

## CURRICULUM VITAE

### **Torsten Falk, Ph.D.**

#### **Professor**

Director of the Preclinical Parkinson's disease Laboratory

Department of Neurology

College of Medicine - Tucson

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### EDUCATION

- 09/84-08/85 **Study of Biology and Chemistry** at the University of Kaiserslautern, Kaiserslautern, Germany
- 09/85-04/92 **Study of Biology** at the University of Kaiserslautern, Kaiserslautern, Germany
- 05/92-06/95 **Study of Neurobiology** at the Institute for Cellular Biochemistry and Clinical Neurobiology, UKE, University of Hamburg, Hamburg, Germany

### DEGREES

- 04/1992 **Diplomarbeit (Masters thesis)** "Generation of a temperature sensitive plasmid replication mutant of the Streptomyces plasmid SCP 2\*" at the Department of Genetics, University of Kaiserslautern, Kaiserslautern, Germany; Supervisor: Prof. J.A. Cullum
- 05/1996 **Ph.D. thesis** "Cloning, mRNA distribution and functional characterization of an inwardly rectifying potassium channel" at the Institute for Cellular Biochemistry and Clinical Neurobiology, UKE, University of Hamburg, Hamburg, Germany; Supervisor: Prof. D. Richter

### POSTGRADUATE EDUCATION

- 07/95-01/96 **Postgraduate research** in the laboratory of Prof. J.R. Schwarz, Department of Applied Physiology, UKE, University of Hamburg, Hamburg, Germany
- 11/96-01/01 **Postdoctoral research** in the laboratory of Prof. A.J. Yool, Department of Physiology, University of Arizona, College of Medicine, Tucson, AZ
- 06/2001 The NEURON Simulation Environment-Summer Course in San Diego, CA

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04/2010 Neurostereology Workshop Special Topics Course at the Marine Biological Laboratory Woods Hole, MA

## **ACADEMIC APPOINTMENTS**

02/01-10/03 **Research Assistant Professor** in the Department of Physiology, University of Arizona, College of Medicine, Tucson, AZ

11/03-01/09 **Assistant Professor** in the Department of Neurology, University of Arizona, College of Medicine, Tucson, AZ

01/09-09/10 **Research Assistant Professor** in the Department of Neurology, University of Arizona, College of Medicine, Tucson, AZ

09/06-09/10 **Research Assistant Professor**, Physiological Sciences GIDP, University of Arizona, Tucson, AZ

10/10-06/17 **Assistant Professor, Neurology** - Research Scholar Track, University of Arizona, College of Medicine, Tucson, AZ

10/10-06/17 **Assistant Professor, Physiological Sciences Graduate Interdisciplinary Program (GIDP)** – (Non-Tenure Eligible), University of Arizona, Tucson, AZ

02/16-04/18 **Assistant Professor, Pharmacology** – (Non-Tenure Eligible), University of Arizona, College of Medicine, Tucson, AZ

08/16-06/17 **Assistant Professor, Neuroscience Graduate Interdisciplinary Program (GIDP)** – (Non-Tenure Eligible), University of Arizona, Tucson, AZ

07/17-06/24 **Associate Research Professor, Neurology** - Career Track, University of Arizona, College of Medicine, Tucson, AZ

07/17-07/24 **Associate Professor, Physiological Sciences Graduate Interdisciplinary Program (GIDP)** – (Non-Tenure Eligible), University of Arizona, Tucson, AZ

07/17-07/24 **Associate Professor, Neuroscience Graduate Interdisciplinary Program (GIDP)** – (Non-Tenure Eligible), University of Arizona, Tucson, AZ

04/18-07/24 **Associate Professor, Pharmacology** – (Non-Tenure Eligible), University of Arizona, College of Medicine, Tucson, AZ

07/24-present **Research Professor, Neurology** - Career Track, University of Arizona, College of Medicine, Tucson, AZ

08/24-present **Professor, Physiological Sciences Graduate Interdisciplinary Program (GIDP)** – (Non-Tenure Eligible), University of Arizona, Tucson, AZ

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08/24-present **Professor, Neuroscience Graduate Interdisciplinary Program (GIDP)** – (Non-Tenure Eligible), University of Arizona, Tucson, AZ

08/24-present **Research Professor, Pharmacology** – (Non-Tenure Eligible), University of Arizona, College of Medicine, Tucson, AZ

## **HONORS AND AWARDS**

01/09/1998 Chair of the Ion Channel Session at the 1998 Meeting of the Arizona Chapter-Society for Neuroscience in Phoenix, AZ.

11/06/1999 Chair of the Receptor and Ion Channel Session at the 1999 Meeting of the Arizona Chapter-Society for Neuroscience in Flagstaff, AZ.

11/06/2007 Chair of the ‘Parkinson’s disease: Therapeutics’ Session at the Society for Neuroscience Meeting 2007 in San Diego.

2015 Travel Stipend for the 35th Blankenese Conference: *Brain Repair: From Regeneration to Cellular Reprogramming*, Hamburg, Germany

2019 Travel Stipend for the 39th Blankenese Conference: *Signaling in Health and Disease*, Hamburg, Germany

2023 Received the *University of Arizona College of Medicine, Tucson, Faculty Excellence – Basic and Translational Investigator Award*

## **SERVICE AND OUTREACH**

### MEMBERSHIPS

1997-present Member, Society for Neuroscience (SfN)

2000-2010 Member, American Physiological Society (APS)

2011-2012 Member, Council on Undergraduate Research (CUR)

2016-present Member, International Parkinson and Movement Disorder Society (MDS)

2018-2019 Institutional Membership, Council on Undergraduate Research (CUR)

### National and International Service

2005-present *Ad hoc* reviewer for:  
“Molecular Genetics and Metabolism”,  
“Life Sciences”,  
“Neuroscience”,  
“Experimental Neurology”,  
“Neuroscience Letters”,  
“Neuropharmacology”,  
“Journal of Pharmacy and Pharmacology”,  
“Neurosignals”,  
“Journal of Biomedicine and Biotechnology”,

- “Medical Science Monitor”,  
“BMC Neuroscience”,  
“ACS Chemical Neuroscience”,  
“International Journal of Nanomedicine”,  
“Neurobiology of Disease”,  
“Cell Biology and Toxicology”,  
“Brain Research Bulletin”,  
“Brain Research”,  
“FEBS Letters”,  
“Brain”,  
“Scientific Reports –Nature”  
“Journal of the Neurological Sciences”  
“Neurotoxicity Research”  
“Journal of Neurochemistry”  
“Frontiers in Neuroscience”  
“Frontiers in Neuropharmacology”  
“Psychopharmacology”  
“Frontiers in Neural Circuits”
- 2007 *Ad hoc* reviewer for the National Science Foundation  
2007 *Ad hoc* reviewer for the Muscular Dystrophy Association  
2011 Invited reviewer for the Estonian Science Foundation  
2013/2014 Invited reviewer for the Parkinson's Disease Foundation (PDF) main grant cycle for International Research Grants and Postdoctoral Fellowships  
2014-present *Ad hoc* reviewer for the Parkinson's UK Foundation  
2014-present *Ad hoc* reviewer for the Michael J. Fox Foundation for Parkinson's Research  
2014/2015 Invited Reviewer for the Parkinson's Disease Foundation (PDF) and American Parkinson's Disease Association (APDA) Summer Student Fellowship Applications  
2015 Invited reviewer for Fonds National de la Recherche Luxembourg  
2016-2022 Member, Fellowships and Postdoctoral Grant Review Committee for the Parkinson's Foundation (PF)  
2017 Invited reviewer for the Research Foundation of the City University of New York (RFCUNY)  
2021 Invited reviewer for Fonds National de la Recherche Luxembourg  
2021-present Associate Editor, “Neurological Drugs”, a section of “Frontiers in Drug Discovery”  
2022 Invited to review for the Del Monte Neuroscience Pilot Grant Program University of Rochester Medical Center  
2022 *Ad hoc* reviewer, NIH study section: Clinical Neurotransmitters and Neuroplasticity (CNNT) panel  
2023 Invited reviewer for Arizona Alzheimer's Disease Research Center Grants  
2023-2027 Standing Member, NIH Clinical Neuroplasticity and Neurotransmitters Study Section (CNNT), Brain Disorders and Clinical Neuroscience Integrated Review Group (BDCN)  
2024 Invited to review for the Del Monte Neuroscience Pilot Grant Program University of Rochester Medical Center

College - University of Arizona Service

2005-2010	Experimental radiation shared services team
2006-2008	<i>Ad hoc</i> reviewer for the Faculty Small Grants Program
2006-present	Member, Physiological Sciences Graduate Interdisciplinary Program
2011-2016	<i>Ad hoc</i> interviewer for admission to the Neuroscience Graduate Interdisciplinary Doctoral Program
2014-present	<i>Ad hoc</i> interviewer for admission to the Arizona Biological and Biomedical Sciences Graduate Program
2016-present	Member, Medical Pharmacology Graduate Program
2016-present	Member, Neuroscience Graduate Interdisciplinary Program
2018-2021	Member, Graduate Student Admissions and Recruitment Committee (GSARC) for the Neuroscience Graduate Interdisciplinary Doctoral Program
2022	Reviewer for the ‘Innovations in Healthy Aging: Grand Challenges in Healthy Aging’ seed grant competition
2022-2024	<i>Ad hoc</i> interviewer for admission to the Neuroscience Graduate Interdisciplinary Doctoral Program
2023-present	Member, PD Focus group
2023-2026	Chair, UA COM-T Medical Student Research Committee
2024	Reviewer, Faculty Awards Committee, COM-T
2024-present	Member, Graduate Student Admissions and Recruitment Committee (GSARC) for the Neuroscience Graduate Interdisciplinary Doctoral Program

Department of Neurology Service

2011-2013	Member, Neurology Website Committee
2014-2015	Member, Space Committee of the Department of Neurology
2016	Member, Neurology Research Strategic Plan - Committee B
2020-2023	HIPPA Liaison for the Department of Neurology
2023-present	Member, Grand Rounds Planning Committee
2023-2024	Member, Seven-Year Review Self-Evaluation Committee

Outreach

2007-2012	Outreach Speaker at the bimonthly University of Arizona Parkinson’s Research Lab tour series
02/22/2013	Lecture for the “Parkinson Disease Interest Group” Voyager RV Resort, Tucson, AZ
04/15/2014	Lecture on Strategies for the Treatment of Parkinson's disease at “Tucson Medical Center's Brain Week” Speaker Series at Tucson Medical Center, Tucson, AZ
08/21/2014	Lecture on Parkinson’s disease Research at the “Arizona Senior Academy”, Tucson, AZ
09/13/2014	Talk at the National Parkinson Foundation event “PD Taking Center Stage” in Phoenix, AZ
10/03/2014	Lecture on Parkinson’s disease at the East Center in Green Valley, AZ
04/21/2015	Parkinson’s Research Lab tour
05/13/2015	Lecture on Parkinson’s research at the Tucson Jewish Community Center, Tucson, AZ

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- 12/14/2015 Brown bag lunch talk on Parkinson's disease at UAHS Development Department, UA, Tucson, AZ
- 01/22/2016 Speaker at the American Parkinson's Disease Association "Power Over Parkinson's" Symposium, Tucson, AZ
- 10/19/2016 Speaker at the Oro Valley Parkinson's Disease Group, Oro Valley, AZ
- 11/12/2016 Presentation: Schmitt MB, Dollish HK\*, **Falk T**, Cowen SL; *BRAIN AWARENESS CAMPAIGN EVENT* at Society for Neuroscience Meeting in San Diego; "BRIAN: The Brains of Neuroscience Outreach";  
\*Graduate Student Trainee
- 06/05/2023 Lecture at the Parkinson Wellness Recovery! (PWR!) Gym Annual PWR! Retreat, Tucson, AZ

## PUBLICATIONS

### PEER-REVIEWED PUBLICATIONS

1. **Falk T**, Meyerhof W, Corrette BJ, Schaefer J, Bauer CK, Schwarz JR, Richter D; Cloning, functional expression and mRNA distribution of an inwardly rectifying potassium channel protein. *FEBS Letters* 1995; 367:127-131. [\[PubMed\]](#)
2. Bauer CK, **Falk T**, Schwarz JR; An endogenous inactivating inwardly rectifying potassium current in oocytes of *Xenopus laevis*. *Pflügers Archive, European Journal of Physiology* 1996; 432:812-820. [\[PubMed\]](#)
3. **Falk T**, Muller YL, Yool AJ; Differential expression of three classes of voltage-gated Ca<sup>2+</sup> channels during maturation of the rat cerebellum *in vitro*. *Developmental Brain Research* 1999; 115(2):161-170. [\[PubMed\]](#)
4. **Falk T**, Garver WS, Erickson RP, Wilson JM, Yool AJ; Expression of Niemann-Pick type C transcript in rodent cerebellum *in vivo* and *in vitro*. *Brain Research* 1999; 839(1):49-57. (Communicating Author) [\[PubMed\]](#)
5. **Falk T**, Strazdas LA, Borders RS, Kilani RK, Yool AJ, Sherman SJ; A herpes simplex viral vector expressing green fluorescent protein can be used to visualize morphological changes in high-density neuronal culture. *Electronic Journal of Biotechnology* 2001; 15 April 2001, 4(1) 20-21. Available from: <http://ejb.ucv.cl/content/vol4/issue1/full/5/index.html>. [\[PubMed\]](#)
6. **Falk T**, Kilani RK, Yool AJ, Sherman SJ; Viral-vector mediated expression of K<sup>+</sup> channels regulates excitability in skeletal muscle. *Gene Therapy* 2001; 8(18):1372-1379. (Communicating Author) [\[PubMed\]](#)
7. **Falk T**, Kilani RK, Borders RS, Strazdas LA, Steidl JV, Yool AJ, Sherman SJ; Developmental regulation of the A-current in hippocampal neurons: Role of the Kvβ1.1 potassium channel subunit. *Neuroscience* 2003; 120(2):387-404. [\[PubMed\]](#)
8. **Falk T**, Zhang S, Erbe EL, Sherman SJ; Neurochemical and electrophysiological characteristics of rat striatal neurons in primary culture. *Journal of Comparative Neurology* 2006; 494:275-289. [\[PubMed\]](#)
9. McKay BS, Goodman B, **Falk T**, Sherman SJ; Retinal pigment epithelial cell transplantation could provide trophic support in Parkinson's disease: results from an *in vitro* model system. *Experimental Neurology* 2006; 201:234-243. [\[PubMed\]](#)
10. **Falk T**, Xie JY\*, Zhang S, Kennedy J, Bennett J, Yool AY, Sherman SJ; Over-expression of the potassium channel Kir2.3 using the dopamine-1 receptor promoter

- selectively inhibits striatal neurons. *Neuroscience* 2008; 155:114-127. (Communicating Author) [\[PubMed\]](#)
11. **Falk T**, Zhang S, Sherman SJ; PEDF is neurotrophic and neuroprotective in two *in vitro* models of Parkinson's disease. *Neuroscience Letters* 2009; 458:49-52. (Communicating Author) [\[PubMed\]](#)
  12. **Falk T**, Zhang S, Sherman SJ; Vascular endothelial growth factor B is up-regulated and exogenous VEGF-B is neuroprotective in a culture model of Parkinson's disease. *Molecular Neurodegeneration* 2009; 4:49. (Communicating Author) [\[PubMed\]](#)
  13. **Falk T**, Gonzalez RT\*, Sherman SJ; The Yin and Yang of VEGF and PEDF: Multifaceted Neurotrophic Factors and their Potential in the Treatment of Parkinson's disease. *International Journal of Molecular Sciences* 2010; 11:2857-2900. (Communicating Author; peer-reviewed, invited review) [\[PubMed\]](#)
  14. **Falk T**, Yue X\*, Zhang S, McCourt AD\*, Yee BJ, Gonzalez RT\*, Sherman SJ; Vascular endothelial growth factor B is neuroprotective in an *in vivo* model of Parkinson's disease. *Neuroscience Letters* 2011; 496:43-47. (Communicating Author) [\[PubMed\]](#)
  15. Yue X\*, **Falk T**, Zuniga LA\*, Szabò L, Porreca F, Polt R, Sherman SJ; Effects of the opioid agonist MMP-2200 in preclinical models of Parkinson's disease. *Brain Research* 2011; 1413:72-83. (Communicating Author) [\[PubMed\]](#)
  16. **Falk T**, Congrove NR, Zhang S, McCourt AD\*, Sherman SJ, McKay BS; PEDF and VEGF-A output from human retinal pigment epithelium cells grown on novel microcarriers. *Journal of Biomedicine and Biotechnology* 2012; Article ID 278932, 8 pages; doi.org/10.1155/2012/278932. (Communicating Author) [\[PubMed\]](#)
  17. Mabrouk OS, **Falk T**, Sherman SJ, Kennedy RT, Polt R; Brain uptake of the opioid glycopeptide MMP-2200 – a microdialysis study. *Neuroscience Letters* 2012; 531(2):99-103. (Communicating Author) [\[PubMed\]](#)
  18. Yue X\*, Hariri DJ\*, Caballero B\*, Zhang S, Bartlett MJ\*, Kaut O, Mount DW, Wüllner U, Sherman SJ, **Falk T**; Comparative study of neurotrophic effects by VEGF-B and GDNF in preclinical *in vivo* models of Parkinson's disease. *Neuroscience* 2014; 258:385-400. (Communicating Author) [\[PubMed\]](#)
  19. Flores AJ\*, Bartlett MJ\*, So LY\*, Laude ND, Parent KL, Heien ML, Sherman SJ, **Falk T**; Differential effects of the NMDA receptor antagonist MK-801 on dopamine 1 and 2 receptor-induced abnormal involuntary movements in a preclinical model. *Neuroscience Letters* 2014; 564:48-52. (Communicating Author) [\[PubMed\]](#)
  20. Bartlett MJ\*, Joseph RM\*, LePoidevin LM\*, Parent KL, Laude ND, Lazarus LB, Heien ML, Estevez M, Sherman SJ, **Falk T**; Long-term effect of sub-anesthetic ketamine-infusion in reducing L-DOPA-induced dyskinesia. *Neuroscience Letters* 2016; 612:121-125. (Communicating Author) [\[PubMed\]](#)
  21. Sherman SJ, Estevez M, Magill AR, **Falk T**; Case reports showing a long-term effect of subanesthetic ketamine infusion in reducing L-DOPA-induced dyskinesias. *Case Reports in Neurology* 2016; 8:53-58. [\[PubMed\]](#)
  22. Caballero B\*, Sherman SJ, **Falk T**; Insights into mechanism of the protective effects of VEGF-B in dopaminergic neurons. *Parkinson's Disease* 2017; vol. 2017, Article ID 4263795, 13 pages, 2017. doi:10.1155/2017/4263795. (Communicating Author; peer-reviewed review) [\[PubMed\]](#)
  23. Ye T\*, Bartlett MJ\*, Schmitt MB, Sherman SJ, **Falk T**, Cowen SL; Ten-Hour Exposure to Ketamine Enhances Corticostriatal Cross-Frequency Coupling and Broad-Band Gamma Oscillations in the Hippocampus. *Frontiers in Neural Circuits* 2018; 12:61. doi: 10.3389/fncir.2018.00061. [\[PubMed\]](#)

24. Flores AJ\*, Bartlett MJ\*, Root BK\*, Parent KL, Heien ML, Porreca F, Polt R, Sherman SJ, **Falk T**; The combination of the opioid glycopeptide MMP-2200 and a NMDA receptor antagonist reduced L-DOPA-induced dyskinesia and MMP-2200 by itself reduced dopamine receptor 2-like agonist-induced dyskinesia. *Neuropharmacology* 2018; 141:260-271. (Communicating Author) [\[PubMed\]](#)
25. Hay M, Polt R, Heien ML, Vanderah TW, Largent-Milnes TM, Rodgers K, **Falk T**, Bartlett MJ\*, Doyle KP, Konhilas JP; A Novel Angiotensin-(1-7)-glycosylated Mas Receptor Agonist for Treating Vascular Cognitive Impairment and Inflammation Related Memory Dysfunction. *Journal of Pharmacology and Experimental Therapeutics* 2019; 369:9-25. [\[PubMed\]](#)
26. Bartlett MJ\*, So LY\*, Szabò L, Skinner DP, Parent KL, Heien ML, Vanderah TW, Polt R, Sherman SJ, **Falk T**; Highly-selective  $\mu$ -opioid receptor antagonism does not block L-DOPA-induced dyskinesia in a rodent model. *BMC Research Notes* 2020; 13:149. <https://doi.org/10.1186/s13104-020-04994-7>. (Communicating Author) [\[PubMed\]](#)
27. Crown LM, Bartlett MJ\*, Eby AJ, Monroe EJ, Gies K, Wiegand JP, Wohlford L, Fell MJ, **Falk T**, Cowen SL; Sleep spindles and fragmented sleep as prodromal markers in LRRK2 G2019S Parkinson's disease. *Frontiers in Neurology* 2020; 11:324; doi: 10.3389/fneur.2020.00324 [\[PubMed\]](#)
28. Bartlett MJ\*, Flores AJ\*, Ye T\*, Smidt SI\*, Dollish HK\*, Stancati JA, Farrell DC, Parent KL, Doyle KP, Besselsen DG, Heien ML, Cowen SL, Steece-Collier K, Sherman SJ, **Falk T**; Preclinical evidence in support of repurposing sub-anesthetic ketamine as a treatment for L-DOPA-induced dyskinesia. *Experimental Neurology* 2020; 333C:113413. (Communicating Author) [\[PubMed\]](#)
29. Bartlett MJ\*, Mabrouk OS, Szabò L, Flores AJ\*, Parent KL, Bidlack JM, Heien ML, Kennedy RT, Polt R, Sherman SJ, **Falk T**; The delta-specific opioid glycopeptide BBI-11008: CNS penetration and behavioral analysis in a preclinical model of L-DOPA-induced dyskinesia. *International Journal of Molecular Sciences* 2020, 22(1), 20; <https://doi.org/10.3390/ijms22010020>. Special Issue: "Peptides for Health Benefits 2020" (Communicating Author) [\[PubMed\]](#)
30. Young KF, Gardner R, Sariana V, Bartlett MJ\*, **Falk T**, Morrison HW; Can quantifying morphology and TMEM119 expression distinguish between microglia and infiltrating macrophages after ischemic stroke and reperfusion in male and female mice? *Journal of Neuroinflammation* 2021; 18(1):58. [\[PubMed\]](#)
31. Ye T\*, Bartlett MJ\*, Sherman SJ, **Falk T**, Cowen SL; Spectral Signatures of L-DOPA-Induced Dyskinesia Depend on L-DOPA Dose and are Suppressed by Ketamine. *Experimental Neurology* 2021; 340:113670. [\[PubMed\]](#)
32. Pottenger AE\*, Bartlett MJ\*, Sherman SJ, **Falk T**, Morrison HW; Evaluation of Microglia in a rodent model of Parkinson's disease primed with L-DOPA after sub-anesthetic ketamine treatment. *Neuroscience Letters* 2021, 765:136251. [\[PubMed\]](#)
33. Apostol CR<sup>§</sup>, Bernard K<sup>§,\*</sup>, Tanguturi P, Molnar G, Bartlett MJ\*, Szabò LZ, Liu C, Ortiz JB, Saber M, Giordano KR, Green TFR, Melvin J, Morrison HW, Madhavan L, Rowe RK, Streicher JM, Heien ML, **Falk T**, Polt R; Design and Synthesis of Novel Brain Penetrant Glycopeptide Analogues of PACAP with Neuroprotective Potential for Traumatic Brain Injury and Parkinsonism. *Frontiers in Drug Discovery* 2022, Vol. 1: 818003 (<sup>§</sup>contributed equally). [\[PubMed\]](#)
34. Szabò LZ, Tanguturi P, Goodman HJ, Spröber S, Liu C, Al-Obeidi F, Bartlett MJ\*, **Falk T**, Kumirov VK, Heien ML, Streicher JM, Polt R; Structure-based design of glycosylated



- oxytocin analogues with improved selectivity and antinociceptive activity. *ACS Medicinal Chemistry Letters* 2023, 14, 2, 163–170. [\[PubMed\]](#)
35. Flores AJ\*<sup>§</sup>, Bartlett MJ\*<sup>§</sup>, Seaton BT, Samtani G\*, Sexauer MR\*, Weintraub NC, Siegenthaler JR, Lu D, Heien ML, Porreca F, Sherman SJ, **Falk T**; Antagonism of kappa opioid receptors accelerates the development of L-DOPA-induced dyskinesia in a preclinical model of moderate dopamine depletion. *Brain Research* 2023, 1821, 148613. (<sup>§</sup>contributed equally); (Communicating Author) [\[PubMed\]](#)
  36. Jordan G, Vishwanath A, Holguin GR, Bartlett MJ\*, Tapia AK, Winter GM, Sexauer MR\*, Stopera CJ\*, **Falk T**, Cowen SL; Automated system for training and assessing reaching and grasping behaviors in rodents. *Journal of Neuroscience Methods* 2024, 401, 109990. [\[PubMed\]](#)
  37. Bernard K\*, Dickson D, Anglin BL, Heien ML, Polt R, Morrison HW<sup>§</sup>, **Falk T**<sup>§</sup>; PACAP glycosides promote cell outgrowth *in vitro* and reduce infarct size after stroke in a preclinical model. *Neuroscience Letters* 2024, 836, 137883. (<sup>§</sup>Co-senior authors); (Communicating Author). [\[PubMed\]](#)
  38. Stopera CJ\*<sup>§</sup>, Bartlett MJ\*<sup>§</sup>, Liu C, Esqueda A\*, Parmar R\*, Heien ML, Sherman SJ, **Falk T**; Differential effects of opioid receptor antagonism on the anti-dyskinetic and anti-parkinsonian effects of sub-anesthetic ketamine treatment in a preclinical model. *Neuropharmacology* 2024, 257:110047. (<sup>§</sup>contributed equally); (Communicating Author). [\[PubMed\]](#)
  39. Bernard K\*, Mota J\*, Wene P, Corenblum MJ, Saez J\*, Bartlett MJ\*, Heien ML, Doyle KP, Polt R, Hay M, Madhavan L<sup>§</sup>, **Falk T**<sup>§</sup>; The Angiotensin (1-7) glycopeptide PNA5 improves cognition in a chronic progressive mouse model of Parkinson's disease by modulation of neuroinflammation. *Experimental Neurology* 2024, 381, 114926 (<sup>§</sup>Co-senior authors); (Communicating Author). [\[PubMed\]](#)
  40. Zadina JE, Szabo LZ, Al-Obeidi F, Zhang X, Ogbu C, Heien ML, **Falk T**, Bartlett MJ, Polt R; Cyclic Glycopeptide Analogs of Endomorphin-1 Provide Highly Effective Antinociception in Male and Female Mice. *ACS Medicinal Chemistry Letters* 2024, 15(10), 1731-1740. [\[PubMed\]](#)

**h-index: 21** (measured 10/15/2024)

**i10-index: 30** (measured 10/15/2024)

# Work done as a graduate student.

\* Postgraduate, Graduate and Undergraduate Student Trainees

## PEER-REVIEWED PUBLICATIONS UNDER REVIEW AND IN PREPARATION

1. Vishwanath A, Bartlett MJ\*, **Falk T**, Cowen SL; Decoupling of motor cortex to movement in Parkinson's dyskinesia rescued by sub-anesthetic ketamine. *Brain* 2024; revision in review.
2. Bartlett MJ\*<sup>§</sup>, Stopera CJ\*<sup>§</sup>, Cowen SL, Sherman SJ, **Falk T**; Differential effects of pravastatin and lovastatin on the long-term anti-dyskinetic activity of sub-anesthetic ketamine. *Neuroscience Letters* 2024; in review. (<sup>§</sup>contributed equally); (Communicating Author).
3. Hill DF, Olson Z, Bartlett MJ\*, **Falk T**, Heien ML, Cowen SL; Heterogeneous neuronal activity in the ventral tegmental area coordinates dopamine release in the *nucleus accumbens*. *Neuropsychopharmacology* 2024, in revision. [\[Preprint\]](#)

4. Sherman SJ, Richards SS, Bartlett MJ\*, Lind A, Moine N, Doyle, KP, Hsu CP, **Falk T**; In an open label Phase I clinical trial sub-anesthetic infusion of ketamine produced long-term reduction in levodopa-induced dyskinesia and depression. *Movement Disorders* 2024, in preparation. (Communicating Author).
5. Vishwanath A, Bartlett MJ\*, **Falk T**, Cowen SL; Ketamine induced motor gamma differences during dyskinesia and dopamine depletion. *Neurobiology of Disease* 2025, in preparation.
6. Stopera CJ\*<sup>§</sup>, Bartlett MJ\*<sup>§</sup>, Bernard K\*, Stancati JA, Singh S\*, Frye JB, Doyle KR, Morrison HW, Sherman SJ, Madhavan L, Steece-Collier K, **Falk T**; Protective activity of sub-anesthetic ketamine in a preclinical model of Parkinson's disease is enhanced by blocking brain-derived neurotrophic factor signaling. *Experimental Neurology* 2025, in preparation. (<sup>§</sup>contributed equally); (Communicating Author).
7. Ogbu C, Liu L, Bartlett MJ\*, Sherman SJ, **Falk T**, Heien ML; The Pharmacokinetic Profile of Ketamine and its Metabolites as a Therapy for L-DOPA-induced Dyskinesia. *ACS Chemical Neuroscience Letters* 2025, in preparation.
8. **Falk T**, Smidt SI\*, Cristiani S\*, Bernard K\*, Silashki BD\*, Siegenthaler JR, Farrell DC, Muller DCY\*, Morrison HW, Heien ML, Doyle KP, Madhavan L, Sherman SJ, Bartlett MJ\*; Neurorestorative effects of viral VEGF-B overexpression in the striatum of the PINK1 gene knock out rat model of Parkinson's disease. *Neurobiology of Disease* 2025, in preparation.
9. Wilhite CA, Oliva A, Berényi A, Bartlett MJ\*, **Falk T**, Witte RS, Cowen SL; Activation of hippocampal CA2 precedes CA3 following perforant-path stimulation and spontaneous dentate spikes. In revision.

## PEER-REVIEWED ABSTRACTS AND CONFERENCE PRESENTATIONS

1. Bauer CK, **Falk T**, Schwarz JR; An endogenous inactivating inwardly rectifying potassium current in oocytes of *Xenopus laevis*. *Neuroforum, Suppl.: 1. Kongress der Neurowissenschaftlichen Gesellschaft*, 1996.
2. **Falk T**, Bauer CK, Meyerhof W, Richter D, Schwarz JR; An inward rectifying K current cloned from rat anterior pituitary tumour cells. *Pflügers Archive, European Journal of Physiology, Suppl. to 431*, 1996; R 91.
3. **Falk T**, Peterson B, Sherman SJ, Yool AJ; A herpes virus vector for imaging dendritic growth in primary cultured neurons. *Pflügers Archive, European Journal of Physiology, Suppl. to 435*, 1998; P 20-11.
4. **Falk T**, Garver WS, Erickson RP, Wilson JM, Yool AJ; Developmental Expression of Niemann-Pick type C mRNA in Rat Cerebellum *in vivo*. *Society for Neuroscience Abstracts*, 1998; 798.2.
5. Kilani RK, **Falk T**, Yool AJ, Sherman SJ; Expression of a potassium channel-reporter gene fusion protein in cultured hippocampal neurons. *FASEB Journal* 1999; 13 (4): A472-A472 Part 1 Suppl.
6. Strazdas L, Borders RS, **Falk T**, Yool AJ, Sherman SJ; Time-lapse imaging and current clamp recordings from primary cultured rat hippocampal and cerebellar neurons infected with a herpes virus vector containing enhanced green fluorescent protein. 2. *Symposium on GFP*, 1999; San Diego.
7. **Falk T**, Kilani RK, Borders RS, Yool AJ, Sherman SJ; Overexpression by herpes virus gene transfer of a voltage-gated potassium channel in primary cultured hippocampal neurons. *Society for Neuroscience Abstracts*, 1999; 179.14.

8. Sherman SJ, **Falk T**, Borders RS, Strazdas L, Yool AJ; Transgene expression of a green-fluorescent protein marker and antisense sequence targeting the  $\beta$ -1 subunit of the voltage-gated potassium channel in cultured hippocampal neurons. *Epilepsia*, 1999; 40:11, Suppl. 7.
9. **Falk T**, Kilani RK, Strazdas LA, Yool AJ, Sherman SJ; Overexpression by herpes virus gene transfer of a voltage-gated K channel in skeletal muscle cells. *Pflügers Archive, European Journal of Physiology, Suppl. to 439*, 2000; P17-11.
10. Borders RS, **Falk T**, Strazdas LA, Yool AJ, Sherman SJ; Modulation of potassium channel inactivation by antisense knockdown of the  $\beta$ 1 subunit. *FASEB Abstracts*, 2000; Vol. 14, 87.13.
11. Kilani RK, **Falk T**, Yool AJ, Sherman SJ; Expression of a potassium channel-reporter gene fusion protein in cultured rat skeletal myocytes. *Journal of Investigative Medicine*, 2000; 48 (1): 87A-87A 477 Suppl. S.
12. **Falk T**, Kilani RK, Yool AJ, Sherman SJ; Viral-vector mediated expression of  $K^+$  channels regulates excitability in skeletal muscle. *Biophysical Journal*, 80(1), 2001, 648a.
13. **Falk T**, Strazdas LA, Kilani RK, Yool AJ, Sherman SJ; Virally-mediated knockdown of  $Kv\beta$ 1.1 in rat hippocampal pyramidal neurons decreases the rate of fast inactivation of  $K^+$  currents. *Pflügers Archive, European Journal of Physiology, Suppl. to 441*, 2001; P12-4.
14. **Falk T**, Yool AJ, Sherman SJ; Knockdown of  $Kv\beta$ 1.1 decreases excitability in rat hippocampus. *Pflügers Archive, European Journal of Physiology, Suppl. to 443*, 2002, P21-8.
15. Erbe EL, **Falk T**, Kilani RK, Strazdas LA, Borders RS, Steidl JV, Yool AJ, Sherman SJ; Control of striatal output pathways by viral vector-mediated  $K^+$ -channel modification. *1<sup>st</sup> Annual VA/UCLA Research Conference on Parkinson's disease and Movement Disorders* 2002.
16. **Falk T**, Kumar A\*, Yool AJ, Carnevale N; Modeling overexpression of different  $K^+$  channels in myotubes. *Biophysical Journal*, 2003, 84(2), B417.
17. Boassa D, **Falk T**, Yool AJ; Functional properties of AQP1 channels in choroid plexus. *Society for Neuroscience Abstracts*, 2003, 369.15.
18. **Falk T**, Erbe EL, Yool AJ, Sherman SJ; Neuronal and electrophysiological properties of cultured striatal neurons: utility as a model system. *Biophysical Society Meeting Abstracts*, 2004; B387.
19. Patel PS, Goodman B, Erbe E, Kennedy MJ, Zhang S, **Falk T**, McKay BS, Sherman SJ; Retinal pigment epithelium (RPE) cells provide neurotrophic effect on midbrain dopaminergic neurons. *2<sup>nd</sup> Annual VA/UCLA Research Conference on Parkinson's disease and Movement Disorders*, 2004.
20. Kennedy J, Patel PS, Erbe E, **Falk T**, Sherman SJ; Co-expression of dopamine-1 and dopamine-2 receptor subtypes in striatal neurons. *Movement Disorders* 20: S131-S131 2005, P446 Suppl. 10.
21. **Falk T**, Xie JY\*, Sherman SJ; Tissue specific over-expression of inwardly rectifying potassium channels reduces excitability in striatal neurons *in vitro*. *Forum of European Neuroscience Abstracts*, 2006, A057.7.
22. Xie JY\*, Zhang S, Kennedy J, **Falk T**, Sherman SJ; Overexpression of the inwardly rectifying potassium channel Kir2.3 changes the excitability of rat striatal neurons in culture. *Society for Neuroscience Abstracts*, 2006.

23. Sherman SJ, Goodman B, **Falk T**, McKay BS; Retinal pigment epithelial cell transplantation could provide trophic support in Parkinson's disease: results from an *in vitro* model system. *Movement Disorders* 21, 2006, S400-S401 P260, Suppl. 15.
24. **Falk T**, Xie JY\*, Sherman SJ; Modulation of the potassium channel Kir2.3 by an adenoviral vector using the dopamine-1 promoter changes the excitability of striatal neurons. *Movement Disorders* 21, 2006, S: 401-S401 P262.
25. Sherman SJ, Goodman B, **Falk T**, McKay BS; Retinal pigment epithelial cell transplantation could provide trophic support in Parkinson's disease: results from an *in vitro* model system. *3<sup>rd</sup> VA/UCLA Research Conference on Parkinson's disease and Movement Disorders*, 2007.
26. **Falk T**, Xie JY\*, Sherman SJ; Modulation of the K<sup>+</sup> channel Kir2.3 by a tissue-specific viral vector as a potential new Gene Therapy for Parkinson's disease. *3<sup>rd</sup> VA/UCLA Research Conference on Parkinson's disease and Movement Disorders*, 2007
27. McKay BS, Goodman B, **Falk T**, Sherman SJ; Retinal pigment epithelial cell transplantation could provide trophic support in Parkinson's disease: results from an *in vitro* model system. *10<sup>th</sup> International Symposium on Parkinson Research (San Diego)*, 2007.
28. **Falk T**, Xie JY\*, Vanderah T, Porreca F, Sherman SJ; Modulation of the potassium channel Kir2.3 by an adenoviral vector using the dopamine-1 promoter decreases symptoms in a rat model of Parkinson's disease. *Society for Neuroscience Abstracts*, 2007, 659.3.
29. **Falk T**, Xie JY\*, Yue X\*, Porreca F, Sherman SJ; Modulation of the potassium channel Kir2.3 by an adenoviral vector using the dopamine-1 promoter decreases symptoms in a rat model of Parkinson's disease. *Movement Disorders*, 2008, 23, S1: 73.
30. Sherman SJ, **Falk T**; Pigment epithelium-derived factor is neuroprotective in *in vitro* models of Parkinson's disease. *Movement Disorders*, 2008, 23, S: 82.
31. **Falk T**, Xie JY\*, Yool AJ, Sherman SJ; Modulation of the potassium channel Kir2.3 by an adenoviral vector using the GAD-67 promoter changes the excitability of hippocampal neurons *in vitro*. *Society for Neuroscience Abstracts*, 2008, 235.4.
32. **Falk T**, Yue X\*, Zuniga LA\*, Polt R, Sherman SJ; Effects of the opioid agonist MMP-2200 in rat models of Parkinson's disease. *Movement Disorders* 2009; 24, S: 350.
33. **Falk T**, Zhang SL, Sherman SJ; Vascular endothelial growth factor B is up-regulated and neuroprotective in a culture model of Parkinson's disease. *Society for Neuroscience Abstracts*, 2009; 6932.
34. Yue X\*, **Falk T**, Zhang S, Sherman SJ; Vascular Endothelial Growth Factor-B<sub>186</sub> improves motor behavior *in vivo* in a rat model of Parkinson's disease. *Movement Disorders*, 2010, 25, Suppl. S269-S269.
35. Sherman SJ, **Falk T**, Zhang S, Yue X\*; Vascular Endothelial Growth Factor-B<sub>186</sub> improves motor behavior *in vivo* in a rat model of Parkinson's disease. *Movement Disorders*, 2010, 25, Suppl. 3: S723-S723.
36. **Falk T**, Yue X\*, Zhang S, Sherman SJ; Evidence for neuroprotection after treatment with Vascular Endothelial Growth Factor-B *in vivo* in the 6-hydroxydopamine rat model of Parkinson's disease. *Society for Neuroscience Abstracts*, 2010, 588.11.
37. **Falk T**, Yue X\*, Porreca F, Polt RL, Sherman SJ; Effects of the novel glycopeptide opioid agonist MMP-2200 in preclinical models of Parkinson's disease. *Society for Neuroscience Abstracts*, 2011.

38. Bilsky E, **Falk T**, Sherman S, Cormier J, St. Louis L, Giuvelis D, Polt R, Stevenson G. Glycosylation of Neuroactive Peptides to Enhance CNS Bioavailability. *American College of Neuropsychopharmacology Abstracts*, 2011.
39. Ferng SJ\*, Gonzalez DE, **Falk T**, Rilo HL, Sherman SJ; Development of a Parkinson's disease model in medaka fish. *American Society for Biochemistry and Molecular Biology Meeting Abstracts*, 2012.
40. **Falk T**, Yue X\*, Hariri DJ\*, Zhang S, Sherman SJ; Comparative study of the neurotrophic effects elicited by VEGF-B and GDNF *in vivo* in the 6-hydroxydopamine rat model of Parkinson's disease. *Society for Neuroscience Abstracts*, 2012.
41. Flores AJ\*, Mabrouk OS, Root BK\*, Yue X\*, Kennedy RT, Sherman SJ, Polt R, **Falk T**; The opioid glycopeptide MMP-2200: Analysis of CNS penetration and effects in a levodopa-induced dyskinesia model. *Society for Neuroscience Abstracts*, 2012.
42. Ferng SJ\*, Gonzalez DE, Nguyen MN\*, Sherman SJ, **Falk T**, Rilo HL; Evaluation of a Parkinson's disease model in medaka fish. *American Society for Biochemistry and Molecular Biology Meeting Abstracts*, 2013; *FASEB Journal*, Volume: 27, Meeting Abstract: 567.1.
43. Flores AJ\*, Laude ND, Parent KL, Heien ML, Sherman SJ, **Falk T**; The NMDA antagonist MK-801 worsens dopamine 1-receptor-induced abnormal involuntary movements in a preclinical model. *Society for Neuroscience Abstracts*, 2013.
44. **Falk T**, Flores AJ\*, So LY\*, Porreca F, Polt R, Sherman SJ; The opioid glycopeptide MMP-2200 reduces dopamine-2 receptor-induced dyskinesia in a preclinical model. *Society for Neuroscience Abstracts*, 2013.
45. **Falk T**, Bartlett MJ\*, Szabò L, Mabrouk OS, Skinner DP, Porreca F, Vanderah TW, Kennedy RT, Polt R, Sherman SJ; Opioid glycopeptides with  $\mu$ -antagonism or  $\delta$ -agonism properties: Analysis in a preclinical model of L-DOPA-induced dyskinesia. *Society for Neuroscience Abstracts*, 2014.
46. Bartlett MJ\*, Caballero B\*, Mount DW, Sherman SJ, **Falk T**; Mechanisms of the neuroprotective effects of VEGF-B against a mitochondrial toxin in a culture model of Parkinson's disease. *Society for Neuroscience Abstracts*, 2014.
47. Lazarus LB, Bartlett MJ\*, **Falk T**, Heien ML; Fast ESI-MS/MS Determination of Ketamine and metabolites in whole blood. *American Society for Mass Spectrometry Meeting Abstracts*, 2015.
48. Bartlett MJ\*, Caballero B\*, Zhang S, Mount DW, Sherman SJ, **Falk T**; Neuroprotection of VEGF-B against mitochondrial toxins in culture and *in vivo* models of Parkinson's disease: Mechanistic insights. *35<sup>th</sup> Blankenese Conference; Brain Repair: From Regeneration to Cellular Reprogramming, Hamburg Germany*, 2015.
49. Sherman SJ, Magill AR, Bartlett MJ\*, Heien ML, Estevez M, **Falk T**; Case reports showing a long-term effect of sub-anesthetic ketamine infusion in reducing L-DOPA-induced dyskinesias. *American Neurological Association Meeting Abstracts*, 2015.
50. Bartlett MJ\*, LePoidevin LM\*, Joseph RM\*, Parent KL, Laude ND, Lazarus LB, Heien ML Estevez M, Sherman SJ, **Falk T**; Long-term effect of sub-anesthetic ketamine-infusion in reducing L-DOPA-induced dyskinesia. *Society for Neuroscience Abstracts*, 2015.
51. Miller MA, Parent KL, Bartlett MJ\*, Hill DF, Atcherley CW, **Falk T**, Heien ML, Cowen SL; Modulation of basal dopamine in the nucleus accumbens following repeated low-dose ketamine exposure as measured using fast-scan controlled-adsorption voltammetry. *Society for Neuroscience Abstracts*, 2015.
52. Ye T, Bartlett MJ\*, Wiegand JP, Sherman SJ, **Falk T**, Cowen SL; Modulation of high-

- frequency oscillations and beta coherence in striato-cortico-limbic circuits following repeated sub-anesthetic ketamine exposure. *Society for Neuroscience Abstracts*, 2015.
53. Parent KL, Bartlett MJ\*, Crown LM, Gies KF, **Falk T**, Cowen SL, Heien ML; Real-time measurement of ketamine-induced tonic dopamine fluctuations in freely moving rats. *Monitoring Molecules in Neuroscience Meeting Abstracts*, 2016.
54. Crown LM, Parent KL, Bartlett MJ\*, Miller MA, Gies KF, **Falk T**, Heien ML, Cowen SL. Ketamine injection acutely and rapidly decreases tonic dopamine levels in the rat dorsal striatum. *Science of Consciousness Conference Abstracts*, 2016.
55. **Falk T**, Bartlett MJ\*, Ye T, Lazarus LB, Heien ML, Cowen SL, Sherman SJ; Preclinical evaluation of sub-anesthetic ketamine infusion to reduce L-DOPA-induced dyskinesias: is it a 'chemical' DBS? *International Parkinson and Movement Disorders Society Abstracts*, 2016.
56. Sherman SJ, **Falk T**; Patient case reports supporting a long-term effect of sub-anesthetic ketamine infusion in reducing L-DOPA-induced dyskinesias. *International Parkinson and Movement Disorders Society Abstracts*, 2016.
57. **Falk T**; Sub-anesthetic ketamine infusions as a treatment of pain and Parkinson's disease. *Pain Mechanisms and Therapeutics Conference Abstracts*, 2016.
58. Ye T, Bartlett MJ\*, Schmit M, Sherman SJ, **Falk T**, Cowen SL; Gamma-band oscillatory activity in the motor cortex is progressively enhanced following repeated ketamine administration in 6-OHDA-lesioned rats. *4<sup>th</sup> World Parkinson Congress Abstracts*, 2016.
59. Bartlett MJ\*, Flores AJ\*, Zehri AH\*, Sherman SJ, **Falk T**; Low-Dose Sub-Anesthetic Ketamine Infusions Reduce the Development of L-DOPA-Induced Dyskinesias in a Preclinical Model. *4<sup>th</sup> World Parkinson Congress Abstracts*, 2016.
60. Wiegand JP, Gies K, Bartlett MJ\*, **Falk T**, Cowen SL; Increased power of sleep spindle oscillations in the LRRK2 mouse model of Parkinson's disease. *4<sup>th</sup> World Parkinson Congress Abstracts*, 2016.
61. Ye T, Bartlett MJ\*, Schmit MB, Sherman SJ, **Falk T**, Cowen SL; Alterations of oscillatory activity in the striatal-cortical circuit following repeated sub-anesthetic ketamine administration in 6-OHDA-lesioned rats. *Society for Neuroscience Abstracts*, 2016.
62. Bartlett MJ\*, Silashki BD\*, Muller DCY\*, Tran CT\*, Sherman SJ, **Falk T**; AAV-mediated over-expression of VEGF-B in PINK1 gene knockout rats: A behavioral evaluation. *Society for Neuroscience Abstracts*, 2016.
63. Flores AJ\*, Bartlett MJ\*, Zehri AH\*, Parent KL, Heien ML, Sherman SJ, **Falk T**; Development of L-DOPA-induced dyskinesias is reduced in a rat model after sub-anesthetic ketamine infusions. *Society for Neuroscience Abstracts*, 2016.
64. Wiegand JP, Gies KF, Bartlett MJ\*, **Falk T**, Cowen SL; Stronger cortical spindles and less power variability in hippocampal ripples in a LRRK2 mouse model of Parkinson's disease. *Society for Neuroscience Abstracts*, 2016.
65. Schmit MB, Ye T, Bartlett MJ\*, **Falk T**, Cowen SL; Directional Propagation of Ketamine-induced High-Frequency Oscillations between the Striatum, Hippocampus, and Motor Cortex. *Society for Neuroscience Abstracts*, 2016.
66. Witte RS, Qin Y, Ingram CP, Burton A, Tseng A, Hill D, Wilhite C, **Falk T**, Xu Z, O'Donnell M, Cowen SL; Acoustoelectric Brain Imaging of Deep Dipole Sources in a Human Head Phantom. *3rd Annual BRAIN Initiative® Investigators Meeting*, 2016.
67. Parent KL, Bartlett MJ\*, Crown LM, Gies KF, Miller M, **Falk T**, Cowen SL, Heien ML; Longitudinal studies of tonic dopamine for investigation of neural disorders. *PittCon Conference Abstracts*, 2017.

68. **Falk T**, Bartlett MJ\*, Muller DCY\*, Silashki BD\*, Farrell DC, Parent KP, Heien ML, Sherman SJ; AAV-mediated over-expression of VEGF-B in PINK1 gene knockout rats increases striatal dopamine content. *International Parkinson and Movement Disorders Society Abstracts*, 2017.
69. Bartlett MJ\*, Flores AJ\*, Ye T, Dollish HK\*, Doyle KP, Cowen SL, Sherman SJ, **Falk T**; Mechanisms of sub-anesthetic ketamine infusions to reduce levodopa-induced dyskinesia: effects on striatal mTOR signaling and beta band oscillations in striatum and motor cortex. *International Parkinson and Movement Disorders Society Abstracts*, 2017.
70. Kramer C, Bartlett MJ\*, Jones EM, Stagg C, Polt R, **Falk T**, Heien ML; “Shotgun microdialysis” with LC-MS3 quantitation for the screening of BBB penetration properties of peptide-based drugs. *ASMS Conference on Mass Spectrometry and Allied Topics Abstracts*, 2017.
71. Bartlett MJ\*, Muller DCY\*, Silashki BD\*, Farrell DC, Parent KL, Doyle KP, Heien ML, Sherman SJ, **Falk T**; AAV2/1 VEGF-B overexpression improves motor function and prevents dopamine loss in PINK1 gene knock out rats. *Society for Neuroscience Abstracts*, 2017.
72. Flores AJ\*, Bartlett MJ \*, Dollish HK\*, Doyle KP, Sherman SJ, **Falk T**; Role of BDNF and mTOR pathways in the suppression of L-DOPA-induced dyskinesias by sub-anesthetic ketamine. *Society for Neuroscience Abstracts*, 2017.
73. Ye T\*, Bartlett MJ\*, **Falk T**, Cowen SL; Oscillatory signatures of L-DOPA-induced dyskinesia are not reduced by ketamine. *Society for Neuroscience Abstracts*, 2017.
74. Wiegand JP, Gies K, Bartlett MJ\*, **Falk T**, Cowen SL; Altered slow-wave sleep in the LRRK2 mouse model of Parkinson’s disease. *Society for Neuroscience Abstracts*, 2017.
75. Figueroa AG\*, Sillik SA, **Falk T**, McKay BS; Myocilin-associated exosomes in glaucoma-related diseases. *18<sup>th</sup> National Role Models Conference; Washington DC*, 2017.
76. Figueroa AG\*, Sillik SA, **Falk T**, McKay BS; Myocilin-associated exosomes in glaucoma- related diseases. *Louis Stokes Midwest Center of Excellence Annual Conference; Indianapolis, IN*, 2017.
77. Bartlett MJ\*, Flores AJ\*, Dollish HK\*, Doyle KP, Pottenger AE, Morrison HL, Sherman SJ, **Falk T**; Neuroplastic effects contribute to the suppression of L-DOPA-induced dyskinesias by sub-anesthetic ketamine. *AZ Commons - Neurobiology, Aging, Dementias and Movement Disorders Division Meeting*, 2017.
78. Figueroa AG\*, Congrove NR, Sillik SA, Sadideen DT\*, **Falk T**, Bowes Rickman C, McKay BS. Exosome uptake is selective but not species or tissue-specific. *Association for Research in Vision and Ophthalmology Annual Meeting Abstracts*, 2018.
79. Bartlett MJ\*, Cristiani S\*, Silashki BD\*, Muller DCY\*, Farrell DC, Parent KL, Doyle KP, Heien ML, Sherman SJ, **Falk T**; AAV2/1-hVEGF-B overexpression improves motor outcomes in PINK1 gene knockout rat: An insight into potential mechanisms. *2<sup>nd</sup> Pan American Parkinson's Disease and Movement Disorders Congress*, 2018.
80. Bartlett MJ\*, Flores AJ\*, Dollish HK\*, Doyle KP, Steece-Collier K, Sherman SJ, **Falk T**; Sub-anesthetic ketamine prevents levodopa-induced dyskinesia and improves motor function in a 6-OHDA rat model of Parkinson’s disease. *2<sup>nd</sup> Pan American Parkinson's Disease and Movement Disorders Congress*, 2018.
81. Liu C, Bartlett MJ\*, Smith CL, Hanrahan D, Szabo L, **Falk T**, Polt R, Heien ML. Blood brain barrier penetration of glycosylated peptides by ‘shotgun microdialysis’ coupled with LC-MS3. *ASMS Conference on Mass Spectrometry and Allied Topics Abstracts*, 2018.

82. Bartlett MJ\*, Cristiani S\*, Smidt SI\*, Farrell DC, Doyle KP, Heien ML, Sherman SJ, **Falk T**; VEGF-B overexpression in PINK1 gene knock out rats improves motor function: Is this effect due to neuroprotection or to functional improvement of dopaminergic neurons? *Society for Neuroscience Abstracts*, 2018.
83. Nava R\*, Flores AJ\*, Bartlett MJ\*, Sexauer MR\*, Siegenthaler J, Heien ML, Sherman SJ, Porreca F, **Falk T**; The kappa opioid receptor antagonist nor-BNI accelerates development of L-DOPA-induced dyskinesia in a model of mild Parkinson's disease. *Society for Neuroscience Abstracts*, 2018.
84. **Falk T**, Bartlett MJ\*, Flores AJ\*, Dollish HK\*, Stancati JA, Doyle KP, Heien ML, Steece-Collier K, Sherman SJ; Neuroplastic effects in the striatum contribute to the suppression of L-DOPA-induced dyskinesia by sub-anesthetic ketamine. *Society for Neuroscience Abstracts*, 2018.
85. Pottenger AE, Bartlett MJ\*, **Falk T**, Morrison HW; Evaluating the effects of Sub-Anesthetic Ketamine on Microglia Morphology in a Pre-Clinical Model of L-DOPA-Induced Dyskinesia. *Society for Neuroscience Abstracts*, 2018.
86. Ye T\*, Bartlett MJ\*, **Falk T**, Cowen SL; L-DOPA-induced striatal gamma oscillations split into low- and high-frequency components following ketamine exposure in an animal model of L-DOPA-induced dyskinesia. *Society for Neuroscience Abstracts*, 2018.
87. Crown LM, Wohlford L, Bartlett MJ\*, Eby A, Wiegand JP, Gies K, **Falk T**, Cowen SL; Six month-old LRRK2 G2019S knock-in mice do not express motor learning deficits on the rotarod task. *Society for Neuroscience Abstracts*, 2018.
88. Streicher J, **Falk T**, Hay M, Apostol CR, Bartlett MJ\*, Heien ML, Molnar G, Liu C, Smith CL, Szabò L, Polt R; Glycopeptides as Systemically Delivered CNS Active Drugs from Endogenous Peptide Hormones. *Society for Neuroscience Abstracts*, 2018.
89. Apostol C, Liu C, Szabò LZ, Bartlett MJ\*, Molnar G, **Falk T**, Heien ML, Streicher J, Polt R; Design and Synthesis of Brain Penetrant Glycopeptide Analogues of Pituitary Adenylate Cyclase Activating Peptide (PACAP) for the Treatment of Parkinson's Disease. *Peptide Therapeutic Symposium at the Salk Institute in San Diego*, 2018.
90. Crown LM, Wiegand JP, Bartlett MJ\*, Eby A, Monroe E, Wohlford L, **Falk T**, Cowen SL. The frequency of sleep spindle oscillations is increased in the G2019S LRRK2 mouse model of Parkinson's disease. *New Mexico EEG and Behavior Conference Abstracts*, 2018.
91. **Falk T**, Bartlett MJ\*, Heien ML, Ye T\*, Cowen SL, Steece-Collier K, Sherman SJ; Mechanisms underlying the anti-dyskinetic effect of sub-anesthetic ketamine. *39<sup>th</sup> Blankenese Conference: Signaling in Health and Disease, Hamburg, Germany*, 2019.
92. Bartlett MJ\*, Flores AJ\*, Dollish HK\*, Stancati J, Doyle KP, Heien ML, Steece-Collier K, Sherman SJ, **Falk T**; Long-term suppression of levodopa-induced dyskinesia by sub-anesthetic ketamine is mediated by BDNF and changes in striatal dendritic spine morphology. *5<sup>th</sup> World Parkinson Congress Abstracts*, 2019.
93. Bartlett MJ\*, Smidt SI\*, Cristiani S\*, Farrell DC, Corenblum MJ, Doyle KP, Madhavan L, Heien ML, Sherman SJ, **Falk T**; Intracerebral delivery of VEGF-B improves motor function in PINK1-knockout rats: A follow-up study investigating the effects on dopaminergic neurons. *5<sup>th</sup> World Parkinson Congress Abstracts*, 2019.
94. Szabò L, Apostol C, Alabs W, Jaynes T, Heien ML, Streicher J, **Falk T**, Liu C, Polt R; Glycopeptide Drugs from Endogenous Peptides Violate All of Lipinski's Rules and Penetrate the BBB. *American Chemical Society National Meeting Abstracts*, 2019.
95. Liu C, Bartlett MJ\*, Apostol CR, Szabò L, Polt R, **Falk T**, Heien ML; Blood brain barrier (BBB) penetration of pituitary adenylate cyclase-activating polypeptide (PACAP)



- glycosylated peptides by ‘shotgun microdialysis’ coupled with LC-MS3. *ASMS Conference on Mass Spectrometry and Allied Topics Abstracts*, 2019.
96. Bartlett MJ\*, Smidt SI\*, Cristiani S\*, Corenblum MJ, Farrell DC, Doyle KP, Heien ML, Madhavan L, Sherman SJ, **Falk T**; Neuroprotective effects of VEGF-B overexpression in PINK1 gene knock out rats. *Society for Neuroscience Abstracts*, 2019.
97. **Falk T**, Bartlett MJ\*, Stancati JA, Pottenger AE, Farrell DC, Heien ML, Steece-Collier K, Morrison HW, Sherman SJ; Changes in dendritic mushroom spines and an inflammatory marker in the striatum underlie long-term suppression of L-DOPA-induced dyskinesia by low-dose ketamine. *Society for Neuroscience Abstracts*, 2019.
98. Ye T\*, Bartlett MJ\*, Sexauer MR\*, Sherman SJ, **Falk T**, Cowen SL; Oscillatory signatures of L-DOPA-induced dyskinesia are dependent on the LID induction protocol and L-DOPA dose. *Society for Neuroscience Abstracts*, 2019.
99. Monroe EJ, Crown LM, Bartlett MJ\*, Wiegand JP, Eby A, **Falk T**, Cowen SL; Increased sleep spindle density in LRRK2 G2019S mice. *Society for Neuroscience Abstracts*, 2019.
100. Hill DF, Olson Z, Bartlett MJ\*, **Falk T**, Heien ML, Cowen SL; Simultaneous measurement of ventral tegmental area activity and nucleus accumbens dopamine release reveals patterns of neuron firing associated with dopamine release. *Society for Neuroscience Abstracts*, 2019.
101. Bernard K\*, Bartlett MJ\*, Liu C, Molnar G, Apostol CR, Butler RA\*, Szabò L, Sherman SJ, Madhavan L, Streicher JM, Polt R, Heien ML, **Falk T**; Evaluation of neuroprotective PACAP glycopeptides as systemically delivered CNS active drugs to treat Parkinson’s disease. *Society for Neuroscience Abstracts*, 2019.
102. **Falk T**, Ye T\*, Bartlett MJ\*, Sherman SJ, Cowen SL; Region-dependent cross-frequency interactions in a preclinical model of L-DOPA-induced dyskinesia after low-dose ketamine. *Society for Neuroscience Abstracts*, 2019.
103. Liu C, Bartlett MJ\*, Apostol CR, Szabò L, Polt R, **Falk T**, Heien ML; Determination of Blood brain barrier penetration of glycosylated neuropeptides by ‘shotgun microdialysis’ coupled with liquid chromatography-tandem mass spectrometry. *PittCon Conference Abstracts*, 2020.
104. **Falk T**, Bartlett MJ\*, Ye T\*, Farrell DC, Heien ML, Cowen SL, Sherman SJ. Preclinical and clinical evidence in support of repurposing sub-anesthetic ketamine as a treatment for L-DOPA-induced dyskinesia. *5<sup>th</sup> Annual ABRC-Flinn Research Conference, Phoenix, AZ*, 2020.
105. Morrison HW, Pottenger AE\*, Bartlett MJ\*, **Falk T**. Ketamine’s Effects to Improve Dyskinesia in a Model of Parkinson’s Disease. *Western Institute of Nursing: 53rd Annual Communicating Nursing Research Conference. Portland, OR*, 2020.
106. Liu C, Bartlett MJ\*, Apostol CR, Szabò L, Polt R, **Falk T**, Heien ML; Glycosylation improves stability of neuropeptides and elevates blood brain barrier (BBB) penetration. *ASMS Conference on Mass Spectrometry and Allied Topics Abstracts*, 2020.
107. Apostol CR, Liu C, Bartlett MJ\*, Bernard K\*, Molnar G, Szabò L, Rowe R, Ronaldson P, Streicher JM, **Falk T**, Heien ML, Polt R; Glycosylated PACAP Hormones as Potential Therapy for Parkinsonism, Stroke and Traumatic Brain Injury. *American Chemical Society National Meeting Abstracts*, 2020.
108. Bernard K\*, Apostol CR, Liu C, Bartlett MJ\*, Molnar G, Szabò L, Ronaldson P, Streicher JM, Heien ML, Polt R, **Falk T**; Preclinical evaluation of glycosylated PACAP Hormones to treat Parkinson’s disease and Stroke. *Arizona Alzheimer’s Consortium Annual Abstracts*, 2020.
109. **Falk T**, Bartlett MJ\*, Ye T\*, Farrell DC, Heien ML, Steece-Collier K, Cowen SL,

- Sherman SJ. Preclinical evidence in support of repurposing sub-anesthetic ketamine as a treatment for L-DOPA-induced dyskinesia. *European Neuroscience Virtual Forum Abstracts*, 2020.
110. Hoyer-Kimura C, Konhilas J, Mansour H, Polt R, Bartlett MJ\*, **Falk T**, Ossanna N, Beach T, Reiman E, Hay M; A Novel Disease Modifying Therapeutic and Biomarkers for Vascular Contributions to Cognitive Impairment. *Abstract Cold Spring Harbor Meeting: "Neurodegenerative Diseases: Biology & Therapeutics"*, 2020.
111. Stopera C\*, Bartlett MJ\*, Bernard K\*, Sexauer MR\*, Esqueda A\*, Morrison HW, Sherman SJ, **Falk T**; Behavioral analysis in the progressive unilateral 6-OHDA-lesion rat model indicate a neuroprotective effect of sub-anesthetic ketamine-treatment. *Society for Neuroscience Global Connectome Abstracts*, 2021.
112. Bernard K\*, Bartlett MJ\*, Liu C, Molnar G, Apostol CR, Szabò LZ, Sherman SJ, Madhavan L, Streicher JM, Polt R Heien ML, **Falk T**; Evaluation of a neuroprotective PACAP glycopeptide as systemically delivered CNS active drug to treat Parkinson's disease. *Society for Neuroscience Global Connectome Abstracts*, 2021.
113. Bartlett MJ\*, Stopera C\*, Sexauer MR\*, Vishwanath A, Jordan GA, Cowen SL, **Falk T**; The string-pulling task as a novel and simple behavior to test for parkinsonian deficits in unilaterally 6-OHDA-lesioned rodents. *Society for Neuroscience Global Connectome Abstracts*, 2021.
114. Vishwanath A, Bartlett MJ\*, Jordan GA, Sherman SJ, **Falk T**, Cowen SL; Ketamine disrupts 80-Hz gamma oscillations in parkinsonian rats with L-DOPA-induced dyskinesia. *Society for Neuroscience Global Connectome Abstracts*, 2021.
115. Bernard K\*, Bartlett MJ\*, Liu C, Molnar G, Apostol CR, Szabò LZ, Sherman SJ, Madhavan L, Streicher JM, Polt R Heien ML, **Falk T**; Evaluation of a neuroprotective PACAP glycopeptide as systemically delivered CNS active drug to treat motor and cognitive symptoms in two rodent models of Parkinson's disease. *15<sup>th</sup> International Conference on Alzheimer's and Parkinson's Diseases and related neurological disorders, AD/PD™ Abstracts*, 2021.
116. Hoyer-Kimura C, Konhilas J, Mansour H, Polt R, Bartlett M\*, **Falk T**, Ossanna N, Doyle K, Hay M; Novel Therapeutic, and Inflammatory Biomarkers for Vascular Contributions to Cognitive Impairment and Dementia. *15<sup>th</sup> International Conference on Alzheimer's and Parkinson's Diseases and related neurological disorders, AD/PD™ Abstracts*, 2021.
117. **Falk T**, Bartlett MJ\*, Ye T\*, Stopera C\*, Liu C, Heien ML, Cowen SL, Sherman SJ. Update on preclinical and clinical evidence in support of repurposing sub-anesthetic ketamine as a treatment for L-DOPA-induced dyskinesia. *6<sup>th</sup> Annual ABRC-Flinn Research Conference, Phoenix, AZ*, 2021.
118. Stopera C\*, Bartlett MJ\*, Sexauer MR\*, Bernard K\*, Stancati JA, Sherman SJ, Steece-Collier K, Morrison HW, **Falk T**; Analysis of neuroprotective and anti-inflammatory activity of sub-anesthetic ketamine-treatment in the progressive unilateral 6-OHDA-lesion rat model. *Society for Neuroscience Abstracts*, 2021.
119. Bernard K\*, Lujan A, Morrison HW, Bartlett MJ\*, Liu C, Molnar G, Apostol CR, Szabò LZ, Sherman SJ, Madhavan L, Streicher JM, Polt R Heien ML, **Falk T** Evaluation of a systemically delivered PACAP glycopeptide as a neuroprotective agent in 2 rodent models of Parkinson's Disease. *Society for Neuroscience Abstracts*, 2021.
120. Bartlett MJ\*, Stopera C\*, Esqueda A\*, Sherman SJ, **Falk T**; Analysis of the role of opioid receptors in the anti-dyskinetic effects of sub-anesthetic ketamine. *Society for Neuroscience Abstracts*, 2021.

121. Vishwanath A, Bartlett MJ\*, **Falk T**, Cowen SL; Ketamine disrupts 80-Hz gamma oscillations and reduces burst firing in naïve and parkinsonian rats with levodopa-induced dyskinesia. *16<sup>th</sup> International Conference on Alzheimer's and Parkinson's Diseases and related neurological disorders, AD/PD™ Abstracts, 2022.*
122. Stopera C\*, Bartlett MJ\*, Sexauer MR\*, Bernard K\*, Stancati JA, Sherman SJ, Steece-Collier K, Morrison HW, **Falk T**; Analysis of neuroprotective and anti-inflammatory activity of sub-anesthetic ketamine-treatment in the progressive unilateral 6-OHDA-lesion rat model. *16<sup>th</sup> International Conference on Alzheimer's and Parkinson's Diseases and related neurological disorders, AD/PD™ Abstracts, 2022*
123. Bernard K\*, Lujan A, Corenblum MJ, Saez JL\*, Bartlett MJ\*, Tanguturi P, Apostol CR, Szabò LZ, Streicher JM, Polt R, **Falk T**, Madhavan L Multimodal effects of systemic PACAP glycopeptide delivery in rodent models of Parkinson's disease. *16<sup>th</sup> International Conference on Alzheimer's and Parkinson's Diseases and related neurological disorders, AD/PD™ Abstracts, 2022.*
124. **Falk T**, Bartlett MJ\*, Stopera C\*, Vishwanath A, Liu C, Heien ML, Cowen SL, Sherman SJ. Update on preclinical and clinical evidence in support of repurposing sub-anesthetic ketamine as a treatment for L-DOPA-induced dyskinesia. *7<sup>th</sup> Annual ABRC-Flinn Research Conference, Phoenix, AZ, 2022.*
125. **Falk T**, Richards SS, Bartlett MJ\*, Lind A, Liu C, Heien ML, Hsu CP, Sherman SJ; Subanesthetic infusion of ketamine produces long-term reduction in levodopa-induced dyskinesia. *International Parkinson and Movement Disorders Society Late Breaking Abstracts, 2022.*
126. Polt R, **Falk T**, Streicher J, Heien ML, Apostol CR, Szabò L, Alabsi W, Tanguturi P; Glycosylated Hormones as Brain-Penetrant Neuroprotective Drugs. *Arizona Alzheimer's Consortium Annual Abstracts, 2022.*
127. Bernard K\*, Lujan A, Corenblum MJ, Saez JL, Bartlett MJ\*, Tanguturi P, Apostol CR, Szabò L, Heien ML, Streicher JM, Polt R, **Falk T**, Madhavan L; Glycosylated peptides as novel agents to address Parkinson's disease. *Society for Neuroscience Abstracts, 2022.*
128. **Falk T**, Bartlett MJ\*, Richards SS, Lind A, Stopera C\*, Liu C, Cowen SL, Steece-Collier K, Heien ML, Hsu CP, Sherman SJ; Repurposing of sub-anesthetic ketamine to treat L-DOPA-induced dyskinesia – Results from preclinical models and an open-label Phase I/II clinical trial. *Society for Neuroscience Abstracts, 2022.*
129. Vishwanath A, Bartlett MJ\*, **Falk T**, Cowen SL; Phase-locking of motor cortex neurons to ketamine-generated slow gamma oscillations and 80-Hz gamma oscillations in parkinsonian rats with L-DOPA-induced dyskinesias. *Society for Neuroscience Abstracts, 2022.*
130. Stopera C\*, Bartlett MJ\*, Sexauer MR\*, Bernard K\*, Stancati JA, Sherman SJ, Morrison HW, Steece-Collier K, **Falk T**; Neuroprotective activity of sub-anesthetic ketamine-treatment in the progressive unilateral 6-OHDA-lesion rat Parkinson's disease model. *Society for Neuroscience Abstracts, 2022*
131. Parmar R\*, Stopera C\*, Bartlett MJ\*, Esqueda A\*, Sherman SJ, **Falk T**; Analysis of the role of opioid receptors in the long-term anti-dyskinetic and acute antiparkinsonian effects of sub-anesthetic ketamine. *Society for Neuroscience Abstracts, 2022.*
132. Bartlett MJ\*, Stopera C\*, Sherman SJ, **Falk T**; Differential effects of two types of statins on the anti-dyskinetic activity of sub-anesthetic ketamine. *Society for Neuroscience Abstracts, 2022.*
133. **Falk T**, Richards SS, Bartlett MJ\*, Lind A, Hsu CP, Sherman SJ; Subanesthetic infusion of ketamine produces long-term reduction in levodopa-induced dyskinesia and depression

- in individuals with Parkinson's Disease. *International Parkinson and Movement Disorders Society Abstracts*, 2023.
134. Parmar R\*, Stopera CJ\*, Bartlett MJ\*, Esqueda A\*, Sherman SJ, **Falk T**; Naloxone partially blocks the anti-dyskinetic and enhances the antiparkinsonian effects of sub-anesthetic ketamine. *Society for Neuroscience Abstracts*, 2023.
  135. Stopera CJ\*, Bartlett MJ\*, Cowen SL, Sherman SJ, **Falk T**; Pravastatin sensitizes parkinsonian rats to L-DOPA and blocks the long-term anti-dyskinetic activity of sub-anesthetic ketamine. *Society for Neuroscience Abstracts*, 2023.
  136. Bernard K\*, Mota J\*, Corenblum MJ, Polt R, Hay M, Madhavan L, **Falk T**; PNA5, a glycosylated Angiotensin (1-7) peptide, improves cognition in a chronic progressive mouse model of Parkinson's disease. *Society for Neuroscience Abstracts*, 2023.
  137. Vishwanath A, Bartlett MJ\*, Keener A, **Falk T**, Cowen SL; In a hemi-lesioned model of L-DOPA-induced dyskinesia neuronal firing was reduced in the un-lesioned striatum and ketamine reduced burst-like firing in striatal neurons bilaterally. *Society for Neuroscience Abstracts*, 2023.
  138. Lopez-Smith K\*, Bernard K\*, **Falk T**, Rodgers KE. The Impact of Diabetes Therapies Leading to Subsequent Parkinson's Disease Using Health Claims Database. *Sixth Annual Conference on Native American Nutrition*, 2023.
  139. Goodman HJ, Szabò LZ, Apostol CR, Smith TE, Al-Obeidi F, Mancuso JA, Morrison HW, **Falk T**, Hay M, Heien ML, Streicher JM, Polt R; Endogenous Peptide Hormones & Neurotransmitters as a Source of *bona fide* CNS Drugs: Glycosides Promote *in vivo* Stability and BBB Penetration. *5th Annual Arizona Drug Discovery & Development Summit Abstracts 2023, Phoenix, AZ*.
  140. Ogbu C, Liu L, Bartlett MJ\*, **Falk T**, Heien ML; The Pharmacokinetic Profile of Ketamine and its Metabolites as a Therapy for L-DOPA-Induced Dyskinesia. *PittCon Conference Abstracts*, 2024.
  141. Singh S\*, Stopera CJ\*, Bartlett MJ\*, Stancati JA, Morrison HW, Steece-Collier K, **Falk T**; Neuroprotective activity of sub-anesthetic ketamine-treatment in the progressive unilateral 6-OHDA-lesion rat Parkinson's disease model is not blocked by antagonizing BDNF signaling. *Society for Neuroscience Abstracts*, 2024.
  142. Chinnaraj K, Vishwanath A, Bartlett MJ\*, **Falk T**, Cowen SL; In a rodent model of L-DOPA-induced dyskinesia, coupling between primary motor cortex local-field and single-unit activity to movement is suppressed, and this coupling is not restored by low-dose ketamine. *Society for Neuroscience Abstracts*, 2024.
  143. Parmar R\*, Stopera CJ\*, **Falk T**; Evaluating sex-specificity in the activity of sub-anesthetic ketamine to attenuate L-DOPA-induced dyskinesia. *Society for Neuroscience Abstracts*, 2024.
  144. Bernard K\*, Heien ML, Polt R, Morrison HW, **Falk T**; PACAP glycosides promote cell outgrowth *in vitro* and reduce infarct size after stroke in a preclinical model. *Society for Neuroscience Abstracts*, 2024.
  145. Ogbu C, Bartlett MJ, **Falk T**, Polt R, Heien ML; Analysis of Endomorphin Analogues as Candidate Drugs for Pain Relief. *Society for Neuroscience Abstracts*, 2024.
  146. Zadina JE, Szabo LZ, Al-Obeidi F, Zhang X, Nakatani LF, Luciano N, Ogbu C, Heien ML, **Falk T**, Bartlett MJ, Polt R; Cyclic Glycopeptide Endomorphin-1 Analogs Provide Highly Effective Antinociception Without Conditioned Place Preference in Mice. *International Narcotics Research Conference (INRC) Abstracts*, 2024.

\* Postgraduate, Graduate and Undergraduate Student Trainees

## MEDIA

### MAGAZINE ARTICLES

- 2009 Dayton Fandray: “Personalizing Medicine - The Human Genome Project gives direction to the future of health care” featuring Dr. Falk and his work with gene therapy and Parkinson’s disease. *Alaska Airlines Magazine* 2009, pp.46-49 and 106-110.

### ONLINE AND NEWS ARTICLES

- 06/19/2007 Yusra Terkbalı: “Researchers go after Parkinson's” in *The Daily Wildcat, Tucson, AZ*  
[http://www.wildcat.arizona.edu/article/2007/06/researchers\\_go\\_after\\_parkinsons](http://www.wildcat.arizona.edu/article/2007/06/researchers_go_after_parkinsons)
- 12/29/2012 Bethany Barnes: “Researchers look at melanoma-Parkinson's link” in *Green Valley News*  
[https://www.gvnews.com/news/local/researchers-look-at-melanoma-parkinson-s-link/article\\_73a7993c-508a-11e2-acce-0019bb2963f4.html](https://www.gvnews.com/news/local/researchers-look-at-melanoma-parkinson-s-link/article_73a7993c-508a-11e2-acce-0019bb2963f4.html)
- 01/02/2013 Bethany Barnes “Researchers look at melanoma-Parkinson's link” on *Northwest Parkinson's Foundation* webpage, 01/02/2013;  
<https://nwpf.org/stay-informed/news/2013/01/researchers-look-at-melanoma-parkinsons-link/>
- 07/18/2018 University of Arizona Health Sciences Public Release: “UA clinical trial to repurpose ketamine for Parkinson's patients”  
*UA News*: <https://uanews.arizona.edu/story/clinical-trial-repurpose-ketamine-parkinson-s-patients>  
*EurekaAlert*: [https://www.eurekaalert.org/pub\\_releases/2018-07/uoah-uct071818.php](https://www.eurekaalert.org/pub_releases/2018-07/uoah-uct071818.php)  
*Medicine News Line*: <https://medkit.info/2018/07/19/ua-researchers-to-repurpose-ketamine-to-reduce-side-effects-in-parkinsons-patients/>
- 07/20/2018 Maria Cohut, “Ketamine for Parkinson's? Clinical trial in the works”, in *Medical News Today*  
<https://www.medicalnewstoday.com/articles/322524.php>
- 07/23/2018 Patricia Inacio, “Ketamine Studied for Relief of Levodopa-associated Involuntary Movements”, in *Parkinson’s News Today*  
<https://parkinsonsnewstoday.com/2018/07/23/ketamine-tested-easing-levodopa-involuntary-movements-parkinsons/>
- 07/24/2018 Judy Georg, “AI Dementia Detection; Cell Phones and Memory; Ketamine for PD?” *MedPage Today*  
<https://www.medpagetoday.com/neurology/generalneurology/74190>
- 08/06/2018 Vikram Wankhade, “UA holds clinical trial to repurpose ketamine for Parkinson’s patients”, in *Healthcaremotives.com*  
<http://healthcaremotives.com/clinical-trial-ketamine-parkinsons-patients/>
- 08/16/2018 Jeff Gardner, “Ketamine for Parkinson’s Patients” in the *Tucson Weekly, Tucson, AZ, Issue August 16<sup>th</sup>-22<sup>nd</sup>, page 14*  
<https://www.tucsonweekly.com/tucson/mad-science/Content?oid=19523740>

- 08/17/2018 “Researchers work to improve Parkinson’s disease treatment”, in *Whealthnews.com*  
<https://whealthnews.com/mnenia/researchers-work-to-improve-parkinson-s-disease-treatment/>
- 08/20/2018 Marissa Heffernan, “Researchers work to improve Parkinson's disease treatment” in *The Daily Wildcat, Tucson, AZ, Volume 112, Issue 1, page 19*  
<http://www.wildcat.arizona.edu/article/2018/08/n-ketamine>
- 10/31/2018 Roisin McCormack, “Could a horse tranquilliser help treat Parkinson’s?” *Parkinson’s Life Online Magazine*  
<https://parkinsonslife.eu/could-a-horse-tranquiliser-help-treat-parkinsons/>
- 12/04/2018 Jessica Migala, “13 Amazing Medical Breakthroughs of 2018” in *Reader’s Digest*  
<https://www.rd.com/health/conditions/medical-breakthroughs-of-2018/>
- 12/03/2018 Chelly Boutott, “HealthWatch: KETAMINE STILL PARKINSON’S” Nexstar Broadcasting, Inc.  
<https://www.wearegreenbay.com/news/healthwatch-ketamine-stills-parkinsons/>
- 12/10/2018 Channing Frampton, “Ketamine eases debilitating side effects of a Parkinson’s treatment drug” in *WINK News, Southwest Florida*  
<http://www.winknews.com/2018/12/10/ketamine-eases-debilitating-side-effects-of-a-parkinsons-treatment-drug/>
- 12/27/2018 Jeff Gardner, “Ketamine for Parkinson's Patients” featured in “Neo Pueblo Top 7 science stories of the year”, *Tucson Weekly, Tucson, AZ, Dec 27, 2018 - Jan 2, 2019, Vol. 35, No. 46, page 6.*  
<https://www.tucsonweekly.com/tucson/neo-pueblo/Content?oid=23235584>
- 10/15/2020 “PharmaTher Announces Exclusive License Agreement with the University of Arizona for the Commercialization of Ketamine in the Treatment of Parkinson’s Disease”; *Globeswire.com*  
<https://www.globenewswire.com/news-release/2020/10/15/2109164/0/en/Pharmather-Announces-Exclusive-License-Agreement-with-the-University-of-Arizona-for-the-Commercialization-of-Ketamine-in-the-Treatment-of-Parkinson-s-Disease.html>
- 10/26/2020 Forest Ray: “PharmaTher Seeking FDA Orphan Drug Designation for Ketamine for Dyskinesia”  
<https://parkinsonsnewstoday.com/2020/10/26/pharmather-seeking-fda-orphan-drug-designation-for-ketamine-for-parkinsons-dyskinesia/>
- 11/09/2020 Paul Tumarkin: “Pharma Company Licenses UArizona Method for Treating Parkinson’s Disease with Ketamine”  
<https://techlaunch.arizona.edu/news/pharma-company-licenses-u-arizona-method-treating-parkinson%E2%80%99s-disease-ketamine>
- 11/10/2020 Pharmather Inc. Licenses UArizona Parkinson’s Disease Treatment. *BizTucson.*  
<https://biztucson.com/2020/11/10/pharmather-inc-licenses-u-arizona-parkinsons-disease-treatment/>
- 12/08/2020 “PharmaTher Files FDA Pre-IND Meeting Request for Ketamine in Parkinson’s Disease”; *Globeswire.com*  
<https://www.globenewswire.com/news-release/2020/12/08/2141199/0/en/PharmaTher-Files-FDA-Pre-IND-Meeting-Request-for-Ketamine-in-Parkinson-s-Disease.html>
- 12/10/2020 “PharmaTher Granted Pre-IND Meeting with the FDA for Ketamine in Parkinson’s Disease”; *Globeswire.com*

- <https://www.globenewswire.com/news-release/2020/12/10/2142936/0/en/PharmaTher-Granted-Pre-IND-Meeting-with-the-FDA-for-Ketamine-in-Parkinson-s-Disease.html>
- 12/21/2020 Mary M. Chapman: “FDA Guidance Sought for Planned Trial of Ketamine to Treat Dyskinesia”, *Parkinson’s News Today*  
<https://parkinsonsnewstoday.com/2020/12/21/pharmather-asks-fda-help-planned-trial-ketamine-treat-dyskinesia/>
- 01/05/2021 “Pharma company licenses UArizona researchers’ method for treating Parkinson’s disease with ketamine”, *Arizona Jewish Post*  
<https://azjewishpost.com/2021/pharma-company-licenses-u-arizona-researchers-method-for-treating-parkinsons-disease-with-ketamine/>
- 02/04/2021 “PharmaTher Announces Successful Completion of Pre-IND Meeting with FDA for the Clinical Development of Ketamine in the Treatment of Parkinson’s Disease”; *Globeswire.com*  
<https://www.globenewswire.com/news-release/2021/02/04/2169918/0/en/PharmaTher-Announces-Successful-Completion-of-Pre-IND-Meeting-with-FDA-for-the-Clinical-Development-of-Ketamine-in-the-Treatment-of-Parkinson-s-Disease.html>
- 04/23/2021 Aisha Abdullah, PhD: “PharmaTher Seeking Trial of Ketamine for Levodopa-Induced Dyskinesia”; *Parkinson’s News Today*  
<https://parkinsonsnewstoday.com/2021/04/23/pharmather-seeks-parkinsons-trial-testing-ketamine-for-levodopa-induced-dyskinesia/>
- 05/17/2021 “PharmaTher Announces FDA Approval of Ketamine IND In The Treatment of Parkinson’s Disease.”; *Globeswire.com*  
<https://www.globenewswire.com/news-release/2021/05/17/2230622/0/en/PharmaTher-Announces-FDA-Approval-of-Ketamine-IND-In-The-Treatment-of-Parkinson-s-Disease.html>
- 05/18/2021 Hina Zahid: “US FDA Approves Ketamine IND For Treatment Of Parkinson’s Disease”; *Medical Dialogues*  
<https://medicaldialogues.in/neurology-neurosurgery/news/us-fda-approves-ketamine-ind-for-treatment-of-parkinsons-disease-77727>
- 05/20/2021 Forest Ray, MD: “Ketamine Advances as Treatment for Levodopa-induced Dyskinesia”; *Parkinson’s News Today*  
<https://parkinsonsnewstoday.com/2021/05/20/fda-approves-new-drug-application-ketamine-treatment-levodopa-induced-dyskinesia/>
- 05/24/2021 Marco Meglio: “FDA Approves IND for Ketamine in Parkinson Disease Dyskinesia”; *NeurologyLive.com*  
<https://www.neurologylive.com/view/fda-approves-ind-ketamine-parkinson-disease-dyskinesia>
- 10/21/2021 Patricia Inacio, PhD: “Trial Testing Ketamine as Dyskinesia Treatment Soon Enrolling Patients”; *Parkinson’s News Today*  
<https://parkinsonsnewstoday.com/2021/10/08/parkinsons-trial-testing-ketamine-dyskinesia-soon-enrolling-patients/>
- 03/23/2022 “PharmaTher Announces Positive Topline Results from Clinical Study of Ketamine for Parkinson’s Disease”; *Globeswire.com*  
<https://www.globenewswire.com/news-release/2022/03/23/2408366/0/en/PharmaTher-Announces-Positive-Topline-Results-from-Clinical-Study-of-Ketamine-for-Parkinson-s-Disease.html>

- 03/29/2022 Margarita Maia, PhD: “Ketamine Eases Levodopa-induced Dyskinesia in Phase 2 Study”; *Parkinson’s News Today*  
<https://parkinsonsnewstoday.com/2022/03/29/ketamine-eases-levodopa-induced-dyskinesia-phase-2-study/>
- 07/26/2022 Paul Tumarkin: “Following nature’s rules, researchers develop new methods for treating degenerative neurological disease”; *Tech Launch Arizona*  
<https://techlaunch.arizona.edu/news/following-natures-rules-researchers-develop-new-methods-treating-degenerative-neurological>
- 09/16/2022 “PharmaTher Announces Late-Breaking Abstract Presentation of Positive Efficacy and Safety Data from Phase 1/2 Clinical Study of Ketamine in the Treatment of Levodopa-Induced Dyskinesia in Parkinson’s Disease at the MDS International Congress of Parkinson’s”; *wallstreet-online.de*  
<https://www.wallstreet-online.de/nachricht/15943281-pharmather-announces-late-breaking-abstract-presentation-of-positive-efficacy-and-safety-data-from-phase-1-2-clinical-study-of-ketamine-the-treatment-of-levodopa-induced-dyskinesia-parkinson-s-disease-at-the-mds-international-congress-of-parkinson-s>
- 09/17/2022 Interview with Dr. Falk: “MDS 2022 | Low-dose ketamine produces long-term reduction in levodopa-induced dyskinesia”; *VJ Neurology, The Video Journal of Neurology*  
<https://vjneurology.com/video/4sygods1txk-low-dose-ketamine-produces-long-term-reduction-in-levodopa-induced-dyskinesia/>  
<https://vjneurology.com/video/0po5pbp8vqy-long-term-effects-of-treating-levodopa-induced-dyskinesia-with-sub-anesthetic-ketamine/>  
<https://vjneurology.com/video/lhrfjv5qxl0-extending-the-efficacy-of-levodopa-in-patients-with-parkinsons-disease/>
- 09/20/2022 Andrea Lobo: “Phase 1/2 Trial Supports Ketamine for Levodopa-induced Dyskinesia”; *Parkinson’s News Today*  
<https://parkinsonsnewstoday.com/news/phase-1-2-trial-supports-ketamine-for-levodopa-induced-dyskinesia/>
- 03/08/2023 College of Medicine – Tucson Faculty and Departments Honored with Awards;  
<https://medicine.arizona.edu/news/2023/college-medicine-tucson-faculty-and-departments-honored-awards>
- 03/29/2023 “PharmaTher Holdings Announces Update of Type C Meeting with the FDA for KETARX™ (Ketamine) in Parkinson’s Disease”; *Biospace.com*  
<https://www.biospace.com/article/releases/pharmather-holdings-announces-update-of-type-c-meeting-with-the-fda-for-ketarx-ketamine-in-parkinson-s-disease/>
- 05/04/2023 Marisa Wexler: “PharmaTher seeks fast-track status for ketamine”; *Parkinson’s News Today*  
[https://parkinsonsnewstoday.com/news/fast-track-ketamine-levodopa-induced-dyskinesia/?utm\\_source=PAR&utm\\_campaign=e6874076ff-PAR\\_ENL\\_3.0\\_US&utm\\_medium=email&utm\\_term=0\\_62dd4fb5e3-e6874076ff-71471225](https://parkinsonsnewstoday.com/news/fast-track-ketamine-levodopa-induced-dyskinesia/?utm_source=PAR&utm_campaign=e6874076ff-PAR_ENL_3.0_US&utm_medium=email&utm_term=0_62dd4fb5e3-e6874076ff-71471225)
- 05/16/2024 Gina Shaw: “The State of Current Research on Ketamine for Neurologic Disorders”; *Neurology Today*  
[https://journals.lww.com/neurotodayonline/fulltext/2024/05160/the\\_state\\_of\\_current\\_research\\_on\\_ketamine\\_for.8.aspx](https://journals.lww.com/neurotodayonline/fulltext/2024/05160/the_state_of_current_research_on_ketamine_for.8.aspx)



## RADIO AND TV INTERVIEWS

- 06/29/2018 *Arizona Public Media*: “Developing a New Therapeutic Approach to Treat Parkinson’s Disease;  
<https://www.azpm.org/p/home-art-radio/2018/6/29/132418-episode-137-developing-a-new-therapeutic-approach-to-treat-parkinsons-disease/>
- 07/19/2018 Bridget Dowd, “UA Researchers Repurpose Ketamine For Parkinson's Patients”, *KJZZ 91.5 FM Radio, Phoenix, AZ*  
<https://kjzz.org/content/672770/ua-researchers-repurpose-ketamine-parkinsons-patients>  
<https://www.youtube.com/watch?v=CR2XHfTjol4>
- 07/19/2018 *KVOA TV, Tucson, AZ*; “UA to begin clinical trial to test treatment for Parkinson's disease”  
<http://www.kvoa.com/story/38688838/university-of-arizona-to-begin-clinical-trial-to-test-treatment-for-parkinsons-disease>
- 07/26/2018 “UA Clinical trial aimed at helping people with Parkinson's disease” rebroadcast:  
  - [KFOR-OKC \(NBC\)](#)
  - [KOMU \(NBC\)](#)
  - [KWQC-DAV](#)
  - [KWES \(NBC\)](#)
  - [KAVU \(ABC\)](#)
  - [KXAN-AUS](#)
  - [KSPR \(ABC\)](#)
  - [KPVI \(NBC\)](#)
  - [KMTR \(NBC\)](#)
  - [KNTV-SF \(NBC\)](#)
  - [KECY-TV \(FOX\)](#)
  - [WDSU-NO \(NBC\)](#)
  - [WRLH-RIC](#)
- 08/04/2018 *KGUN9 TV, Tucson, AZ*; “UA to begin clinical trial to test treatment for Parkinson's disease”  
<https://www.kgun9.com/news/local-news/ua-clinical-trial-to-repurpose-drug-for-parkinson-s-patients>
- 10/04/2018 *WCTV, Tallahassee, FL*: “Ketamine may be used to ease uncontrollable movements in Parkinson’s patients”  
<https://www.wctv.tv/content/news/Ketamine-may-be-used-to-ease-uncontrollable-movements-in-Parkinsons-patients-495135131.html>
- 10/05/2018 Maureen McFadden: “An existing drug can help curb side effects of Parkinson’s medication”  
*WNDU, South Bend, IN*;  
<https://www.wndu.com/content/news/An-existing-drug-can-help-curb-side-effects-of-Parkinsons-medication-495300131.html>
- 10/11/2018 *Ivanhoe Broadcast News Interview*: “Ketamine stills Parkinson’s”  
Video: <https://www.youtube.com/watch?v=8XTwCjtcrUM>  
Interview: <https://www.ivanhoe.com/interview/ketamine-stills-parkinsons-in-depth-doctor-interview/>
- 10/15/2018 Courtney Hunter: “Healthy Living: Ketamine vs. Parkinson’s”  
*9&10 News, Cadillac, MI*;  
<https://www.9and10news.com/2018/10/15/healthy-living-katamine-vs-parkinsons/>
- 10/16/2018 Melanie Falcon: “Health Beat: Ketamine stills Parkinson's”  
*69 News, Allentown, PA*;

Torsten Falk, Ph.D., Curriculum Vitae

- <http://www.wfmz.com/health/health-beat/health-beat-ketamine-stills-parkinson-s/807826167>
- 10/17/2018 *UPmatters.com, Marquette, WI*, “New treatment for Parkinson's patients”  
<https://www.upmatters.com/news/healthwatch/new-treatment-for-parkinson-s-patients/1532257793>
- 10/19/2018 *KFDX 3.Texomas, Wichita Falls, TX*: “Healthcast: Ketamine stills Parkinson's disease”  
[https://www.texomashomepage.com/video/healthcast-ketamine-stills-parkinson-s-disease\\_20181020000611/1536635928](https://www.texomashomepage.com/video/healthcast-ketamine-stills-parkinson-s-disease_20181020000611/1536635928)
- 10/22/2018 *WQAD8 (ABC)* “YOUR HEALTH: An old drug to help Parkinson’s patients facing side effects”  
<https://www.wqad.com/article/news/health/your-health/your-health-an-old-drug-to-help-parkinsons-patients-facing-side-effects/526-87e4efb7-5e57-45b4-8d67-35d1d2ea2b62>
- 12/02/2018 “Health Watch: Ketamine Stills Parkinson's”; *abc30.com*  
<https://abc30.com/health-watch-parkinsons-levodopa-university-of-arizona/4810509/>

## INVITED LECTURES

- 10/03/1995 Seminar, Department of Anesthesiology, UCLA, Los Angeles, CA
- 10/06/1995 Seminar, Department of Molecular, Cellular and Developmental Biology, UCSB, Santa Barbara, CA
- 10/08/1995 Seminar, Section of Cell and Developmental Biology, UCSD, San Diego, CA
- 10/09/1995 Seminar Series, Committee on Neuroscience, University of Arizona, Tucson, AZ
- 10/14/1995 Seminar, Division of Biology, California Institute of Technology, Pasadena, CA
- 10/17/1995 Seminar, Departments of Cell and Developmental Biology and Molecular and Medical Genetics, Vollum Institute, Oregon Health Sciences University, Portland, OR
- 01/25/1996 Seminar, Department of Molecular Genetics, German Institute for Nutritional Research, Potsdam-Rehbruecke, Germany
- 03/18/1996 Seminar, Department of Membrane Biophysics, Max Planck Institute for Biophysical Chemistry, Goettingen, Germany
- 11/07/1997 Physiology Seminar Series, Department of Physiology, College of Medicine, University of Arizona, Tucson, AZ
- 01/09/1998 Oral presentation, Meeting of the Arizona Chapter-Society for Neuroscience in Phoenix, AZ
- 11/06/1999 Oral presentation, Meeting of the Arizona Chapter-Society for Neuroscience in Flagstaff, AZ
- 09/28/2001 Physiology Seminar Series, Department of Physiology, College of Medicine, University of Arizona, Tucson, AZ
- 08/19/2002 Seminar, Department of Physiology, UKE, University of Hamburg, Germany
- 02/17/2005 Grand Rounds, Department of Neurology, College of Medicine, University of Arizona, Tucson, AZ
- 11/06/2007 Oral Presentation, ‘Parkinson’s disease: Therapeutics’ Session, Society for Neuroscience Meeting in San Diego, CA
- 03/25/2008 Invited Neuroscience Community “Data-Blitz”, Tucson, AZ
- 05/09/2008 Grand Rounds, Department of Neurology, College of Medicine, University of Arizona, Tucson, AZ

- 10/09/2009 Grand Rounds, Department of Neurology, College of Medicine, University of Arizona, Tucson, AZ
- 11/03/2009 Seminar, Committee on Neuroscience, University of Arizona, Tucson, AZ
- 09/28/2010 Physiology Seminar Series, Department of Physiology, College of Medicine, University of Arizona, Tucson, AZ
- 10/29/2010 Grand Rounds, Department of Neurology, College of Medicine, University of Arizona, Tucson, AZ
- 07/26/2011 Seminar, Michael J. Fox Foundation for Parkinson's Research, New York, NY
- 10/28/2011 Grand Rounds, Department of Neurology, College of Medicine, University of Arizona, Tucson, AZ
- 11/29/2011 Neuroscience Community "Data-Blitz", Tucson, AZ
- 03/15/2012 Invited Oral Presentation, 23rd Annual 'Spring Brain Conference', March 14-17, 2012, Tucson, AZ
- 03/29/2012 Genetics Grand Rounds, University of Arizona, Tucson, AZ
- 10/13/2012 Oral Presentation, 'Dopamine: Functional Translational Studies' Nanosymposium, Society for Neuroscience Meeting in New Orleans, LA
- 10/24/2012 Pharmacology Seminar Series, University of Arizona, Tucson, AZ
- 12/14/2012 Grand Rounds, Department of Neurology, College of Medicine, University of Arizona, Tucson, AZ
- 12/06/2013 Grand Rounds, Department of Neurology, College of Medicine, University of Arizona, Tucson, AZ
- 12/19/2013 Seminar, Klinik und Poliklinik für Neurologie, Universitätsklinikum Bonn, Bonn, Germany
- 10/24/2014 Seminar on rodent Parkinson's disease models, University Animal Care Seminar Series, University of Arizona, Tucson, AZ
- 10/28/2014 Invited Neuroscience Community "Data-Blitz", Tucson, AZ
- 11/25/2014 Seminar on opioid glycopeptides, College of Pharmacy Drug Discovery & Development Seminar Series, University of Arizona, Tucson, AZ
- 12/12/2014 Grand Rounds on Neuroprotection, Department of Neurology, College of Medicine, University of Arizona, Tucson, AZ
- 02/17/2015 Seminar, Banner Sun Health Research Institute, Sun City, AZ
- 06/01/2015 Selected oral presentation at 35<sup>th</sup> Blankenese Conference; Brain Repair: From Regeneration to Cellular Reprogramming, Hamburg, Germany
- 10/08/2015 Invited presentation at the Arizona PD summit, Mayo Clinic, Scottsdale, AZ
- 11/06/2015 Grand Rounds on L-DOPA-induced dyskinesia, Department of Neurology, College of Medicine, University of Arizona, Tucson, AZ
- 11/10/2015 Seminar on Neuroprotection, College of Pharmacy Drug Discovery & Development Seminar Series, University of Arizona, Tucson, AZ
- 04/19/2016 Invited Neuroscience Community "Data-Blitz", Tucson, AZ
- 06/10/2016 Invited Data Blitz Talk at the Pain Mechanisms and Therapeutics Conference in Taormina, Sicily
- 12/09/2016 Grand Rounds on ketamine treatment for Parkinson's disease, Department of Neurology, College of Medicine, University of Arizona, Tucson, AZ
- 01/11/2017 Seminar on low-dose ketamine as a chemical DBS to treat multiple disorders, Department of Pharmacology, University of Arizona, Tucson, AZ
- 01/22/2018 Invited Neuroscience Research "Data-Blitz", Tucson, AZ
- 03/02/2018 Grand Rounds on neuroplastic effects of ketamine treatment, Department of Neurology, College of Medicine, University of Arizona, Tucson, AZ

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- 11/20/2018 Invited Speaker at the Parkinson's Disease "Data Blitz", MOCA, Tucson, AZ  
04/12/2019 Grand Rounds on development of neuroprotective mechanisms of VEGF-B for the treatment of Parkinson's disease, Department of Neurology, College of Medicine, University of Arizona, Tucson, AZ  
02/26/2020 Selected Oral Presentation at the 5th Annual ABRC-Flinn Research Conference, Phoenix, AZ  
08/21/2020 Grand Rounds on preclinical evidence in support of repurposing sub-anesthetic ketamine as a treatment for L-DOPA-induced dyskinesia, Department of Neurology, College of Medicine, University of Arizona, Tucson, AZ  
03/19/2021 Invited Seminar on preclinical evidence in support of repurposing sub-anesthetic ketamine as a treatment for L-DOPA-induced dyskinesia, Department of Natural Sciences, Baruch College, CUNY, New York, NY  
05/02/2021 Data Blitz Presentation on the anti-dyskinetic activity of ketamine, UA COM Research Day 2021, Tucson, AZ  
10/22/2021 Grand Rounds Department of Neurology, College of Medicine, University of Arizona, Tucson, AZ  
04/05/2022 Invited Neuroscience Community "Data-Blitz", MOCA, Tucson, AZ  
10/14/2022 Invited Seminar; Friday Frontiers in Biomedical Science Series, College of Medicine, Tucson, AZ  
03/24/2023 Grand Rounds Department of Neurology, College of Medicine, University of Arizona, Tucson, AZ  
08/30/2023 Invited Seminar on Repurposing Ketamine for L-DOPA-induced Dyskinesia, Lundbeck Pharmaceuticals, Copenhagen, Denmark  
01/23/2024 Invited Seminar on Repurposing Ketamine for L-DOPA-induced Dyskinesia, Department of Translational Neuroscience, Michigan State University, Grand Rapids, MI  
11/08/2024 Grand Rounds Department of Neurology, College of Medicine, University of Arizona, Tucson, AZ

## GRANTS AND CONTRACTS

### Active:

R01 NS122805

PI: Falk

NIH/NINDS

Mechanisms of low-dose ketamine treatment for Parkinson's disease

Purpose: The major goals of this project are to evaluate the molecular, cellular and systems mechanisms underlying its therapeutic activity in a preclinical model of L-DOPA-induced dyskinesia.

Dates: 07/01/2021 to 06/30/2025

Supplement to R01 NS122805

PI: Falk

NIH/NINDS

Mechanisms of Low-Dose Ketamine Treatment for Parkinson's Disease: Diversity Admin Supplement.

Purpose: Diversity Supplement for Predoctoral Training for Raveena Parmar, graduate student in the Falk laboratory

Dates: 04/01/2023 to 06/30/2025



Torsten Falk, Ph.D., Curriculum Vitae

Identification of network and oscillatory signatures of the LRRK2 mutation

Purpose: To evaluate and compared LRRK2 knock-out mice to toxin-lesioned Parkinson's disease animals and controls.

Dates: 08/01/2015 to 08/31/2016

R24 MH 109060-01

PI: Witte; Collaborator: Falk

NIH/NIMH

High resolution electrical brain mapping by real-time and portable 4D Acoustoelectric Imaging

Purpose: The major goal of this project is to test a novel imaging modality.

Dates: 09/30/2015 to 09/29/2018

R01 NS091238

PI: Polt; Co-I: Falk

NIH/NINDS

PACAP/VIP Glycopeptide Agonists as Neuroprotective Therapies for Parkinson's Disease

Purpose: The major goals of this project are to evaluate specific activity, stability, blood-brain barrier penetrance and effective neuroprotection of PACAP/VIP glycopeptides in preclinical Parkinson's disease models.

Dates: 09/30/2015 to 09/30/2021

Michael J. Fox Foundation for Parkinson's Research

PI: Cowen; Co-I: Falk

Identification of network, oscillatory, and behavioral signatures of LRRK2 expression

Purpose: To evaluate and compare LRRK2 knock-out and LRRK2 G2019S knock-in mice and controls.

Dates: 08/01/2017 to 09/01/2019

F31 NS105455

PI: Zbesko; Consultant: Falk

NIH/NINDS

The role of T-lymphocytes and antibodies in B-lymphocyte mediated post-stroke cognitive decline

Purpose: The goal of this project is to investigate the mechanisms by which B-lymphocytes cause delayed memory deficits following stroke.

Dates: 09/01/2017 to 05/31/2020

Eleanor Bauwens Research Award

PI: Morrison; Co-I: Falk

Mechanisms of VEGF-B to decrease brain injury after ischemic stroke in male and female mice

Purpose: The goal of this project is to investigate the mechanisms and possible sex differences in VEGF-B's protective activity.

Dates: 08/01/2019 to 07/31/2020

R56 NS109608

PI: Falk

NIH/NINDS

Mechanisms of low-dose ketamine treatment for Parkinson's disease

Purpose: The major goals of this project are to evaluate the molecular, cellular and systems mechanisms underlying its therapeutic activity in a preclinical model of L-DOPA-induced dyskinesia.

Dates: 09/15/2019 to 06/30/2021

ADHS18-198846

MPIs: Sherman; Falk

Arizona Biomedical Research Commission (ABRC)

Ketamine, a New Symptomatic Treatment for Parkinson's Disease

Purpose: Aim 1 - Preclinical evaluation of mechanisms of action; and Aim 2 - Clinical testing of ketamine in Phase I and II trials

Dates: 04/01/2018 to 09/30/2022

## **PATENTS / LICENCES**

- 06/05/2009 Provisional Patent Application “The novel opioid peptide MMP-2200 as an anti-dyskinetic agent for Parkinson’s disease patients with levodopa-induced dyskinesias” filed (Royalty: 45%).
- 04/05/2011 Provisional Patent Application “VEGF-B” filed (Royalty: 50%).
- 08/17/2013 Provisional Patent Application “Glycosylated PACAP/VIP Analogues for Treatment of Neurodegenerative Diseases” filed (Royalty: 50%).
- 08/14/2014 International Application No: PCT/US14/51143 “Glycosylated PACAP/VIP Analogues for Treatment of Neurodegenerative Diseases” filed (equal inventors: **T. Falk** and R. Polt).
- 05/15/2015 Provisional Patent Application “UA14-139 Novel Treatment for Levodopa Induced Dyskinesia Associated with Parkinson's Disease” filed (Royalty: 33.33%).
- 02/16/2016 PCT Application No: PCT/US14/51143, “Glycosylated PACAP/VIP Analogues with Enhanced CNS Penetration for Treatment of Neurodegenerative Diseases” filed (equal inventors: **T. Falk** and R. Polt).
- 05/12/2016 PCT Application No: UAZ-34446/US16/PRO “Novel Treatment for Levodopa Induced Dyskinesia Associated with Parkinson's Disease” filed (equal inventors: **T. Falk**, S.J. Sherman and M. Estevez).
- 11/05/2018 PCT Application No: UA16-144 (16/181,129) filed, “GLYCOPEPTIDES AND USES THEREOF” (inventors: **T. Falk**, M.L. Heien, J. Streicher and R. Polt).
- 11/06/2018 **Patent US 10,117,907 B2 issued** “Glycosylated PACAP/VIP Analogues with Enhanced CNS Penetration for Treatment of Neurodegenerative Diseases” (equal inventors: **T. Falk** and R. Polt).
- 10/15/2020 **PharmaTher Inc. licensed** UAZ-34446/US16/PRO “Novel Treatment for Levodopa Induced Dyskinesia Associated with Parkinson's Disease” (inventors: **T. Falk** (47.5%), S.J. Sherman (47.5%) and M. Estevez (5%)).
- 02/07/2020 PCT Application UA18-020 16/637,702) filed “Glycopeptide and Classical Drug Design” (inventors: **T. Falk**, M.L. Heien, J.M. Streicher, C. Liu, C.R. Apostol, L. Szabo and R. Polt).
- 05/17/2021 **PharmaTher Inc. received FDA Approval for IND 154075** for a Multi-Center, Phase IIA, Randomized, Double-Blind, Prospective, Active Placebo-Controlled Trial to evaluate the safety, efficacy and pharmacokinetics of ketamine in the treatment of levodopa-induced dyskinesia in patients with Parkinson’s disease (“**KET-LID**”; **NCT04912115**)
- 05/27/2021 Co-Founder, Equity partner, and Head of Biology, **Teleport Pharmaceuticals, LLC** (together with R. Polt, and M.L. Heien).
- 06/11/2021 “Study may proceed” letter from FDA for IND 154075.
- 08/29/2022 Application 17/898,082 “Composition and methods for treating motor disorders” filed as Continuation to Patent US 11,426,366 B2 (equal inventors: **T. Falk** and Sherman)

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- 08/30/2022 **Patent US 11,426,366 B2 issued** “Composition and methods for treating motor disorders” (based on UAZ-34446/US16/PRO; equal inventors: **T. Falk**, S.J. Sherman and M. Estevez).
- 05/02/2023 PharmaTher Inc. submits **Fast Track Application** to FDA for KETARX™ (Ketamine) for the Treatment of Parkinson’s disease.

## TEACHING

### General Teaching Contributions:

- 1995 Giving seminars and supervising a practical course in muscle physiology for medical students at the UKE, University of Hamburg, Hamburg, Germany
- 1996-present Supervision of high school, medical, undergraduate and graduate students during their rotation projects at the University of Arizona
- 2004-2005 Organizing Neuroscience Seminar Series
- 2006-present Organizer of Lab meetings/Journal Club for joined Falk-Sherman laboratory
- 2007 Teaching Seminar ‘Neurodegenerative disease’ as part of PSIO 603A
- 2007 Backup as Case-Based Instruction Facilitator for Dr. B.S. McKay
- 2012-2017 Participant in the “Neurology Journal Club,” organized by Dr. L. Madhavan
- 2013 Backup as Case-Based Instruction Facilitator for Dr. B.S. McKay
- 03/06/2013 Panel Discussion with Honors Students in Physiology
- 2014 Backup as Case-Based Instruction Facilitator for Dr. B.S. McKay
- 2016 Western Alliance to Expand Student Opportunities (WAESO) Project funded for Fall Semester: “Exosomes: localization of a control point for protein uptake”
- 2017 Western Alliance to Expand Student Opportunities (WAESO) Project funded for Spring Semester: “Exosomes: localization of a control point for protein uptake”
- 03/15/2017 Figueroa AG\*, Sadideen DT\*, **Falk T**, McKay BS; Exosomes: Localization of a control point for cargo uptake. *Poster presentation at 12<sup>th</sup> Annual Western Alliance to Expand Student Opportunities (WAESO) Conference*; Arizona State University, Tempe, AZ.
- 2017-2018 Participant in the “Current Research in Vision and Neurodegeneration Colloquium” organized by Drs. K.P. Doyle and B.S. McKay (OPH 696)
- 03/08/2017 Panel Discussion with Honors Students in Physiology
- 09/13/2017 Neuroscience and Cognitive Science (NSCS) Research Blitz
- 11/08/2017 Panel Discussion with Honors Students in NSCS
- 02/15/2018 Lecture on Parkinson’s disease in *Current Topics in Physiology Class* (Psio 489)
- 03/28/2018 Neuroscience and Cognitive Science (NSCS), Nu Rho Psi Career Panel Discussion Event
- 08/14/2018 Arizona Biological and Biomedical Sciences (ABBS) Orientation Poster Session
- 01/28/2019 Neuroscience Recruitment Research Data blitz
- 04/18/2019 Neuroscience GIDP Journal Club
- 01/27/2020 Neuroscience Recruitment Research Data blitz
- 2021-2022 Monthly Joined Systems/Behavioral ‘*Virtual Mountain Labs Meeting*’; UA, Univ. of Montana, and Univ. of Lethbridge, Alberta, Canada
- 03/01/2022 Presentation at the “UBRP Conversations with Faculty”
- 04/13/2022 Seminar on Repurposing of sub-anesthetic ketamine for Parkinson’s disease in the “Current Research in Vision and Neurodegeneration Colloquium” organized by Drs. K.P. Doyle and B.S. McKay (OPH 696)



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01/23/2023 Neuroscience Recruitment Research Data blitz  
02/17/2023 Faculty Feedback for Student Seminar in Physiological Sciences GDP  
03/15/2023 Lecture on: “Dopaminergic System, Movement, Parkinson’s disease”; part of Neuropharmacology Course PHCL 553  
03/18/2024 Lecture on: “Dopaminergic System, Movement, Parkinson’s disease”; part of Neuropharmacology Course PHCL 553  
11/04/2024 Networking dinner, Neuroscience and Cognitive Science Association of Students (NSCSAS)  
12/09/2024 Lecture on: “Parkinson’s disease”; part of Neuroscience Course NRSC 588

**Advising** (number of faculty mentees) – 1  
(number of postdoctoral advisees) – 6  
(number of graduate advisees) – 12  
(number of graduate rotation students) – 10  
(number graduate student committees) – 29  
(number of undergraduate advisees) – 40  
(number of honors theses supervised) – 13  
(number of high school advisees) – 17

**Office hours** – I keep an open-door policy; any student can have my attention as needed.

**Mentoring** – as outlined below.

**Career Counseling** – when needed.

**Individual Student and Mentee Contact - Independent studies directed (Chronological in Sections):**

**Faculty mentor:**

2017-2020 Helena W. Morrison, PhD, RN, Assistant Professor – Tenure Track, Biobehavioral Health Science Division, College of Nursing, UAHS; received tenure and promotion to Associate Professor in 07/2020

**Postdoctoral mentor:**

2005-2007 Jennifer Y. Xie, PhD; “Retinal pigment cell transplantation for Parkinson’s disease: methods to enhance neurotrophic potential”; currently Associate Professor, Department of Biomedical Sciences, NYITCOM at Arkansas State University, Jonesboro, AR; co-mentor  
2007-2011 Xu Yue, MD, “Effects of the opioid agonist MMP-2200 in preclinical models of Parkinson’s disease”; currently Research Scientist, Department of Pharmacology, University of Arizona; co-mentor  
2018-2019 Tony Ye, PhD; “Preclinical studies evaluating molecular and systems level mechanisms of ketamine’s action to reduce L-DOPA-induced dyskinesia”; until 2022 postdoctoral *NIH T32 scholar* at the UCLA Medical School in Los Angeles, CA; currently Research Scientist at Lundbeck Pharmaceutical, Copenhagen, Denmark; mentor

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- 2019-2022 Mitchell J. Bartlett, PhD; “Preclinical mechanistic evaluation of anti-dyskinetic and protective effects of low-dose ketamine-treatment”; currently Associate Scientific Investigator, Director of the Lymphology-Surgical Biology Laboratory, Assistant Director of the NIH-funded Summer Institute on Medical Ignorance, Department of Surgery, University of Arizona; mentor
- 2024- Asier Aristieta, PhD; “Optogenetic Investigation of the anti-dyskinetic effects of ketamine”; co-mentor (primary mentor Dr. S.L. Cowen)
- 2024- Kelsey Bernard, PhD; “Evaluation of the glycopeptide PNA5 as a novel treatment for cognitive decline in Parkinson’s disease”; co-mentor (primary mentor Dr. L. Madhavan)

### **Medical Student Research Program (MSRP) and MD mentoring/supervising:**

- 1998-2002 Ramsey K. Kilani, MD; currently Adjunct Associate in Radiology, Duke University; Chief Medical Officer at Global Security and Innovative Strategies (GSIS); supervisor (SJ Sherman, mentor)
- 2005 Rebecca Milholland, MD, PhD; currently at the Center for Neurosciences and Medical Director for the Oro Valley Hospital stroke program, Tucson AZ; co-mentor
- 2008 Swapna Putta, MD; currently Instructor in Neurology at Brigham and Women's Hospital, Neurology, Boston MA; supervisor (SJ Sherman, mentor)
- 2009 Miriam I. Harris, MD; currently Family Practice in Fresno CA; co-mentor (MSRP)
- 2009+2011 Brandon K. Root, MD (received the “Walton van Winkle award for excellence in surgical research” for his work); Residency, Section of Neurosurgery, Dartmouth Medical School; currently Neurosurgeon in Saint Louis, MO; co-mentor (MSRP)
- 2012 Mitchell J. Bartlett; mentor (MSRP)
- 2013 Mitchell J. Bartlett; received an American Parkinson’s Disease Association (APDA) Summer Medical Fellowship for this work; mentor
- 2013 Christopher Chen Wu; currently Resident/Fellow, Department of Emergency Medicine at UA; mentor (MSRP)
- 2014-2015 Mitchell J. Bartlett; Research Year; “Effects of opioid glycopeptides in a preclinical L-DOPA-induced dyskinesia model”; graduated with a PhD in Medical Pharmacology at UA; mentor
- 2015 Hong Fang, MS; Visiting Student from Shanghai University of Traditional Chinese Medicine; co-mentor (H Lei, mentor)

### **Undergraduate Student mentoring/supervising:**

- 1997-1998 Ramsey K. Kilani; graduated University of Arizona with MD; Adjunct Associate in Radiology, Duke University; Chief Medical Officer at Global Security and Innovative Strategies (GSIS); supervisor (SJ Sherman, mentor)
- 1998-1999 Rebecca S. Borders; graduated University of Arizona with MD; currently at Penn State Health Department of Radiology, Pittsburgh, PA; supervisor (SJ Sherman, mentor)
- 1998-1999 Lori A. Strazdas; graduated University of Arizona, School of Public Health, Masters of Public Health; currently Public Health Liaison with CloroxPro’s Clinical & Scientific Affairs; supervisor (SJ Sherman, mentor)

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- 2001-2002 Kevin Cushing; graduate studies in Chemistry, Northern Arizona University; currently Researcher at the Army Research Laboratory; supervisor (SJ Sherman, mentor)
- 2002-2005 Amit Kumar, Applied Mathematics; “Modeling K channels in hippocampal neurons and myotubes using the NEURON software”; supervisor (SJ Sherman, mentor)
- 2003-2004 Jason W. Worrell, Physiology, “Sub-cloning of promoters into viral shuttle plasmids”; currently a research scientist, Department of Neurobiology, David Geffen School of Medicine, UCLA; mentor
- 2005-2006 Emilie L. Erbe; graduated University of Utah, Physician’s Assistant; supervisor (SJ Sherman, mentor)
- 2006-2007 Janelle Kennedy; graduated Rosalind Franklin University of Medicine and Science, Chicago, Physician’s Assistant; supervisor (SJ Sherman, mentor)
- 2005-2008 Gabriel B. Sherman; Summer Student; graduated with a Masters in Urban Planning at Rutgers University, Project Manager for Minnehaha Creek Watershed District; mentor
- 2007-2010 Brandon J. Yee, Physiology, Undergraduate Biology and Research Program (UBRP); graduated from University of Arizona Eller School of Business; Investment Advisor Representative working at Versant Capital Management; supervisor (SJ Sherman, mentor)
- 2008-2010 Robert T. Gonzalez, Chemistry and Biochemistry (CBC), Undergraduate Biology and Research Program (UBRP); *CBC Outstanding Senior* Fall 2010; “The Yin and Yang of VEGF and PEDF: Multifaceted Neurotrophic Factors and their Potential in the Treatment of Parkinson’s disease”; currently Senior Associate Editor at WIRED; co-mentor
- 2011-2013 Shiana J. Ferng, Biochemistry, Undergraduate Biology and Research Program (UBRP), “Evaluation of a Parkinson’s disease model in medaka fish”; received “American Society for Biochemistry and Molecular Biology (ASBMB) Undergraduate Affiliate Network Research Award”; graduated with a dual MBA/Masters of Public Health degree, Mel and Enid Zuckerman College of Public Health and Eller College of Management, University of Arizona; currently Sr. Customer Success Account Manager, US Manufacturing at Microsoft, Portland, ME; co-mentor
- 2012-2013 Allison R. Morley, Biochemistry, “The Effect of VEGF Receptor Knock-outs on the Development of Parkinson’s disease in *C. elegans*”; Masters in Biochemistry at Georgetown University; currently Clinical Project Coordinator at PCM TRIALS, Arvada, CO; mentor
- 2012-2013 Tom Do Hoon Kwon, Molecular & Cellular Biology, “The role of *Caenorhabditis elegans* glutamate transporters in a model of selenium-induced neurodegeneration”; co-mentor
- 2012-2013 David E. Gonzalez; supervisor (HL Rilo, mentor)
- 2014 Dianna Padilla, UCLA; NIH-funded Summer Institute on Medical Ignorance program for undergraduate students, University of Arizona; graduated from UCLA, currently at Semel Institute for Neuroscience and Human Behavior, UCLA, CA; mentor
- 2015-2016 Connie T. Tran, Molecular & Cellular Biology; currently Registered Nurse at Memorial Hermann Health System, TX, and enrolled in the UA College of Nursing’s DNP program’s Family Nurse Practitioner specialty; mentor

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- 2015-2016 Dyana C.Y. Muller, Neuroscience and Cognitive Science (NSCS); 2018 Amgen Scholar at Berkeley; currently PhD Student in Neuroscience at UC Berkeley, CA; mentor
- 2015-2017 Benjamin D. Silashki, Physiology; currently in medical school class of 2024 at Midwestern University in Glendale, AZ; mentor
- 2016 Asim H. Zehri; graduated medical school class of 2021 at UA; currently resident at Wake Forest University Medical Center in Winston-Salem, NC; mentor
- 2017-2018 Raul Nava, Physiology, Undergraduate Research Opportunities Consortium (UROC) Minority Health Disparities (MHD) summer research program 2017; graduated with a Master degree in the UA Physiological Sciences Interdisciplinary Graduate Program 2021; currently Research Technician at the University of Arizona College of Medicine; mentor
- 2018-2019 Mary R. Schnellman, Neuroscience and Cognitive Science (NSCS); currently pursuing a JD at Saint Louis University Law School, St Louis, MO; mentor
- 2021-2022 Juben L. Saez, Physiology; NIH-funded Summer Institute on Medical Ignorance (SIMI) program for undergraduate students 2021; currently pursuing a DO at Arizona College of Osteopathic Medicine (AZCOM); mentor
- 2022 Kathaleen López-Smith, Associate of Art: Life Science Student – Public Health Tohono O’odham Community College: Sells, Arizona; co-mentor
- 2022 Lilian German, NIH-funded Summer Institute on Medical Ignorance (SIMI) program for Undergraduate students, University of Arizona; currently undergraduate student in Neuroscience and Cognitive Science (NSCS) and Criminology at University of Arizona; mentor
- 2022-2024 Jesus A. Mota, Biomedical Engineering; Undergraduate Biology Research Program (UBRP); currently Research And Development Engineer at SynCardia Systems, LLC; mentor
- 2023 Dillan A. Rhodes, Honors Thesis, Chemistry & Biochemistry; mentor

### **High School Student mentoring:**

- 2012 Mary N. Nguyen; NIH-funded Summer Institute on Medical Ignorance (SIMI) program, University of Arizona; graduated from Brown University; Masters in Evidence-Based Social Intervention and Policy Evaluation at Oxford University, England; mentor
- 2013 Thomas White; NIH-funded Summer Institute on Medical Ignorance (SIMI) program for high school students, University of Arizona; graduated with BA from University of Arizona; co-mentor
- 2013 Nicole Robles; NIH-funded Summer Institute on Medical Ignorance (SIMI) program for high school students, University of Arizona; currently undergraduate student at University of Arizona; mentor
- 2014 Genesis Zazueta; NIH-funded Summer Institute on Medical Ignorance (SIMI) program for high school students, University of Arizona; co-mentor
- 2014-2015 Genesis Zazueta; Independent research project, part of ‘Biotechnology and Honors Research Methods’, Tucson High Magnet School; graduated with BS in Public Health from University of Arizona in 2019, Dean's List with Distinction in 2016; currently graduate student in Nursing, University of Arizona; mentor

- 2015 Niera L.R. Nez; NIH-funded Summer Institute on Medical Ignorance (SIMI) program for high school students, University of Arizona; selected as a Dell Finalist/Scholar for the class of 2016; mentor
- 2016 Alexander Esqueda; NIH-funded Summer Institute on Medical Ignorance (SIMI) program for high school students, University of Arizona; currently graduate student In Neuroscience at Yale University; mentor
- 2017 Catherine Fuentes, NIH-funded Summer Institute on Medical Ignorance (SIMI) program for high school students, University of Arizona; currently undergraduate student at University of Arizona; mentor
- 2018 Gaige Tucker, Keep Engaging Youth in Science (KEYS) Research Internship Program; currently undergraduate student at University of Arizona; mentor
- 2018 Jaqueline Yepiz, NIH-funded Summer Institute on Medical Ignorance (SIMI) program for high school students, University of Arizona; currently undergraduate student at University of Arizona; mentor
- 2018 Jimena Lamadrid, NIH-funded Summer Institute on Medical Ignorance (SIMI) program for high school students, University of Arizona; mentor
- 2019 Isabella Fox, NIH-funded Summer Institute on Medical Ignorance (SIMI) program for high school students, University of Arizona; mentor
- 2019 Fernanda Montes, NIH-funded Summer Institute on Medical Ignorance program for high school students, University of Arizona; mentor
- 2020 Isabella Fox, Senior Project for BASIS Chapter High School Tucson North; mentor
- 2020 Isabella Fox, NIH-funded Summer Institute on Medical Ignorance (SIMI) program for high school students, University of Arizona; currently undergraduate student at Dartmouth College; mentor
- 2021 Lilian German, NIH-funded Summer Institute on Medical Ignorance (SIMI) program for high school students; currently undergraduate student at UA; mentor
- 2021 Isaac Rojas, NIH-funded Summer Institute on Medical Ignorance (SIMI) program for high school students, University of Arizona; mentor
- 2022 Sarah Buchanan, NIH-funded Summer Institute on Medical Ignorance (SIMI) program for high school students, University of Arizona; mentor
- 2023 Ana Lucia Garcia, NIH-funded Summer Institute on Medical Ignorance (SIMI) program for high school students, University of Arizona; mentor
- 2023 Max Irej, NIH-funded Summer Institute on Medical Ignorance (SIMI) program for high school students, University of Arizona; mentor

**Participation in honors program:**

- 2006-2007 Leslie A. Zuniga, Honors Thesis, Physiology, “Modulation of the inwardly rectifying potassium channels in the striatum as a potential Gene Therapy for Parkinson’s disease”; graduated medical school, University of Arizona; Residency at Mayo Clinic Arizona; currently at Mayo Foundation for Medical Education and Research, Neurology Department, Rochester, MN; mentor
- 2007-2010 Alexander D. McCourt, Honors Thesis, Physiology, “Vascular Endothelial Growth Factor A production in retinal pigment epithelium grown on microcarriers: Implications for Parkinson’s disease therapy”; graduated University of Arizona, School of Public Health with a Masters of Public Health, James E. Rogers College of Law with a JD, and Johns Hopkins Bloomberg

- School of Public Health with a PhD; currently Assistant Scientist at Johns Hopkins Bloomberg School of Public Health, Baltimore, MD; co-mentor
- 2013-2015 Lindsey M. LePoidevin, Honors Thesis, Physiology; “Evaluation of an anti-dyskinetic treatment for L-DOPA-induced motor complications in a rodent Parkinson’s disease model”; graduated medical school class of 2020 at UA; currently Resident at Baylor College of Medicine, Houston, TX; mentor
- 2013-2015 Ria M. Joseph, Honors Thesis, Physiology; “Evaluation of an anti-dyskinetic therapy in a preclinical model of L-DOPA-induced dyskinesia”; graduated medical school class of 2020 at University of Colorado; currently Resident at University of Michigan Medical School, Grand Rapids, MI; mentor
- 2016-2017 Grace Samtani, Honors Thesis, Neuroscience and Cognitive Science (NSCS); “Evaluation of drug “X” in preclinical models of Parkinson’s disease”; graduated with a PhD from Texas A&M University in 2023; currently Postdoctoral Research Fellow in Neuroscience at Mayo Clinic, Jacksonville, FL; mentor
- 2016-2018 Anna G. Figueroa, Honors Thesis, Neuroscience and Cognitive Science (NSCS); “Exosomes: localization of a control point for cargo uptake”; Research Opportunities Consortium (UROC) Minority Health Disparities (MHD) summer research program 2016; recipient of Western Alliance to Expand Student Opportunities (WAESO) stipend 2016 and 2017 and *Spirit of Inquiry* Award in 2017/18; won the *Outstanding Transfer Graduate Award* from the Honors College in 2018; winner of the *Honors College Video Competition* in 2018; currently pursuing a PharmD at University of Colorado, Denver, CO; co-mentor (BS McKay, mentor)
- 2017-2019 Sofia Cristiani, Honors Thesis, Neuroscience and Cognitive Science (NSCS); “Behavioral improvement after overexpression of VEGF-B in a rat genetic Parkinson’s disease model”; graduated with a Master of Arts in Psychology at Pepperdine University Graduate School of Education and Psychology; currently Graduate student at Saint Mary’s College of California, San Francisco, California; mentor
- 2017-2019 Ayumi E. Pottenger, Honors Thesis, Molecular & Cellular Biology; “Evaluation the effects of sub-anesthetic ketamine on microglia and inflammation in a pre-clinical model of L-DOPA-induced dyskinesia”; graduated with a PhD at University of Washington, Seattle in 2024; co-mentor (HW Morrison, mentor)
- 2017-2019 Saskia I. Smitd, Honors Thesis, Neuroscience and Cognitive Science (NSCS); Undergraduate Biology Research Program (UBRP) in 2019; “Restorative effects of overexpression of VEGF-B in a PINK1 knockout Parkinson’s disease model”; 02/2020-06/2020 Research Technician in the Falk laboratory; currently Clinical Research Coordinator II at University of Arizona; mentor
- 2017-2021 Morgan R. Sexauer, Honors Thesis, Neuroscience and Cognitive Science (NSCS); Undergraduate Biology Research Program (UBRP) in 2020/21; “What are the neurological mechanisms that underlie the therapeutic potential of psychoactive dissociative compounds: Ketamine, Psilocybin, LSD, and DMT?”; received a M.S. in Psychoactive Pharmaceutical Investigations at University of Wisconsin-Madison in 2023; currently Crisis Intervention Specialist (Crisis and Justice Systems) at Centene Corporation, Tucson AZ; mentor
- 2018-2022 Alexander Esqueda, Honors Thesis, Neuroscience and Cognitive Science (NSCS); “Comparison of Methods for Analyzing Abnormal Involuntary Movements and Contribution of Opioid Receptors to the Attenuation of Levodopa-induced

- Dyskinesia (LID) by Ketamine in a Preclinical Rat Model of LID”; selected for NIH-funded Summer Institute on Medical Ignorance for Undergraduate students in 2019, 2020 and 2021; Ronald E. McNair Achievement program in 2021/22; currently in the Neuroscience PhD Program at Yale University; mentor
- 2019-2020 Danielle A. Kalil, Honors Thesis, Neuroscience and Cognitive Science (NSCS); “Friedreich’s ataxia – a rare neurodegenerative condition”; currently Division Office Manager at Vector Marketing; mentor
- 2023-present Sansita Singh, Honors Thesis, Neuroscience and Cognitive Science (NSCS); mentor

**Masters Student dissertation advisor for:**

- 2007-2009 Leslie A. Zuniga, Masters Dissertation, Physiological Sciences, “Effects of the novel opioid peptide MMP-2200 in rat models of Parkinson’s disease”; graduated from medical school, University of Arizona in 2013; Residency at Mayo Clinic Arizona; currently at Mayo Foundation for Medical Education and Research, Neurology Department, Rochester, MN
- 2010-2012 Dana J. Hariri, Masters Dissertation, Physiological Sciences; “Investigating the neurorestorative potential of VEGF-B in a Parkinson's disease model”; graduated from medical school, University of Arizona in 2019; currently Resident in Syracuse, NY
- 2011-2013 Andrew J. Flores, Masters Dissertation, Physiological Sciences, “The opioid glycopeptide MMP-2200: Analysis in a levodopa-induced dyskinesia model”; received PhD in Physiological Sciences at UA in 2020; currently postdoctoral fellow in the lab of Dr. Tom Hnasko, Department of Neurosciences, USCD, San Diego, CA
- 2011-2013 Beatrice Caballero, Masters Dissertation, Physiological Sciences, “Mechanisms of VEGF-B’s action in dopaminergic cells”, graduated medical school class of 2020, University of Arizona; currently Resident in Family Medicine at University of Washington, WA
- 2014-2016 Doraid T. Sadideen, Masters Dissertation, Physiological Sciences, “Exploring G-Protein-Coupled Receptors Regulation, Specificity and Controllability of Exosome Release in the Neuronal Cell Line SH-SY5Y”; graduated with a PhD at the UA Cancer Center, Tucson, AZ in 2022, currently postdoctoral researcher at UT Health San Antonio, TX
- 2015-2016 Beatrice Caballero, MS, Masters Dissertation, Department of Cellular & Molecular Medicine, Thesis: “Insights into the Mechanisms Involved in Protective Effects of VEGF-B in Neurons: A Literature Review”; graduated medical school class of 2020, University of Arizona; currently Resident in Family Medicine at University of Washington, WA

**Doctor of Pharmacy Student dissertation advisor for:**

- 2010-2014 Lisa Y. So; “Differential effects of an opioid glycopeptide and a NMDA receptor antagonist in rodent models of dopamine-receptor 1 and 2 agonist-induced dyskinesia”; graduated 2020 with a PhD in Neuroscience at the University of Arizona; followed by a postdoctoral fellow position at UA Department of Neuroscience, Tucson, AZ

**PhD Student dissertation advisor for:**

- 2016-2019 Mitchell J. Bartlett; PhD Dissertation in Medical Pharmacology; “Evaluation of drugs targeting NMDA and opioid receptors in preclinical models of Parkinson’s disease and L-DOPA-induced dyskinesia”; received the *World Parkinson’s Congress Conference Travel Award* 2016, and the *Hank Yamamura Travel Awards* in 2016, 2017 and 2018; selected as *Society for Neuroscience, Neuroscience Scholars Program Fellow* 2019 & 2020; won the *Outstanding Graduate Research Assistant Award* in 2018 bestowed by the UA Graduate & Professional Student Council; continued as a postdoctoral research associate in the Falk laboratory; currently Associate Scientific Investigator, Director of the Surgical Biology/Lymphology Laboratory, Department of Surgery, University of Arizona
- 2016-2020 Andrew J. Flores; PhD Dissertation in Physiological Sciences; “Modulation of opioid receptors in preclinical models of Parkinson’s disease and levodopa-induced dyskinesia”; received the *Herbert E. Carter Travel Award*, University of Arizona Graduate College in 2015; selected to be one of the *UA Achievement Rewards for College Scientists (ARCS) Scholars* for 2015-2016, 2016-2017 and 2017-2018; currently postdoctoral fellow in the laboratory of Dr. Tom Hnasko, Department of Neurosciences, USCD, San Diego, CA
- 2019-2024 Kelsey Bernard, PhD Dissertation in Physiological Sciences; “Evaluation of systemically delivered glycopeptides for the treatment of acute brain injury and Parkinson’s disease”; received a *NIA AZ-TRADD (Translational Research in Alzheimer’s Disease and Related Dementias) T32 predoctoral fellowship* 2020-22; *Herbert E. Carter Travel Award*, University of Arizona Graduate College in 2022; *UA Achievement Rewards for College Scientists (ARCS) Scholars* for 2022-2023, 2023-2024 (co-mentoring with Dr. L. Madhavan); currently a postdoctoral fellow in Dr. L. Madhavan’s laboratory at University of Arizona
- 2020-2024 Carolyn J. Stopera, PhD Dissertation in Neuroscience; “Preclinical evaluation of mechanisms underlying ketamine activity as a treatment for Parkinson’s disease and L-DOPA-induced dyskinesia”
- 2022-present Raveena Parmar, PhD Dissertation in Medical Pharmacology; “Evaluation of ketamine activity as a treatment for Parkinson’s disease and L-DOPA-induced dyskinesia: Sex-specificity and the context of the BDNF Val/Met polymorphism”; received the *Hank Yamamura Travel Award* in 2022; recipient of a *NINDS Diversity Supplement Stipend* for 2023-2025

**Masters and PhD Student rotation advisor for:**

- 2013-2014 Taylor A. Eaves, Masters Student, Physiological Sciences
- 2014 Lisa Y. So, PhD Student, Neuroscience
- 2016 Hannah K. Dollish, PhD Student, Neuroscience
- 2017 Hannah K. Wittchen, Masters Student, Physiological Sciences
- 2018-2019 Raul Nava, Masters Student, Physiological Sciences
- 2019 Kelsey Bernard, PhD Student, Arizona Biological and Biomedical Sciences
- 2019 Rickeem Butler, PhD Student, Medical Pharmacology
- 2019 Carolyn Stopera, PhD Student, Neuroscience



Torsten Falk, Ph.D., Curriculum Vitae

2022 Raveena Parmar, PhD Student, Medical Pharmacology  
2024 Sydney Ragsdale, PhD Student, Neuroscience

**Graduate Student Dissertation Thesis and Comprehensive Examination Committees (other than as advisor):**

2006 Erin McKiernan, PhD Student, Physiological Sciences, Comprehensive Examination Committee; currently Professor, Department of Physics, Biomedical Physics Program at the National Autonomous University of Mexico

2007 Mary Adde, Physiological Sciences, Masters Dissertation Committee

2012 Justin M. Smith, Physiological Sciences Masters Dissertation Committee

2013-2014 Courtney Hemphill, Cellular and Molecular Medicine, Masters Dissertation Committee

2014 Alice S. Ferng, MD, PhD Student, Physiological Sciences, Comprehensive Examination Committee; graduated 2020 with a PhD from UA; currently Research Assistant Professor, Surgery, University of Arizona

2015 Andrew J. Flores, PhD Student, Physiological Sciences, Comprehensive Examination Committee; graduated 2020 with a PhD; currently postdoctoral scholar at UCSD, San Diego, CA

2016-2020 Lisa Y. So, PhD Student, Neuroscience, Comprehensive Examination and Dissertation Committees; graduated 2020 with a PhD; followed by a postdoctoral research associate position at UA, Tucson

2016-2018 Jean-Paul Wiegand, PhD Student, Neuroscience, Dissertation Committee; currently Project Manager at The Center for Innovation in Brain Science (CIBS) at UA, Tucson

12/2017 *External Reviewer* for the PhD thesis of Mohamad Kourghi, Health and Medical Sciences, Adelaide University, Australia; currently postdoctoral scholar at UC Irvine, CA

2016-2018 Tony Ye, PhD Student, Psychology, Dissertation Committee and co-mentor; followed by a postdoctoral *NIH T32* scholarship at the UCLA Medical School, Los Angeles, CA; currently Research Scientist at Lundbeck Pharmaceutical, Copenhagen, Denmark

2017-2018 Zach Olson, Masters Student, Physiological Sciences, Masters Dissertation Committee

2017-2020 Justin E. LaVigne, PhD Student, Medical Pharmacology, Comprehensive Examination and Dissertation Committees; followed by a postdoctoral scholar position at Purdue University, West Lafayette, IN and currently postdoctoral scholar at UA Dept. of Pharmacology

2018-2020 Lindsey M. Crown, PhD Student, Psychology, Dissertation Committee; followed by postdoctoral scholar at the USC Medical School, Los Angeles, CA, and currently Scientist at Neurocrine Biosciences, San Diego, CA

2018-2022 Alexander Marciniak, PhD Student, Chemistry & Biochemistry, Comprehensive Examination and Dissertation Committees; currently Research scientist at Amyris, Inc., Emeryville, CA

2019-2023 Rickeem Butler, PhD Student, Medical Pharmacology, Chair of Comprehensive Examination and Dissertation Committees; currently Grant and Contract Analyst, Sponsored Projects Services at University of Arizona, Tucson, AZ

- 04/2020 *External Review Committee member* for PhD thesis and doctoral defense of Kathryn E. Lanza, MS, Behavioral Neuroscience, State University of New York at Binghamton; currently postdoctoral fellow at Department of Psychiatry, Northwestern University, Chicago, IL
- 2020-2021 Raul Nava, Masters Student, Physiological Sciences, Masters Dissertation Committee; currently Research Associate, UA Department of Pharmacology, Tucson, AZ; currently Research Technician, University of Arizona
- 2020-2021 Gianna A. Jordan, Masters Student, Biomedical Engineering; "Automated Behavior Quantification of Rats in the String Pulling Task"; Masters Dissertation Committee; currently Associate Bioinformatics Engineer, Sage Bionetworks, Arizona, United States
- 2020-2021 Abhilasha Vishwanath, Masters Student, Psychology, "Effects of ketamine on neural signatures of Parkinson's Disease and a novel string pulling behavior quantification system"; Masters Dissertation Committee
- 2020-2021 Harrison Stratton, MS, PhD student, Medical Pharmacology, Comprehensive Examination and Dissertation Committees; currently postdoctoral scholar at UA Department of Pharmacology, Tucson, AZ
- 2021-2024 Abhilasha Vishwanath, PhD Student, Psychology, "Effects of ketamine on neural signatures of Parkinson's Disease"; PhD Comprehensive Examination and Dissertation Committee
- 2021-present Gabriel R. Holguin, PhD Student, Psychology, PhD Comprehensive Examination and Dissertation Committees
- 2022-present Chidiebere Ogbu, PhD Student, Chemistry & Biochemistry, Comprehensive Examination and Dissertation Committees
- 2022-2023 Lizzie Church, MS Student, Physiological Sciences, Dissertation Committee.
- 2023-present Gabriel Moreau Winter, PhD Student, Psychology, Comprehensive Examination and Dissertation Committee
- 2023-present Brittany D. K. Gratrek, MD, PhD Student, Neuroscience, Comprehensive Examination and Dissertation Committees
- 2023-present Adrian Pena, PhD Student, Neuroscience, Comprehensive Examination and Dissertation Committees
- 2023-present Nicholas Christie, PhD Student, Chemistry & Biochemistry, Comprehensive Examination and Dissertation Committees
- 2024-present Troy E. Smith, PhD Student, Chemistry & Biochemistry, Dissertation Committee