstract Viewer/Itinerary Planner. Washington D.C.: Society for Neuroscience, 2011.
 - * Featured in Society for Neuroscience "Hot Topics" press release for 2011 annual meeting.
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INVITED ORAL PRESENTATIONS (NOT INCLUDING TALKS WITH PUBLISHED ABSTRACTS ABOVE)

- The Role of Neuropeptides in Stress-Induced Disorders. Sioux Falls VA CME Program. August, 2016.
- Neuropeptides and Stress-Induced Psychiatric Disorders: Mechanisms and Novel Treatment Strategies. USD Biomedical Engineering Departmental Seminar. January, 2014.
- Neuropeptide Mechanisms and Treatment Targets in Stress-Induced Psychiatric Disorders. Departmental Seminar, College of Pharmacy, SDSU, Brookings, SD, October, 2013.
- Afferent Corticotropin Releasing Factor (CRF) projections to the nucleus accumbens. Avera-SDSU Research Symposium. Brookings, SD. October, 2013.
- Evidence for Cross-talk Between Corticotropin Releasing Factor and Orexin/Hypocretin Systems. Avera-SDSU Research Symposium. Brookings, SD. October, 2013.
- Optogenetic Interrogation of Stress-Induced Activation of Brain Reward Pathways. Avera-SDSU Research Symposium. Brookings, SD. October, 2013.
- Stress-Induced Psychiatric Disorders. Sioux Falls Rotary Club. Sioux Falls, SD, July 2011.
- Neurobiology and novel treatment strategies for stress-induced psychiatric disorders. Avera Mckennan Behavioral Health "Friday Forum", Behavioral Health Topics for School Professionals. Sioux Falls, SD, September 2011.
- Increased Alcohol Consumption in an Animal Model of PTSD is Blocked by a CRF1 Antagonist. SDSU Forum, Brookings, SD, September 2011.

- Deployment Mental Health: Informing Best Clinical Practice with Recent Research in VISN 23. Invited Panelist: Lessons from New Investigators. Omaha, NE, 2009.
- Neurobiology of Corticotropin Releasing Factor and Its Influence on Psychiatric Disorders.
 USDSM Department of Psychiatry Grand Rounds. August 2008.
- Stress, Sleep, and Drugs. Departmental Seminar, USD Department of Biology. 2008
- The Role of Corticotropin Releasing Factor (CRF) in Cocaine Addiction. USD Research Frontiers in Brain Function and Disorders Symposium. Ponca State Park. Ponca, NE. 2006.
- Stress and Cocaine Abuse: Current Research. Symposium on Neuro-Behavioral Research. Avera Research Institute. Sioux Falls, SD. 2005.
- Focal Gene Knockout/Knockdown Using Viral Vectors. Cardiovascular Research Institute, Sanford Health. Sioux Falls, SD. 2004.
- Using Viral Vectors to Silence Gene Expression. Augustana College. Sioux Falls, SD. 2004
- Focal AAV mediated knockdown of adenosine A₁. Departmental Seminar, UTSW Department of Psychiatry, 2003
- The Role of adenosine A₁ Receptors in Sleep and arousal. Departmental Seminar, UTSW Department of Psychiatry, 2002.
- Animal models of stress and how we can use them to study the role of stress in sleep. NIH
 Training Workshop in Basic Sleep Research. Lake Arrowhead, CA. 2002.
- The Role of Corticotropin Releasing Factor in the Learned Helplessness Animal Model of Depression. University of Texas Southwestern Medical Center at Dallas. Psychiatry Department Grand Rounds. 2000.