Curriculum Vitae

# Aaron Michael Jasnow, PhD

#### **PRESENT ADDRESS**

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### **HOME ADDRESS**

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# EDUCATION AND EMPLOYMENT

DEGREE: Bachelor of Arts MAJOR: Psychology INSTITUTION: University of Richmond, Richmond, VA (1993-1997)

DEGREE: Master of Arts MAJOR: Psychology, Behavioral Neuroscience Program INSTITUTION: Georgia State University, Atlanta, GA (1997-1999)

DEGREE: Doctor of Philosophy MAJOR: Psychology, Behavioral Neuroscience Program INSTITUTION: Georgia State University, Atlanta, GA (1999-2002)

POSITION: Postdoctoral Fellow ADVISOR: Donald W. Pfaff, PhD INSTITUTION: The Rockefeller University, New York, NY (2002-2005)

POSITION: Postdoctoral Fellow ADVISOR: Kerry Ressler, MD, PhD, Donald G. Rainnie PhD INSTITUTION: Emory University, Atlanta, GA (2005-2011)

POSITION: Assistant Professor, Department of Psychology INSTITUTION: Kent State University (May 2011-)

### STATEMENT OF RESEARCH INTEREST

My research focuses on neurobiological basis of behavior. In particular, I am interested in how genes and the environment interact to alter social behavior, stress responses and emotional learning. I believe it is important to use an integrative approach when studying questions about the neural basis of complex behaviors. My laboratory will approach the study of social stress and emotional learning by examining their separate molecular, physiological and behavioral components, and integrate our findings into an overall understanding of how animals (including humans) learn and process emotionally salient stimuli. An integrative, multidisciplinary approach will allow for a biologically and ethologically relevant examination of the interaction between genes and the environment, and how they regulate behavior.

### **GRANTS AWARDED**

- 1.Undergraduate Research Grant, University of Richmond, *Effects of Prenatal Stress on Nitric* Oxide Synthase Expression in the mPOA of Rats. 1996-1997
- 2.National Institutes of Health Pre-Doctoral NRSA Fellowship, Georgia State University, 2001-2003. MH 12907, Neurobiological Mechanisms of Conditioned Defeat.
- 3.National Institutes of Health Post-Doctoral Training Fellowship, Rockefeller University, 2002-2004. T32MH015125
- 4.National Institutes of Health Post-Doctoral NRSA Fellowship, Rockefeller University, 2004-2005. MH 070086, *Neuroendocrine Mechanisms of Emotional Behavior*.

### SUBMITTED GRANTS

1.National Institutes of Health R21 Identifying the role of basolateral amygdala SK channels in fear.

# AWARDS AND HONORS

Dean's List, University of Richmond, 1993-1997 Outstanding Student Research Award, University of Richmond, 1997 Graduate Fellowship, Georgia State University, 1997-2002 Travel Award, Developmental Psychobiology, 1996 Travel Award, Virginia Academy of Science, 1997 NIMH Travel Award, Society for Behavioral Neuroendocrinology, 2000, (\$500) Center for Behavioral Neuroscience Scholar, 2000-2002 Bailey M. Wade Award for Research Excellence, Georgia State University, 2001 NIMH Travel Award, Society for Behavioral Neuroendocrinology, 2001, (\$450) Outstanding Graduate Student Award, Georgia State University, 2002

#### **PROFESSIONAL ORGANIZATIONS**

Society for Neuroscience 1997-present Society for Behavioral Neuroendocrinology 1998-present American Physiological Society 1999-present

# DEPARTMENTAL SERVICE

Faculty Search Committee, Georgia State University, 1998-1999 Center for Behavioral Neuroscience, Colloquium Search Committee, 2001-2002 Faculty Search Committee, Georgia State University, 2001-2002

## **RESEARCH EXPERIENCE**

| 1996-1997    | Research Assistant to Dr. Craig Kinsley,<br>Department of Psychology, University of Richmond   |
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| 1997-2002    | Graduate Research Assistant to Dr. Kim Huhman,<br>Department of Psychology, Georgia State University<br><i>Emphasis</i> : Behavioral neuroendocrinology, stress, aggression                  |
| 2002-2005    | Posdoctoral Fellow to Dr. Donald W. Pfaff<br>Laboratory of Neurobiology and Behavior<br><i>Emphasis</i> : Behavioral neuroendocrinology, emotion, aggression                                 |
| 2005-present | Posdoctoral Fellow to Kerry Ressler<br>Yerkes National Primate Research Center, Emory University<br><i>Emphasis</i> : Electrophysiology, molecular biology, fear, stress, emotional learning |

# **TEACHING EXPERIENCE**

Teaching Assistant to Dr. Ainsworth-Darnell *Psychology Research and Methods Laboratory*, Georgia State University, 1999-2000 Instructor: *Physiological Psychology*, Georgia State University, 2000-2001

Instructor: *Introduction to Drugs and Behavior*, Georgia State University, 2001-2002

Teaching Assistant/Lecturer to Dr. Timothy Bartness. Functional Human Neuroanatomy, 2001.

# JOURNAL ARTICLES

- 1. Gillespie, C.F., Van Der Beek, E.M., Mintz, E.M., Mickley, N.C., **Jasnow, A.M.**, Huhman, K.L., and Albers, H.E. (1999). GABAergic regulation of light-induced c-FOS immunoreactivity within the suprachiasmatic nucleus. *Journal of Comparative Neurology*, 411: 683-692.
- 2. Huhman, K.L., **Jasnow, A.M.**, Sisitsky, A., and Albers, H.E (1999). Glutamic acid decarboxylase mRNA in the suprachiasmatic nucleus of rats housed in constant darkness. *Brain Research*, *851: 266-269.*
- 3. **Jasnow, A.M.**, Banks, M.C., Owens, E.C., and Huhman, K.L. (1999). Differential effects of two corticotropin-releasing factor antagonists on conditioned defeat in male Syrian hamsters (*Mesocricetus auratus*). *Brain Research*, *846: 122-128*.
- 4. **Jasnow, A.M.**, Huhman, K.L., Bartness, T.J., and Demas, G.E. (2000) Short-day increases in aggression are inversely related to circulating testosterone concentrations in male Siberian hamsters (*Phodopus sungorus*). *Hormones and Behavior*, *38: 102-110*.
- Lambert, K.G., Gerecke, K.M., Quadros, P.S., Doudera, E., Jasnow, A.M., and Kinsley, C.H. (2000). Activity stress increases density of GFAP-immunoreactive astrocytes in the rat hippocampus. *Stress*, 3: 275-84.
- Keyser-Marcus, L., Stafisso-Sandoz, G., Gerecke, K., Jasnow, A., Nightingale, L., Lambert, K.G., Gatewood, J., and Kinsley C.H. (2001) Alterations of medial preoptic area neurons following pregnancy and pregnancy-like steroidal treatment in the rat. *Brain Research Bulletin*, 55: 735-745.
- 7. Whitten, R.D., **Jasnow, A.M.**, Albers, H.E., Martin-Schild, S., Zadina, J.E., Huhman, K.L (2001). The effects of endomorphin-1 on conditioned defeat in Syrian hamsters (*Mesocricetus auratus*). *Brain Research*, 914: 74-80.
- 8. Jasnow, A.M., Demas, G.D., Drazen, D.L. Nelson, R.J., and Huhman, K.L. (2001) Acute and chronic defeat supresses humoral immune function in Syrian hamsters (*Mesocricetus auratus*), *Hormones and Behavior*, 40: 428-433.
- Demas, G.E., Drazen, D.L, Jasnow, A.M., Bartness, T.J. and Nelson, R.J. (2002). Sympathoadrenal system differentially affects photoperiodic changes in humoral immunity of Siberian hamsters (Phodopus sungorus), *Journal of Neuroendocrinology*, 14: 29-35.
- 10. **Jasnow, A.M.**, and Huhman, K.L. (2001). Activation of GABA<sub>A</sub> receptors in the amygdala blocks the acquisition and expression of conditioned defeat in Syrian hamsters. *Brain Research*, 920: 142-150.
- 11. Mintz, E.M., **Jasnow, A.M.,** Gillespie, C.F., Huhman, K.L., and Albers, H.E. (2002). GABA interacts with photic signaling in the suprachiasmatic nucleus to regulate circadian phase shifts. *Neuroscience*, 109: 773-778.
- 12. Jasnow, A.M., Huhman, K.L., Bartness, T.J., and Demas, D.E. (2002). Short days and exogenous melatonin increases aggression of male Syrian hamsters (*Mesocrecitus auratus*). *Hormones and Behavior*, 42: 13-20.

- 13. Drazen, D.L., **Jasnow, A.M.**, Nelson, R.J., and Demas, G.E. (2002). Exposure to short days enhances humoral immunity of male Syrian hamsters (*Mesocricetus auratus*). *Journal of Pineal Research*, 33: 118-124.
- 14. Huhman, K.L., Solomon, M.B., Janicki, M., Harmon, A.C., Lin, S.M., and **Jasnow, A.M.** (2003). Conditioned defeat in male and female Syrian hamsters. *Hormones and Behavior*, 44: 293-299.
- 15. **Jasnow, A.M.**, Cooper, M.A. and Huhman, K.L. (2004). N-methyl-D-aspartate receptors in the amygdala are necessary for acquisition and expression of conditioned defeat. *Neuroscience*, 123: 625-634.
- Jasnow, A.M. Michael Davis and Huhman, K.L. (2004). Involvement of central amygdalar and bed nucleus of the stria terminalis corticotropin-releasing factor in behavioral responses to social defeat. *Behavioral Neuroscience*, 118:1052-1061.
- 17. Demas, G.E., Pollacek, K.M., Durazzo, A. and **Jasnow, A.M.** (2004). Adrenal hormones mediate melatonin-induced increases in aggression in male Siberian hamsters (*Phodopus sungorus*). *Hormones and Behavior*, 46: 582-591.
- Russell D. Romeo, Daniel Staub, Aaron M. Jasnow, Ilia N. Karatsoreos, Janice E. Thronton, and Bruce S. McEwen (2005). Dihydrotestosterone increases hippocampal NMDA binding but does not affect cholinergic activity in the forebrain of adult male rats. *Endocrinology*, 146: 2091-2097.
- N. Devidze; J. A. Mong; A. M. Jasnow L. M. Kow and D. W. Pfaff. (2005) Estrogen effects on differential co-expression of various m RNA populations in single hypothalamic neurons. *Proceedings of the National Academy of Sciences*, 102 (40): 14446-51
- 20. Jasnow, A.M., Shi, C-J., Davis, M. and Huhman, K.L. (2005) Acquisition of conditioned defeat is facilitated by cAMP response element-binding protein overexpression in the amygdala. *Behavioral Neuroscience*, 119: 1125-30.
- 21. Jasnow, A.M., Schulkin, J. and Pfaff, D.W. (2006) Estrogen facilitates contextual and cued fear, and increases corticotropin-releasing hormone mRNA expression in the central amygdala in female mice. *Hormones and Behavior*, 49: 197-205.
- 22. Blutstein, T., Devidze, N., Choleris, E. **Jasnow, A.M.**, Pfaff, D.W., and Mong, J.A. (2006) Estradiol up-regulates Glutamine Synthetase mRNA and Protein Expression in the Hypothalamus and Hippocampus: implications for a role of hormonally responsive glia in amino acid neurotransmission. *Journal of Neuroendocrinology*, 18: 692-702.
- 23. Chhatwal, J.P., Hammack, S.E., **Jasnow, A.M.,** Rainnie, D.G., and Ressler, K.J. (2006). Identification of cell-type specific promoters within the brain using lentiviral vectors. *Gene Therapy*, 14: 575-583.
- 24. Russell D. Romeo, Ilia N. Karatsoreos, **Aaron M. Jasnow**, and Bruce S. McEwen (2007). Ageand stress-induced changes in corticotrophin-releasing hormone mRNA expression in the paraventricular nucleus of the hypothalamus. *Neuroendocrinology*, 85: 199-206.
- 25. Jasnow, A.M., Mong, J.A., Romeo, R.D. and Pfaff, D.W. (2007). Estrogenic regulation of gene and protein expression within the amygdala of female mice. *Endocrine*, 32: 271-279.
- 26. **Jasnow, A.M.**, Ressler, K.J., Hammack, S.E., Chhatwal, J.P., and Rainnie, D.G. (2009). Distinct subtypes of Cholecystokinin-containing interneurons of the basolateral amygdala identified using a CCK promoter-specific lentivirus. *Journal of Neurophysiology*, 101: 1494-1506.
- Martin, E.I., Ressler, K.J., Jasnow, A.M., Dabrowska, J., Rainne, D.G., Nemeroff, C.B., Owens, M.J. (2010). A novel transgenic mouse for gene-targeting within CRF-expressing cells. *Molecular Psychiatry*, 67: 1212-1216.

# **BOOK CHAPTERS**

- 1. Huhman, K. L.; **Jasnow, A. M.** Conditioned defeat. In: Biology of Aggression, Nelson, R.J. (Ed.) Oxford University Press, Inc., 2005.
- Jasnow, A.M., Rainnie, D.G., Chhatwal, J.P., and Ressler K.J. Construction of Cell-Type Specific Promoter Lentiviruses for Optically Guiding Electrophysiological Recordings and for Targeted Gene Delivery. (2009). In: Methods in Molecular Biology: Viral Applications of GFP, Hicks, B. (Ed.) 515: 199-213.
- 3. **Jasnow, A.M.,** and Ressler, K.J. Interpersonal Violence as a Mediator of Stress-Related Disorders in Humans. In: Formative Experiences, Worthman, Plotsky, Schechter, and Cummings (Eds.) Cambridge University Press.

# **INVITED TALKS**

- 1. *Neurobiological Mechanisms Regulating Conditioned Defeat in Syrian Hamsters,* Department of Biology, Kent State University, 2004.
- 2. *Neurobiological Mechanisms Regulating Responses to Social Defeat* School of Integrative Biology, University of Illinois, Urbana-Champaign, 2005.
- 3. *Fear and Loathing in the Cages: Molecular and Cellular Mechanisms of Emotional Learning.* Department of Biology, North Carolina State University, 2009.
- 4. *Molecular and Cellular Mechanisms of Emotional Learning.* Department of Psychology, University of Massachusetts, Amherst, 2009.
- 5. *Fear and Loathing in the Cages: Molecular and Cellular Mechanisms of Emotional Learning.* Department of Psychology, University of Wisconsin, Milwaukee, 2009.
- 6. *Fear and Loathing in the Cages: Molecular and Cellular Mechanisms of Emotional Learning.* Department of Cell biology and Neuroscience, Montana State University, 2009.
- 7. A Study of Emotional Learning from Molecules to Behavior. Department of Psychology, University of British Columbia, 2010.
- 8. *Molecular and Cellular Mechanisms of Stress and Emotion in Rodents: Implications for Human Mental Health.* Departments of Psychology & Biology, Kent State University, 2010.

## **ABSTRACTS AND PRESENTATIONS**

- 1. Gerecke, K., **Jasnow, A.**, Kishore, R., Quadros, P., & Kinsley, C. H. Are some of the sexual behavioral and physiological effects of prenatal stress due to alterations of neuronal morphology in medial preoptic area (mPOA) neurons? *Journal of the Virginia Academy of Science, 1997.*
- Jasnow, A., Mueller, E., McElroy, M., Gerecke, K., & Kinsley, C. H. Possible modifications of nitric oxide synthase activity in medial preoptic area (mPOA)neurons in prenatally-stressed (PS) male rats. *Journal of the Virginia Academy of Science, 1997.*
- 3. Gerecke, K., Kishore, R., **Jasnow, A**., Quadros, P., Parker, S., & Kinsley, C. H., Modification of morphology of medial preoptic area (mPOA) neurons in prenatally-stressed (PS) rats. *Developmental Psychobiology*, 1996.
- 4. Kishore, R., **Jasnow, A.**, Kinsley, C. H. Amphetamine (AMPH)-induced rotational behavior in prenatally-stressed (PS) rats: Evidence for asymmetrical regulation. *Developmental Psychobiology, 1996.*
- 5. **A. M. Jasnow**, A. C. Sisitsky, H. E. Albers, K. L. Huhman. VIP<sub>2</sub> receptor mRNA levels in the suprachiasmatic nucleus (SCN) of Sprauge-Dawley rats housed in either light-dark or constant darkness. *Society for Research of Biological Rhythms, 1998.*

- Jasnow, A. M., Janicki, M. M., Banks, M. C., Gillespie, C. F., & Huhman, K. L. Antalarmin (CP154,526), a CRF<sub>1</sub> receptor antagonist, does not block the expression of conditioned defeat in male syrian hamsters. *Society for Neuroscience*, 1998.
- 7. Huhman, K. L., **Jasnow, A. M**., Janicki, M. M., Mickley, M. C., & Albers, H. E. Vasopresson (AVP) dose-dependently increases flank marking but not aggressive behaviors in syrian hamsters. *Society for Neuroscience, 1998.*
- 8. Huhman, K. L., Owens, E. C., Banks, M. C., and **Jasnow, A. M.** Corticotropin releasing-factor (CRF) and conditioned defeat in Syrian hamsters. *Winter Neuropeptides*, 1999.
- Jasnow, A. M., Meehan, K. M. and Huhman, K. L. D-Phe CRF(12-41) in the central amygdala does not reduce conditioned defeat in Syrian hamsters (*Mesocricetus auratus*). Society for Behavioral Neuroendocrinology, 1999
- Jasnow, A. M., Owens, E. C., Banks, M. C., and Huhman, K. L. A corticotropin releasing factor antagonist decreases the expression of conditioned defeat in Syrian hamsters. *Society for Neuroscience*, 1999.
- 11. Huhman, K. L., Owens, E. C., Gillespie, C. F. and **Jasnow, A. M.** Endogenous opioids may be involved in modulating the acquisition of conditioned defeat in Syrian hamsters. *Society for Neuroscience, 1999.*
- 12. Lambert, K.G., Gerecke, K.M., Quadros, P.S., Doudera, E., **Jasnow, A.M.**, and Kinsley, C.H. Chronic stress increases density of GFAP-immunoreactive astrocytes in the rat hippocampus. *Society for Neuroscience, 1999.*
- 13. Huhman, K.L. and **Jasnow, A.M.** The role of corticotropin-releasing factor in the regulation of conditioned defeat. *Winter Neuropeptides, 2000.*
- 14. **Jasnow, A.M.,** and Huhman, K.L. Infusion of the GABAA agonist muscimol into the amygdala blocks acquisition of conditioned defeat in Syrian hamsters. *Society for Behavioral Neuroendocrinology, 2000.*
- 15. Jasnow, A.M., and Huhman, K.L. Infusion of muscimol into the amygdala blocks acquisition and expression of conditioned defeat in Syrian hamsters. *Society for Neuroscience, 2000.*
- 16. Banks, M.C., **Jasnow, A.M.**, Harmon, A.C., and Huhman, K.L. Behavioral and neuroendocrine response to defeat in female Syrian hamsters. *Society for Neuroscience, 2000*.
- 17. Whitten, R.D., **Jasnow, A.M.**, Albers, H.E., Martin-Schild, S., Zadina, J.E., and Huhman, K.L. The effects of endomorphin-1 on social behavior in Syrian hamsters. *Society for Neuroscience*, 2000.
- 18. Huhman, K.L., and **Jasnow, A.M.** The role of amino acid neurotransmission in the acquisition and expression of conditioned defeat. *Winter Conference on Brain Research, 2001.*
- 19. Jasnow, A.M., and Huhman, K.L. Conditioned defeat is blocked by antagonism of corticotropinreleasing hormone receptors in the bed nucleus of the stria terminalsis. *Society for Behavioral Neuroendocrinology, 2001*.
- 20. Jasnow, A.M., and Huhman, K.L. The role of corticotropin-releasing hormone in conditioned defeat in Syrian hamsters. *Society for Neuroscience, 2001*.
- 21. Demas, G.E., Bartness, T.J., and **Jasnow, A.M.** Exogenous melatonin increases aggression in Siberian hamsters. *Society for Neuroscience, 2001*.
- 22. Mintz, E.M., Girl, IT, **Jasnow, A.M.**, and Demas, G.D. Differential c-fos expression in response to a pyrogenic and non-pyrogenic antigen in Siberian hamsters. *Society for Neuroscience*, 2001.

- 23. Banks, M.C., Faruzzi, A.N, **Jasnow, A.M.**, Demas, G.D., and Huhman, K.L. Estrogen and testosterone decrease submissive behavior following defeat in female Syrian hamsters. *Society for Neuroscience*, 2001.
- 24. Huhman, K.L., Faruzzi, A.N., Jasnow, A.M. Conditioned defeat: A naturalistic model of social stress. *ISPNE*, 2001.
- 25. Huhman, K.L., Shi, C-J., Davis, M., and **Jasnow, A.M.** Acquisition of conditioned defeat in Syrian hamsters: Molecular mechanisms. *Winter Conference on Brain Research, 2001.*
- 26. Jasnow, A.M., and Huhman, K.L. CRH in the "extended" amygdala: regulation of behavioral responses to social defeat. *New York Academy of Sciences Conference, 2002.*
- 27. **Jasnow, A.M.,** Shi, C-J, Israel, J.M., Davis, M., and Huhman, K.L. Overexpression of CREB within the amygdala facilitates the acquisition of conditioned defeat. *Society for Neuroscience, 2002.*
- 28. Cooper, M.A., **Jasnow, A.M.**, and Huhman, K.H. The role of CRH2 receptors in conditioned defeat in Syrian Hamsters (*Mesocricetus auratus*). *Society for Neuroscience*, 2002.
- 29. Easton, A., **Jasnow, A.M.**, Norton, J., Goodwillie, A., Pfaff, D.W. Pyrilamine, an H1 receptor antagonist, alters arousal to multimodal stimuli. *APSS*, 2003.
- 30. Jasnow A.M., Mong, J.A., and Pfaff, D.W. Estrogen regulates CaMK gene expression in the amygdala of female Swiss-Webster mice. *Society for Neuroscience, 2003*.
- 31. Demas, G.E., and **Jasnow, A.M.** Lesions of the central amygdala affect social defeat-induced decreases in humoral immunity of Syrian hamsters. *Society for Neuroscience, 2003*.
- 32. Mong, J.A., Devidze, N., Jasnow, A.M., and Pfaff, D.W. Reduction of lipocalin-prostaglandin D synthase (L-PGDS) by LNA antisense oligonucleotides (ODN) in the preoptic area of female mice mimics estradiol effects on general arousal, locomotion and sex behavior. Society for Neuroscience, 2003.
- 33. Demas, G.E., and **Jasnow, A.M.** Melatonin-induced increases in aggression are attenuated by adrenalectomy in Siberian hamsters. *Society for Neuroscience, 2004*.
- 34. Jasnow, A.M. Schulkin, J., and Pfaff, D.W. Estrogenic modulation of emotion: Involvement of corticotropin-releasing hormone. *Society for Neuroscience, 2004*.
- 35. **Jasnow, A.M.,** Hammack, S.E., Chhatwal, J.P., Ressler, K.J., and Rainnie, D.G. Electrophysiological properties of cholecystokinin-containing interneurons in the basolateral amygdala of rats. *Society for Neuroscience, 2006.*
- 36. **A.M. Jasnow,** S.E. Hammack, J.P. Chhatwal, K.J. Ressler, D.G. Rainnie. Identification of three distinct subtypes of cholecystokinin-containing interneurons in rat basolateral amygdala. *Society for Neuroscience, 2007.*
- A.M. Jasnow, K.A. Maguschak, S.E. Hammack, J.P. Chhatwal, K.J. Ressler, D.G. Rainnie. Construction of cell-type specific promoter lentiviruses for optically guiding electrophysiological recordings of distinct interneuron populations within the basolateral amygdala of rats. *Society for Neuroscience*, 2007.
- A.M. Jasnow, S. Daftary and D.G. Rainnie. Modification of spike timing precision and high threshold oscillations by inhibitory synaptic input in basolateral amygdala neurons. Society for Neuroscience, 2008.
- 39. Zhongjian Chen, Lizabeth I. Martin, Jasmeer P. Chhatwal, **Aaron M. Jasnow**, Mike J. Owens, Donald G. Rainnie and Kerry J Ressler. Generation of a novel transgenic mouse line expressing Cre recombinase driven by a corticotrophin-releasing factor (CRF) promoter to examine the specific role of CRF-expressing cells in fear and anxiety. *Society for Neuroscience, 2008*.

- 40. **A.M. Jasnow**, J. Guo, R Hazra, J. Dabrowska, K.J. Ressler<sup>1</sup> and D.G. Rainnie. Characterization of CRF-expressing neurons of the central amygdala and bed nucleus of the stria terminalis using CRF-GFP transgenic mice. *Society for Neuroscience, 2009*.
- R. Hazra, J. Guo, S. Ryan, A. M. Jasnow, D. G. Rainnie. Genetic verification of physiologically defined cell types in the anterolateral bed nucleus of stria terminalis (BNST<sub>ALG</sub>): A single cell RT-PCR study. Society for Neuroscience, 2009.
- 42.G. M. Gafford, Z. Chen, A. Jasnow, S. Heldt, E. Martin, M. Owens, W. Wisden, D. Rainnie, K. Ressler. Enhanced anxiety in transgenic mice with CRF neuron-specific deletion of GABA receptors. *Society for Neuroscience, 2009.*