Deveroux Ferguson, Ph.D.
CURRICULUM VITAE
Associate Professor, Department of Basic Medical Sciences
Associate Professor, Department of Psychiatry
Associate Professor, Clinical Translational Science
University of Arizona College of Medicine-Phoenix

Contact Information

Deveroux Ferguson Ph.D.
Department of Basic Medical Science
425 N. 5th Street
Phoenix, AZ 85004-2157
Office: (602) 827-217*8*
Email: Dferguson@arizona.edu

Education

1997-2001 B.S. Biology with Honors
CUNY Hunter College
Department of Biology

2002-2008 Ph.D. Neuroscience (Robert Sapolsky)
Stanford University School of Medicine
Interdepartmental Neuroscience Program

Academic Positions/Employment

2008-2014 Postdoctoral Fellow (Eric Nestler)
Icahn School of Medicine at Mount Sinai
Department of Neuroscience

2014-2020 Assistant Professor
Department of Basic Medical Science
University of Arizona College of Medicine

2018-2020 Assistant Professor
Department of Psychiatry
University of Arizona College of Medicine

2019-2020 Assistant Professor
Clinical Translational Science
University of Arizona

2014-Present Adjunct Professor
Translational Genomics Research Institute

2014-Present Adjunct Professor
Neuroscience Interdisciplinary Graduate Program
Arizona State University

2020-Present Associate Professor with TENURE
Department of Basic Medical Science
University of Arizona College of Medicine

2020-Present Associate Professor with TENURE
Department of Psychiatry
University of Arizona College of Medicine

2020-Present Associate Professor with TENURE
Clinical Translational Science
University of Arizona

Professional Experience

2018-2019 *Leadership Development Program*
Office of Faculty Affairs and Development
University of Arizona College of Medicine

2020 *Mentor Training for Clinical and Translational Researchers*
Clinical Translational Science
University of Arizona

Honors and Awards

1997 NASA Joint Venture (JOVE) Research Assistant Fellowship, NASA
1998 Minority Biomedical Research Support (MBRS) Scholar, NIH
1999 Minority Access to Research Careers (MARC) Scholar, NIH
2000 Spring Public Service Scholar, CUNY Hunter
2001 Honors in Biology CUNY Hunter, CUNY Hunter
2001 NIH Biotechnology Fellowship, NIH
2005 Merck Predoctoral Research Grant Award, Merck

2005 F31 Predoctoral Fellowship, NIH
2007 Graduate Student Research Festival Award, NIH
2007 Travel Award International Society of Psychoneuroendocrinology, ISPNE
2007 Graduate Student Research Festival Award, NIH
2009 Merck Postdoctoral Research Award, Merck
2009 American Psychological Association (APA) Postdoctoral Award, APA
2012 Pathway to Independence (K99/R00) Award, National Institute of Mental Health
2012 NARSAD Young Investigator Award, Brain and Behavior Foundation
2018 Artificial Intelligence Molecular Screen (AIMS) Awards, Atomwise
2021 Top National Black Inspiring Scientist by Cell Press/ Cell Mentor

Awarded Grants and Contracts

Active Grants

R01MH128192 (Ferguson/Qiu, MPI)
09/01/2021-08/31/2026
$3,003,574
NIH/NIMH
"Prefrontal-Accumbens Neurocircuits Mediating Response to Social Stress"
The study provides mechanistic understanding on circuit maladaptive changes in response to chronic stress and likely establishes a lead neural circuit for targeted interventions to treat depression.
Role: Contact, PI
Reviewed proposal scored in the 15.0 percentile

R01MH112716 (Ferguson, PI)
04/15/2017-02/28/2023 (NCE)
$2,299,690
NIH/NIMH
"A Novel Cell and Circuit-Specific Role for SIRT1 in Depression"
The overall goals of this project are to determine the cell-type specific role of SIRT1 in depression to identify SIRT1-signaling pathways as a potential target in the development of urgently needed novel antidepressants.
Role: PI
Reviewed proposal scored in the 11.0 percentile

R01MH111619 (Qiu)
07/01/2017-04/30/2022
$1,918,750
NIH/NIMH
"MET receptor tyrosine kinase and the development of forebrain circuits"
The major goal of this project is to investigate the role of MET receptor tyrosine kinase, a genetic risk factor for autism spectrum disorders, in the development of mouse forebrain circuits

by studying the molecular signaling, synaptic, circuit and behavior phenotypes of different mouse models.
Role: Co-I
Reviewed proposal scored in the 20.0 percentile

R25NS107188 (Neisewander, PI)
7/1/18-6/30/23
$1,289,120
NINDS
"Workforce Inclusion in Neuroscience through Undergraduate Research Experience"
Role: Mentor and Internal Advisory Board Member

Innovation and Impact (RII) (Gallitano, PI)
12/10/2021 – 08/31/2022
$137,868
University of Arizona Research
"Essential Equipment to Advance Neuropsychiatric Research"
Role: Co-I

<u>Completed Grants</u>

ADHS16-162404 (Ferguson, PI)
3/1/17-2/29/20
$225,000
Arizona Biomedical Research Commission (ABRC)
"Cell-Type Specific Role of Sirtuin Signaling in Cocaine Addiction" Role : PI
Role: PI

R00MH094405 (Ferguson, PI)
6/1/14-4/30/17
$912,721
NIH/NIMH
"Novel Role for Sirtuin Signaling Mechanisms and Downstream Targets in Depression"
Role: PI

K99MH094405 (Ferguson, PI)
3/7/12-03/30/14
$179,820
NIH/NIMH
"Novel Role for Sirtuin Signaling Mechanisms and Downstream Targets in Depression"
Role: PI

<u>Pending Grants</u>

R01MH094405 (Ferguson, PI)
10/5/2019
NIH/NIDA
$2,809,036
“Nucleus accumbens cell and circuit specific role of SIRT1 in cocaine addiction”.

Publications

*H-Index=**32***
*Total Citations=**5,323***

Peer Reviewed Articles

1. X. Ma, J. Wei, Y. Cui, B. Xia, L. Zhang, A. Nehme, Y. Zuo, **D. Ferguson,** P. Levitt, S. Qiu, (2021). Disrupted Timing of MET Signaling Derails the Developmental Maturation of Cortical Circuits and Leads to Altered Behavior in Mice, *Cereb Cortex,* DOI 10.1093/cercor/bhab323.

2. H.D. Kim, J. Wei, T. Call, N.T. Quintus, A.J. Summers, S. Carotenuto, R. Johnson, X. Ma, C. Xu, J.G. Park, S. Qiu, **D. Ferguson** (2021). Shisa6 mediates cell-type specific regulation of depression in the nucleus accumbens, Mol Psychiatry, DOI 10.1038/s41380-021-01217-8.

3. B. Xia, J. Wei, X. Ma, A. Nehme, K. Liong, Y. Cui, C. Chen, A. Gallitano, **D. Ferguson,** S. Qiu (2021). Conditional knockout of MET receptor tyrosine kinase in cortical excitatory neurons leads to enhanced learning and memory in young adult mice but early cognitive decline in older adult mice, Neurobiol Learn Mem, 179 107397.

4. K. Chen, X. Ma, A. Nehme, J. Wei, Y. Cui, Y. Cui, D. Yao, J. Wu, T. Anderson, **D. Ferguson**, P. Levitt, S. Qiu (2020). Time-delimited signaling of MET receptor tyrosine kinase regulates cortical circuit development and critical period plasticity, Mol Psychiatry, DOI 10.1038/s41380-019-0635-6.

5. H.D. Kim, J. Hesterman, T. Call, S. Magazu, E. Keeley, K. Armenta, H. Kronman, R.L. Neve, E.J. Nestler, **D. Ferguson** (2016). SIRT1 Mediates Depression-Like Behaviors in the Nucleus Accumbens, J Neurosci, 36 8441-8452.

6. J. Feng, M. Wilkinson, X. Liu, I. Purushothaman, **D. Ferguson**, V. Vialou, I. Maze, N. Shao, P. Kennedy, J. Koo, C. Dias, B. Laitman, V. Stockman, Q. LaPlant, M.E. Cahill, E.J. Nestler, L. Shen (2015). Erratum to: Chronic cocaine-regulated epigenomic changes in mouse nucleus accumbens, Genome Biol, 16 227.

7. C. Dias, D. Dietz, M. Mazei-Robison, H. Sun, D. Damez-Werno, **D. Ferguson**, M. Wilkinson, J. Magida, V. Gao, R. Neve, E.J. Nestler (2015). Dishevelled-2 regulates cocaine-induced structural plasticity and Rac1 activity in the nucleus accumbens, Neurosci Lett, 598 23-28.

8. J. Feng, N. Shao, K.E. Szulwach, V. Vialou, J. Huynh, C. Zhong, T. Le, **D. Ferguson,** M.E. Cahill, Y. Li, J.W. Koo, E. Ribeiro, B. Labonte, B.M. Laitman, D. Estey, V. Stockman, P. Kennedy, T. Courousse, I. Mensah, G. Turecki, K.F. Faull, G.L. Ming, H. Song, G. Fan, P. Casaccia, L. Shen, P. Jin, E.J. Nestler (2015). Role of Tet1 and 5-hydroxymethylcytosine in cocaine action, Nat Neurosci, 18 536-544.

9. **D. Ferguson,** N. Shao, E. Heller, J. Feng, R. Neve, H.D. Kim, T. Call, S. Magazu, L. Shen, E.J. Nestler (2015). SIRT1-FOXO3a regulate cocaine actions in the nucleus accumbens, J Neurosci, 35 3100-3111.

10. J.W. Koo, M.S. Mazei-Robison, Q. LaPlant, G. Egervari, K.M. Braunscheidel, D.N. Adank, **D. Ferguson**, J. Feng, H. Sun, K.N. Scobie, D.M. Damez-Werno, E. Ribeiro, C.J. Pena, D. Walker, R.C. Bagot, M.E. Cahill, S.A. Anderson, B. Labonte, G.E. Hodes, H. Browne, B. Chadwick, A.J. Robison, V.F. Vialou, C. Dias, Z. Lorsch, E. Mouzon, M.K. Lobo, D.M. Dietz, S.J. Russo, R.L. Neve, Y.L. Hurd, E.J. Nestler (2015). Epigenetic basis of opiate suppression of Bdnf gene expression in the ventral tegmental area, Nat Neurosci, 18 415-422.

11. E.A. Heller, S. Kaska, B. Fallon, **D. Ferguson,** P.J. Kennedy, R.L. Neve, E.J. Nestler, M.S. Mazei-Robison (2015). Morphine and cocaine increase serum- and glucocorticoid-inducible kinase 1 activity in the ventral tegmental area, J Neurochem, 132 243-253.

12. J. Feng, N. Shao, K.E. Szulwach, V. Vialou, J. Huynh, C. Zhong, T. Le, **D. Ferguson,** M.E. Cahill, Y. Li, J.W. Koo, E. Ribeiro, B. Labonte, B.M. Laitman, D. Estey, V. Stockman, P. Kennedy, T. Couroussé, I. Mensah, G. Turecki, K.F. Faull, G.L. Ming, H. Song, G. Fan, P. Casaccia, L. Shen, P. Jin, E.J. Nestler (2015). Role of Tet1 and 5-hydroxymethylcytosine in cocaine action, Nat Neurosci, 18 536-544.

13. C. Dias, J. Feng, H. Sun, N.Y. Shao, M.S. Mazei-Robison, D. Damez-Werno, K. Scobie, R. Bagot, B. LaBonte, E. Ribeiro, X. Liu, P. Kennedy, V. Vialou, **D. Ferguson**, C. Pena, E.S. Calipari, J.W. Koo, E. Mouzon, S. Ghose, C. Tamminga, R. Neve, L. Shen, E.J. Nestler (2014). beta-catenin mediates stress resilience through Dicer1/microRNA regulation, Nature, 516 51-55.

14. E.A. Heller, H.M. Cates, C.J. Pena, H. Sun, N. Shao, J. Feng, S.A. Golden, J.P. Herman, J.J. Walsh, M. Mazei-Robison, **D. Ferguson,** S. Knight, M.A. Gerber, C. Nievera, M.H. Han, S.J. Russo, C.S. Tamminga, R.L. Neve, L. Shen, H.S. Zhang, F. Zhang, E.J.

Nestler (2014). Locus-specific epigenetic remodeling controls addiction- and depression-related behaviors, Nat Neurosci, 17 1720-1727.

15. J. Feng, M. Wilkinson, X. Liu, I. Purushothaman, **D. Ferguson,** V. Vialou, I. Maze, N. Shao, P. Kennedy, J. Koo, C. Dias, B. Laitman, V. Stockman, Q. LaPlant, M.E. Cahill, E.J. Nestler, L. Shen (2014). Chronic cocaine-regulated epigenomic changes in mouse nucleus accumbens, Genome Biol, 15 R65.

16. V. Vialou, R.C. Bagot, M.E. Cahill, **D. Ferguson**, A.J. Robison, D.M. Dietz, B. Fallon, M. Mazei-Robison, S.M. Ku, E. Harrigan, C.A. Winstanley, T. Joshi, J. Feng, O. Berton, E.J. Nestler (2014). Prefrontal cortical circuit for depression- and anxiety-related behaviors mediated by cholecystokinin: role of DeltaFosB, J Neurosci, 34 3878-3887.

17. S. Gaspari, M.M. Papachatzaki, J.W. Koo, F.B. Carr, M.E. Tsimpanouli, E. Stergiou, R.C. Bagot, **D. Ferguson**, E. Mouzon, S. Chakravarty, K. Deisseroth, M.K. Lobo, V. Zachariou, (2014). Nucleus accumbens-specific interventions in RGS9-2 activity modulate responses to morphine, Neuropsychopharmacology, 39 1968-1977.

18. J.J. Walsh, A.K. Friedman, H. Sun, E.A. Heller, S.M. Ku, B. Juarez, V.L. Burnham, M.S. Mazei-Robison, **D. Ferguson**, S.A. Golden, J.W. Koo, D. Chaudhury, D.J. Christoffel, L. Pomeranz, J.M. Friedman, S.J. Russo, E.J. Nestler, M.H. Han (2014). Stress and CRF gate neural activation of BDNF in the mesolimbic reward pathway, Nat Neurosci, 17 27-29.

19. **D. Ferguson**, J.W. Koo, J. Feng, E. Heller, J. Rabkin, M. Heshmati, W. Renthal, R. Neve, X. Liu, N. Shao, V. Sartorelli, L. Shen, E.J. Nestler (2013). Essential role of SIRT1 signaling in the nucleus accumbens in cocaine and morphine action, J Neurosci, 33 16088-16098.

20. D. Chaudhury, J.J. Walsh, A.K. Friedman, B. Juarez, S.M. Ku, J.W. Koo, **D. Ferguson,** H.C. Tsai, L. Pomeranz, D.J. Christoffel, A.R. Nectow, M. Ekstrand, A. Domingos, M.S. Mazei-Robison, E. Mouzon, M.K. Lobo, R.L. Neve, J.M. Friedman, S.J. Russo, K. Deisseroth, E.J. Nestler, M.H. Han(2013). Rapid regulation of depression-related behaviours by control of midbrain dopamine neurons, Nature, 493 532-536.

21. J.W. Koo, M.S. Mazei-Robison, D. Chaudhury, B. Juarez, Q. LaPlant, **D. Ferguson,** J. Feng, H. Sun, K.N. Scobie, D. Damez-Werno, M. Crumiller, Y.N. Ohnishi, Y.H. Ohnishi, E. Mouzon, D.M. Dietz, M.K. Lobo, R.L. Neve, S.J. Russo, M.H. Han, E.J. Nestler (2012). BDNF is a negative modulator of morphine action, Science, 338 124-128.

22. V. Vialou, J. Feng, A.J. Robison, S.M. Ku, **D. Ferguson**, K.N. Scobie, M.S. Mazei-Robison, E. Mouzon, E.J. Nestler (2012). Serum response factor and cAMP response element binding protein are both required for cocaine induction of DeltaFosB, J Neurosci, 32 7577-7584.

23. D.M. Dietz, H. Sun, M.K. Lobo, M.E. Cahill, B. Chadwick, V. Gao, J.W. Koo, M.S. Mazei-Robison, C. Dias, I. Maze, D. Damez-Werno, K.C. Dietz, K.N. Scobie, **D. Ferguson,** D. Christoffel, Y. Ohnishi, G.E. Hodes, Y. Zheng, R.L. Neve, K.M. Hahn, S.J. Russo, E.J. Nestler (2012). Rac1 is essential in cocaine-induced structural plasticity of nucleus accumbens neurons, Nat Neurosci, 15 891-896.

24. T.E. Brown, B.R. Lee, P. Mu, **D. Ferguson,** D. Dietz, Y.N. Ohnishi, Y. Lin, A. Suska, M. Ishikawa, Y.H. Huang, H. Shen, P.W. Kalivas, B.A. Sorg, R.S. Zukin, E.J. Nestler, Y. Dong, O.M. Schluter (2011). A silent synapse-based mechanism for cocaine-induced locomotor sensitization, J Neurosci, 31 8163-8174.

25. A.T. Knoll, J.W. Muschamp, S.E. Sillivan, **D. Ferguson,** D.M. Dietz, E.G. Meloni, F.I. Carroll, E.J. Nestler, C. Konradi, W.A. Carlezon, Jr. (2011). Kappa opioid receptor signaling in the basolateral amygdala regulates conditioned fear and anxiety in rats, Biol Psychiatry, 70 425-433.

26. K. Psifogeorgou, D. Terzi, M.M. Papachatzaki, A. Varidaki, **D. Ferguson,** S.J. Gold, V. Zachariou (2011). A unique role of RGS9-2 in the striatum as a positive or negative regulator of opiate analgesia, J Neurosci, 31 5617-5624.

27. D.J. Christoffel, S.A. Golden, D. Dumitriu, A.J. Robison, W.G. Janssen, H.F. Ahn, V. Krishnan, C.M. Reyes, M.H. Han, J.L. Ables, A.J. Eisch, D.M. Dietz, **D. Ferguson,** R.L. Neve, P. Greengard, Y. Kim, J.H. Morrison, S.J. Russo (2011). IkappaB kinase regulates social defeat stress-induced synaptic and behavioral plasticity, J Neurosci, 31 314-321.

28. J.W. Koo, S.J. Russo, **D. Ferguson,** E.J. Nestler, R.S. Duman (2010). Nuclear factor-kappaB is a critical mediator of stress-impaired neurogenesis and depressive behavior, Proc Natl Acad Sci U S A, 107 2669-2674.

29. T.C. Dumas, T. Gillette, **D. Ferguson,** K. Hamilton, R.M. Sapolsky (2010). Anti-glucocorticoid gene therapy reverses the impairing effects of elevated corticosterone on spatial memory, hippocampal neuronal excitability, and synaptic plasticity, J Neurosci, 30 1712-1720.

30. R. Mitra, **D. Ferguson,** R.M. Sapolsky (2009). Mineralocorticoid receptor overexpression in basolateral amygdala reduces corticosterone secretion and anxiety, Biol Psychiatry, 66 686-690.

31. **D. Ferguson,** R. Sapolsky (2008). Overexpression of mineralocorticoid and transdominant glucocorticoid receptor blocks the impairing effects of glucocorticoids on memory, Hippocampus, 18 1103-1111.

32. **D. Ferguson,** S. Lin, R. Sapolsky (2008). Viral vector-mediated blockade of the endocrine stress-response modulates non-spatial memory, Neurosci Lett, 437 1-4.

33. **D. Ferguson**, R. Sapolsky (2007). Mineralocorticoid receptor overexpression differentially modulates specific phases of spatial and nonspatial memory, J Neurosci, 27 8046-8052.

34. A. Nicholas, C.D. Munhoz, **D. Ferguson,** L. Campbell, R. Sapolsky (2006). Enhancing cognition after stress with gene therapy, J Neurosci, 26 11637-11643.

35. M. Altemus, J. Fong, R. Yang, S. Damast, V. Luine, **D. Ferguson** (2004). Changes in cerebrospinal fluid neurochemistry during pregnancy, Biol Psychiatry, 56 386-392.

36. V. Bisagno, **D. Ferguson**, V.N. Luine (2003). Chronic D-amphetamine induces sexually dimorphic effects on locomotion, recognition memory, and brain monoamines, Pharmacol Biochem Behav, 74 859-867.

37. S.E. Alves, E. Hoskin, S.J. Lee, W.G. Brake, **D. Ferguson,** V. Luine, P.B. Allen, P. Greengard, B.S. McEwen (2002). Serotonin mediates CA1 spine density but is not crucial for ovarian steroid regulation of synaptic plasticity in the adult rat dorsal hippocampus, Synapse, 45 143-151.

38. V. Bisagno, **D. Ferguson,** V.N. Luine (2002). Short toxic methamphetamine schedule impairs object recognition task in male rats, Brain Res, 940 95-101.

Reviews, Book Chapters, and Commentaries

1. H.D. Kim, T. Call, S. Magazu, **D. Ferguson** (2017). Drug Addiction and Histone Code Alterations, Adv Exp Med Biol, 978 127-143.

2. **D. Ferguson** (2017). Cocaine Mediates the Cellular Mechanism of Satiation, Biol Psychiatry, 81 e47-e48.

Abstracts and Conference Proceedings

1. Luine, V. N. ; **Ferguson, D.** ; Kondo, Y. ; Sakuma, Y: Activation of dopamine in reward and lordotic circuits by sexual activity. 2001 Society for Neuroscience Meeting. San Diego, CA: Monday, November 12, **2001**

2. Bowman, R. E. ; **Ferguson, D**. ; Luine, V. N: Effects of chronic stress on ovariectomized rats with estrogen replacement. 2001 Society for Neuroscience Meeting. San Diego, CA: Tuesday, November 13, **2001**

3. Jacome, L.; **Ferguson,** D. ; Mohan, G. ; Luine, V. N. ; Frankfurt, M. Chronic estrogen and progesterone enhances visual and spatial memory and alters monoamines in rats. 2002 Society for Neuroscience Meeting. Orlando, FL: Monday, November 4, **2002**

4. Bisagno, V. ; **Ferguson, D**. ; Luine, V. Sexually dimorphic effects of amphetamine on cognitive tasks and monoamines in rats. 2002 Society for Neuroscience Meeting. Orlando, FL Monday, November 4, **2002**

5. Kaufer, D**.**; Ogle, W. O.; Pincus, Z. S.; Clark, K. L. ; Dinkel, K. M. ; Dumas, T. C.; **Ferguson, D**. ; Lee, A. L.; Meier, T. ; Sapolsky, R. M. Remodeling the neuronal stress response: genetic strategies to increase neuronal survival following neurological insults. 2003 Society for Neuroscience Meeting. New Orleans, LA: Saturday, November 8, **2003**

6. Nicholas, A. **Ferguson, D**.; Sapolsky, R. Hippocampal expression of a chimeric steroid receptor suggests genomic effects of estrogen protect against glucocorticoid induced spatial memory impairment. 2003 Society for Neuroscience Meeting. New Orleans, LA: Wednesday, November 12, **2003**

7. Niyomchai, T**.**; Russo, S. J.; Festa, E. D. ; **Ferguson, D**.; Jenab, S.[1] ; Luine, V. ; Quinones-Jenab, V. Ovarian hormones modulate levels of GABA after acute cocaine administration. 2003 Society for Neuroscience Meeting. New Orleans, LA: Wednesday, November 12, **2003**

8. Nicholas, A. C.; **Ferguson, D**. ; Tzvetanov, I. ; Sapolsky, R. M. Enhancing short-term memory retrieval during stress or stress hormone treatment with gene therapy. 2004 Society for Neuroscience Meeting. San Diego, CA: Tuesday, October 26, **2004**

9. **Ferguson, D.** ; Dumas, T. ; Sapolsky, R. M. Gene therapy to spare cognition from the disruptive effects of stress. 2004 Society for Neuroscience Meeting. San Diego, CA: Tuesday, October 26, **2004**

10. RS Duman, J Koo, SJ Russo, **D Ferguson**, EJ Nestler; NF-kappaB is an essential mediator of the IL-1beta induced anti-neurogenic and depressive-like actions of stress 2009 Society for Neuroscience Meeting. Chicago, IL: Sunday, Oct 18, **2009**

11. DM Dietz, I Maze, M Mechanic, V Vialou, KC Dietz, SD Iniguez, Q Laplant, SJ Russo, **D Ferguson,** EJ Nestler, 2009 Society for Neuroscience Meeting. Chicago, IL Sunday, Oct 18, **2009**

12. **D Ferguson,** V Krishnan, R Neve, EJ Nestler, SJ Russo; Chronic social defeat regulates NFKB signaling within the nucleus accumbens 2009 Society for Neuroscience Meeting. Chicago, IL: Monday, Oct 19, **2009**

13. J Koo, Q Laplant, MS Mazei-Robison, **D Ferguson**, DM Dietz, M Lobo, SJ Russo, MB Wilkinson, EJ Nestler; Role of BDNF in morphine regulation of gene expression and place conditioning. 2009 Society for Neuroscience Meeting. Chicago, IL: Wednesday, Oct 21, **2009**

14. **D Ferguson,** DM Dietz, I Maze, W Renthal, P Kennedy, J Koo, R Neve, V Sartorelli, EJ Nestler; Sirt1 regulates reward-related behaviors within the nucleus accumbens. 2010Society for Neuroscience Meeting. San Diego, CA: Sunday, Nov 14, **2010**

15. J Koo, MS Mazie-Robison, Q Laplant, DM Dietz, **D Ferguson,** M Lobo, YN Ohnishi, J Feng, YH Ohnishi, E Mouzon, MB Wilkinson, YL Hurd, SJ Russo, EJ Nestler; Role of BDNF in the VTA in regulating molecular and behavioral responses to morphine. 2010 Society for Neuroscience Meeting. San Diego, CA: Monday, Nov 15, **2010**

16. Christoffell DJ, SA Golden, D Dimitriu, HF Ahn, C Reyes, **D Ferguson**, D Dietz, WG Janssen, JH Morrison, SJ Russo; Essential role for NFκB in stress-induced synaptic plasticity and behavior. 2010 Society for Neuroscience Meeting. San Diego, CA: Tuesday, Nov 16, **2010**

17. J Koo, MS Mazei-Robison, M Lobo, DM Dietz, Q Laplant, **D Ferguson**, J Feng, H Sun, D Damez-Werno, K Scobie, YN Ohnishi, YH Ohnishi, E Mouzon, C Dias, AJ Robison, V Vialou, RL Neve, SJ Russo, EJ Nestler; Role of BDNF in the VTA in regulating molecular and behavioral responses to morphine. 2011 Society for Neuroscience Meeting. Washington, DC: Sunday, Nov 13, **2011**

18. S Golden, D Christoffel, G Hodes, F Ahn, J Magida, **D Ferguson**, M Mazei-Robison, S Russo; The role of the small RhoGTPase Rac1 in depression-like behavior and synaptic plasticity in the nucleus accumbens. 2011 Society for Neuroscience Meeting. Washington, DC: Wednesday, Nov 16, **2011**

19. **D Ferguson,** D Dietz, V Vialou, R. Neve, V Sartorelli, EJ Nestler; Novel role for sirtuin signaling mechanisms and downstream targets in depression. 2011 Society for Neuroscience Meeting. Washington, DC: Wednesday, Nov 16, **2011**

20. J Koo, M Mazei-Robison, **D Ferguson,** J Feng, H Adlman, E Mouzon, M Cahill, R Neve, M Lobo, EJ Nestler; Differnetial role of sox11 in opiate and cocaine addiction 2012 Society for Neuroscience Meeting. New Orleans, LA: Sunday, Oct 14, **2012**

21. J Feng, MB Wilkinson, X Liu, **D Ferguson**, V Vialou, P Kennedy, J Koo, C Dias, N Shao, I Maze, B Laitman, Q Laplant, M Cahill, L Shen, EJ Nestler; Cocaine induced transcriptome and epigenome changes in mouse nucleus accumbens. 2012 Society for Neuroscience Meeting. New Orleans, LA: Monday, Oct 15, **2012**

22. D Chaudhury, JJ Walsh, B Juarez, AK Friedman, J Koo, **D Ferguson**, HC Tsai, L Pomeranz, S Ku, DJ Christoffel, E Mouzon, M Lobo, RL Neve, JM Friedman, S Russo, K Deisseroth, EJ Nestler, MH Han. Optogenetic dissection of the functional role of the firing patterns of ventral tegmental area dopamine neurons in encoding behavioral susceptibility to social defeat stress. 2012 Society for Neuroscience Meeting. New Orleans, LA: Tuesday, Oct 16, **2012**

23. JJ Walsh, D Chaudhury, AK Friedman, B Juarez, HC Tsai, SM Ku, J Koo, **D Ferguson**, DJ Christoffel, E Mouzon, L Pomeranz, RL Neve, JM Friedman, M Lobo, S Russo, K Deisseroth, EJ Nestler, MH Han. The functional contribution of projection-specific midbrain dopamine neurons in social defeat stress. 2012 Society for Neuroscience Meeting. New Orleans, LA: Tuesday, Oct 16, **2012**

24. **D Ferguson,** N Shao, J Koo, J Feng, V Vialou, D Dietz, I Maze, X Liu, P Kennedy, W Renthal, R Neve, L Shen, V Sartorelli, EJ Nestler; Next generation sequencing using ChIP-Seq highlights an essential role for SIRT1 in emotional plasticity. 2012 Society for Neuroscience Meeting. New Orleans, LA: Wednesday, Oct 17, **2012**

25. L Shen, J Feng, M Wilkinson, **D Ferguson**, V Vialou, X. Liu, I Maze, N Shao, J Koo, P Kennedy, C Dias, Q Laplant, M Cahill, EJ Nestler; Epigenetic regulation of cocaine action in mouse nucleus accumbens. 2013 Society for Neuroscience Meeting. San Diego, CA: Saturday, Nov 09, **2013**

26. CM Dias, J Feng, H Sun, M Mazei-Robison, D Damez-Werno, K Scobie, NY Shao, P Kennedy, V Vialou, R Bagot, M Cahill, **D Ferguson,** S Ghose, C Tamminga, R Neve, L Shen, EJ Nestler. β-catenin mediates the development of behavioral resilience. 2013 Society for Neuroscience Meeting. San Diego, CA: Saturday, Nov 09, **2013**

27. E Heller, H Cates, H Sun, **D Ferguson**, R Neve, S Knight, F Zhang, S Zhang, EJ Nestler; Locus specific epigenetic reprogramming: Bidirectional regulation of the FosB gene using synthetic transcription factors *In vivo.* 2013 Society for Neuroscience Meeting. San Diego, CA: Saturday, Nov 09, **2013**

28. JJ Walsh, AK Friedman, H Sun, SM Ku, EA Heller, B Juarez, **D Ferguson**, M Mazei-Robison, SA Golden, D Chaudhury, DJ Christoffel, L Pomeranz, JM Friedman, SJ Russo, EJ Nestler, MH Han; Phasic firing-specific regulation of bdnf in vta-to-nac pathway is stress-contextual dependent. 2013 Society for Neuroscience Meeting. San Diego, CA: Tuesday, Nov 12, **2013**

29. J Feng, KE Szulwach, V Vialou, J Huyny, N Shao, T Le, **D Ferguson,** J Koo, P. Kennedy, C Dias, H Song, P Cassaccia, G Fan, L Shen, P Jin, EJ Nestler; Role of TET1 and 5-hydroxymethylcytosine in cocaine action. 2013 Society for Neuroscience Meeting. San Diego, CA: Tuesday, Nov 12, **2013**

30. H. Kronman, B. Labonté, E. Ribeiro, I. Purushothaman, C. Peña, O. Engmann, M. Cahill O. Issler, **D. Ferguson**, H. Sun, E. Nestler; RNA-Seq on FACs-isolated medium spiny neurons reveals distinct roles for D1 and D2 cells at baseline and in response to chronic stress. Society for Neuroscience Meeting. San Diego, CA: November 12, **2016**

31. HD Kim, J Hesterman, T Call, S Carotenuto, K Armenta, **D Ferguson**; Cell-type specific actions of SIRT1 in the nucleus accumbens mediate depression-like behaviors. Society for Neuroscience Meeting. San Diego, CA: November 12, **2016**

32. T. Call, HD Kim, J Hesterman, S Magazu, E Keeley, K Armenta, R Neve, EJ Nestler, **D Ferguson**; Sirt1 mediates depression-like behaviors in the nucleus accumbens. Society for Neuroscience Meeting. San Diego, CA: November 12, **2016**

33. HD Kim, T Call, S Carotenuto, R Johnson, M Tang, **D Ferguson**; Cell-type specific SIRT1 signaling pathways in the nucleus accumbens modulate depression-like behaviors. 2017 Society for Neuroscience Meeting. Washington, DC: November 13, **2017**

34. T Call, HD Kim, A Summers, NT Quintus, R Johnson, **D Ferguson**; Nucleus accumbens expression of SIRT1 mediates cell-type specific alterations in neuronal morphology in a mouse model of depression. 2019 Society for Neuroscience Meeting. Chicago, IL: October 23, **2019**

Administrative Service

Department Committees and Service

2014-2017 Seminar Committee
2016-2018 Early Stage Investigator Committee
2016-2018 Executive Committee
2018-2020 Mentoring Committee
2020-present Annual Promotions and Tenure Committee
2021-present Research Space Committee

College Committees and Service

2014-2015 Multiple-Mini Medical Student Interviewer
2017-218 LCME Workgroup
2017-2018 REBELs Curriculum Workgroup
2017-2018 Search Committee for Molecular Medicine Faculty
2020-present Honors and Awards Committee
2020-2021 Search Committee for Medical Microbiology Faculty
2020-2021 Search Committee for Chair of Psychiatry Department
2021-2022 Search Committee for Chair of Translational Neuroscience Department
2022-present Pathway Scholars Program Admissions Committee

National/International Service

Grant Reviewer

2015 Swiss Science National Foundation External Grant Review Committee
2017 Ad Hoc Reviewer for NIH Study Section: NIMH-NMB
2018 Israeli Science Foundation
2018 Hunter College SCORE External Grant Reviewer
2018 Valley Research Partnership Study Section
2018 Ad Hoc Reviewer for NIH Study Section: NIMH-MNPS
2019 Ad Hoc Reviewer for NIH Study Section: NIMH-MNPS
2022 Ad Hoc Reviewer for NIH Study Section: ZRG1-IFCN-U

Community Outreach

2015-Present Mentor UA-COM Pathway Scholarly Project program
2018-2020 Mentor ASU's Black Graduate Student (BGS) program
2018-2020 Mentor Hispanic Scholarship Fund
2019-2020 Mentor Internal Advisory Board for ASU's Workforce inclusion in neuroscience through undergraduate research experience (WINURE)

Journal Editorial Activity

2018-Present Editorial Board, *Life Sciences (Elsevier)*
2021-2022 Editorial Board, *Discover Mental Health (Springer Nature)*
2022-Present Editorial Board, *Molecular Psychiatry (Springer Nature)*

Ad Hoc Journal Reviewer

Biological Psychiatry, Translational Psychiatry, eNeuro, Behavioral Brain Research, Journal of Neuroscience, Neuropsychopharmacology, Life Sciences, Nature Communications, Molecular Psychiatry, Genes, Brain and Behavior, Physiology and Behavior, Progress in Neuropsychopharmacology

Professional Societies

2002-Present Society for Neuroscience (SFN)
2007-Present International Behavioral Neuroscience Society (IBNS)
2008-Present International Society of Psychoneuroendocrinology (ISPE)

University Committees and Service

Media

Print/online

2007 Stanford School of Medicine News Article. *Gene pool: new therapy improves*

Memory and learning. Nov. 8, 2007
https://news.stanford.edu/news/2006/november8/stress-110806.html

2009 CSRWire. *Nation's Top 37 Minority Students Awarded Prestigious UNCF/Merck Science and Scholarship & Fellowships.* Jun. 6, 2009
https://www.csrwire.com/press_releases/27251
-nation-s-top-37-minority-students-awarded-
prestigious-uncf-merck-science-scholarships-fellowships

2014 ScienceDaily. *Brain protein influences how the brain manages stress*
Nov. 9, 2014
https://www.sciencedaily.com/releases/2014/11/141112131923.htm

2016 ScienceNews. *Aging related protein may play a role in depression*
Aug. 9, 2016
https://www.sciencenews.org/article/
Aging-related-protein-may-play-role-depression

2016 Statepress. *Protein connection to depression could lead to new med*
Nov. 10, 2016
https://www.statepress.com/article/2016/11/
sp-magazine-new-connection-could-lead-to-beter-depression-meds

2016 Brain and Behavior News. *Sirt1 Protein May Play Important Role in Depression.*
Sept. 1, 2016
https://www.bbrfoundation.org/content/sirt1-protein-may-play-important-role-regulating-depressive-behaviors

2017 EurekAlert! The Global Source for Science News. *UA researcher receives NIH Grant to discover novel antidepressants.* Dec. 6, 2017
https://www.eurekalert.org/news-releases/860363

2017 13newsnow. *College gets grant for research into depression treatments.* Dec. 6, 2017
https://www.13newsnow.com/article/news/college-gets-grant-for-research-into
-depression-treatments/291-497549033

2017 SFN Neuronline. *A novel and circuit-specific role for Sirt1 in depression.*
Mar. 9, 2017

Https://neuronline.sfn.org/scientific-research/a-novel-cell-and-circuit-specific-role-for-sirt1-in-depression

2017 Associated Press. C*ollege gets grant for research on depression.* Dec. 7, 2017 https://apnews.com/article/66f971712833410398194c215bb8228e

2017 Health Sciences Connect. *Researchers Awarded a Highly Competitive NIH grant.* Aug. 16th, 2017 https://phoenixmed.arizona.edu/about/news/researchers-awarded-highly-competitive-nih-grant

2019 Health Sciences Connect. *Graduate Student Awarded Scholarship.* Feb. 5th, 2019 https://healthsciences.arizona.edu/connect/honors/dr-deveroux-ferguson-recognized-

2021 Health Sciences Connect. *Dr. Deveroux Ferguson Recognized As Inspiring Black Scientist.* Jun. 8th, 2021 https://healthsciences.arizona.edu/connect/honors/dr-deveroux-ferguson-recognized-

Conferences Seminars

- January 2015. Arizona State University. Phoenix, AZ
- March 2015. University of Arizona. Tucson, AZ
- April 2015 ASU, Tempe, AZ. ASU Neuroscience Symposium.

TEACHING

Teaching Titles and Responsibilities

Associate Professor, Department of Basic Medical Sciences
Associate Professor, Department of Psychiatry
Associate Professor, Clinical Translational Science
Adjunct Associate Professor of Neuroscience (ASU)

Medical School Case-Based Instruction Section Facilitator:
2014-present Musculoskeletal Nervous System I Block, *biweekly*
2014-present Nervous System II Block, *biweekly*
2021-present Reproduction, Endocrine & Behavior Through the Lifespan, *biweekly*

2021-present Molecular Basis of Life and Disease, *biweekly*
2021-present Oncology, *biweekly*

2021-present Director Musculoskeletal Nervous System Pathway Scholars Graduate Program

Individual Student Contact

Trainee Awards (Resulting from collaboration on grant and fellowship applications and projects)

Hee-Dae Kim, Ph.D., Post-doctoral Fellow-
2017-2019 NARSAD Young Investigator Award
2018 Cold Spring Harbor Laboratory course support Award

Tanessa Call, Graduate Student-
2019 Harry Lowell Swift Award
2019 ARCS Fellowship

Advising:

Medical Students

Sandy Peoples	2016-2020	MD, Resident UCLA Medical Center

Undergraduate Students

Samantha Magazu	2014-2018	Graduate Student
Ross Johnson	2016-2020	Medical Student
Katheleen Johnstonbaugh	2015-2016	Medical Student
Alex Summers	2019-2021	Graduate Student
Julia Jackman	2019-2020	Undergraduate Student

Graduate Students

Tanessa Call	2014-present	Graduate Student, ASU IGPN
Jennifer Hesterman	2015-2018	Graduate Student, ASU IGPN
Sara Knowles	2017-2018	Graduate Student, ASU IGPN
Broc Pagni	2017-2018	Graduate Student, ASU IGPN
Nicole Quintus	2019-2021	Graduate Student, UA CTS

Post-Doctoral Fellows

Hee-Dae Kim, PhD	2014-present	Assistant Scientific Researcher

Dissertations directed and in progress

Nicole Quintus	MA	Masters in Clinical Translational Science
Tanessa Call	Ph.D.	Interdisciplinary Graduate Program Neuroscience

Service on dissertation and graduate committees

Megan Rudolph	Ph.D. (2020)	Interdisciplinary Graduate Program Neuroscience
Kimberly Meyers	Ph.D. (2020)	Interdisciplinary Graduate Program Neuroscience
Nicholas Brookhouser	Ph.D. (2020)	Clinical Translational Science
Annika Vannan	Ph.D. (2022)	Interdisciplinary Graduate Program Neuroscience
Mark Namba	Ph.D. (2022)	Interdisciplinary Graduate Program Neuroscience

Graduate Student Laboratory Rotations

Jennifer Hesterman	2015-2018	Graduate Student, ASU IGPN
Sara Knowles	2017-2018	Graduate Student, ASU IGPN
Broc Pagni	2017-2018	Graduate Student, ASU IGPN

Contributions to Instructional Innovations

2022	Redesigned Pathway Scholars Program Neuroscience Curriculum