

Curriculum Vitae

JAY P. McLAUGHLIN

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PERSONAL: Born: October 16, 1967 in Hartford, Connecticut
Married

EDUCATION:

B. A., Biology	9/85-6/89
University of California at Santa Cruz	
Santa Cruz, California	
M. S., Neuroscience	9/92-5/96
University of Rochester	
School of Medicine and Dentistry	
Rochester, New York	
Ph.D., Neuroscience	5/96-4/98
University of Rochester	
School of Medicine and Dentistry	
Rochester, New York	

EMPLOYMENT: (Please note overlaps are deliberate)

Full Professor with tenure, University of Florida	7/20-present
Gainesville, Florida	
Associate Professor, University of Florida	3/15-6/20
Gainesville, Florida	
Founding Member, Assuage Pharmaceuticals	2012-12/16
Port St. Lucie, Florida	
Associate Member, Torrey Pines Institute for Molecular Studies	2/09-3/15
Port St. Lucie, Florida	
Assistant Professor, Northeastern University	8/04-6/10
Boston, Massachusetts	
Acting Assistant Professor, University of Washington	10/03-8/04
Seattle, Washington	

Acting Instructor, University of Washington Seattle, Washington	2/02-10/03
Postdoctoral Fellow, University of Washington Seattle, Washington	9/99-2/02
Postdoctoral Fellow, University of Rochester Rochester, New York	4/98-7/99
Production Technician: Genentech, Inc. South San Francisco, California	1/91-6/92
Research Technician: Cardiology laboratory of Robert Marshall, Veteran Affairs Hospital, Martinez, California	8/89-7/91

AWARDS AND HONORS:

Travel Fellowship to attend and present research at International Narcotics Research Conferences:	1994, 1998, 2001-2003, 2005, 2006, 2008 and 2009
Recipient, NIDA Director's Travel Award to attend the College on Problems of Drug Dependence meeting in Scottsdale, Arizona	6/95 and 6/98
Teaching Excellence Award, Department of Psychology, Northeastern University	5/07
Preeminence Faculty Member, University of Florida	3/15-present
University of Florida Term Professor	7/2019-6/2022
College of Pharmacy Team Teaching Award (PC6 ALS1)	9/22/2020
College of Pharmacy Team Teaching Award (PC6 ALS2)	5/23/2022
College of Pharmacy Media Excellence Award	5/23/2023

RESEARCH AND TRAINING SUPPORT: List of full grant activity available on request.

Present support:

"Molecular mechanisms: Dysregulation of monoamine transporters by HIV-1 Tat and cocaine"
NIH-NIDA 2 R01-DA035714-06A1 (Jun Zhu, PI) 4/1/18-1/31/25
Co-Investigator w/Jun Zhu. TDC: \$461,679 (or. 4/1/18-3/31/23 *Note: in 2-year NCE*)

"Synthesis and in vitro and in vivo screening of fused and tethered heterocyclic
peptidomimetics for the discovery of new analgesics with decreased side effects"
NIH-NIDA 1 R21-R33 DA044425-01 (CHEM application; A. Nefzi, PI), submitted 10/1/18-6/30/24
Co-Investigator w/Adel Nefzi. TDC: \$234,594 (9/1/2019-8/30/2022)-*Note: NCE to 2024.*

"In vivo characterization of SBS-1000 and analogs." 10/1/21-4/30/24
Private contract (w/Sparian Biosciences, PI).
Principal Investigator. Total direct costs: \$90,867.

"Evaluation of novel compounds potentially targeting central sigma receptors using both in vivo
and in vitro assays." Private contract (w/AllChem Laboratories, PI). 12/1/22-6/30/24
Principal Investigator. Total direct costs: \$9,279.

"Impacts of morphine and HIV-Tat exposures and dimethylfumerate treatment on brain BDNF
and mitochondrial and behavioral dysfunction." 4/1/23-1/31/28
NIH-NIDA 1R01 DA055568-01A1 (w/Drs. Kaufman, Thangavel, MPI).
Contact Principal Investigator. Total direct costs: \$2,450,793.

"Cyclic peptides to treat cocaine use disorder." 5/15/23-4/30/28
NIH-NIDA 1 UG3/UH3 NS132600-01 (w/Jane Aldrich, MPI).
Multi-Principal Investigator. Total direct costs: \$703,897.

"Autophagy dysfunction and compulsive drug seeking in comorbid HIV and opioid use

- disorder.” 6/1/2023-3/31/2028
NIH-NIDA 1 R01 DA057884-01 (w/Dr. Nazira El-Hage, PI).
Co-Investigator. Total direct costs: \$299,877.
- “Targeting the allosteric sodium site with novel probes for the delta opioid receptor”
NIH-NIDA 1 R01 DA057790-01 (w/Dr. Susruta Majumdar, MPI)
Multi-Principal Investigator. Total direct costs: \$430,450 (y2-5) 7/1/2023-6/30/2028
- “Applying new mouse models to mechanistic studies of the sigma-1 receptor”
UF-COP PROSPER Seed/Pilot funding (project #00132560)
Contact PI w/Jason Frazier & Chris McCurdy. TDC: \$20,000 (no IDC) 7/1/23-6/30/24
- “Development of sigma receptor/DAT dual-targeting compounds to treat stimulant use disorder”
NIH-NIDA 1 UG3/UH3 DA058553-01 (w/Sparian Biosciences/Chris McCurdy, MPI).
Co-Investigator. Total direct costs: \$126,432 (y2/UG3 only) 8/2/2023-7/31/2027

Pending applications for support:

- “Structure-based design of mu-opioid receptor agonists” Pending
NIH-NIDA 1 R01 DA059978-01 (w/Susruta Majumdar, PI). Sub. 4/10/23 (cont sub, 2/5)
Submitted to PA-20-185. Scored 19 (2%) by SEP ZRG1NV-Q02 7/2023.
Multi-Principal Investigator. Total direct costs: \$750,769 (12/1/2023-11/30/2028).
- “Role of microglial casein kinase 2 in opioid use disorder” Pending
NIH-NIDA 1 R21 DA060122-01 (w/Bin Liu, PI). Sub. 5/22/23
Submitted to RFA-TR-23-010. Scored 4.6 (no %) by ZTR1 DPI-7 (02), 8/10/2023.
Multi-Principal Investigator. Total direct costs: \$82,194 (10/1/2023-9/30/2025).
- “Mechanistic role of microglial KDM7A in pain chronification” Pending
NIH-NINDS 1 R21 NS137125-01 (w/Bin Liu, PI and S. Stevens, MPI). Sub. 6/16/23
Submitted under PA-21-219 as GRANT13917774. Scored 51 (39%) by NPI, 10/18/2023
Multi-Principal Investigator. Total direct costs: \$66,914 (4/1/2024-3/30/2026).
- “Efficacy modulation at the mu opioid receptor by total synthesis and skeletal editing of morphinans” Pending
NIH-NIDA 1 R01 DA060227-01 (w/Richmond Sarpong, PI). Sub. 7/5/2023
Submitted to PA-20-185. Scored 26 (15%) by CSB, 10/26/2023.
Multi-Principal Investigator. Total direct costs: \$199,691 (last 2 yr of 4/1/24-3/31/29).
- “Development of SBS-226, a MOR agonist/DOR antagonist for OUD” Pending
NIH-NIDA 1 UG3/UH3 DA059278-01A1 (w/Sparian/Jeff Reich).
Submitted 8/31/23 to PAR-22-200. Scored 28 by NIDA-L, 11/9/2023.
Co-Investigator. Total direct costs: \$346,872 (1 yr UG3 only: 1/1/2024-13/31/2028).
- “Nasal cyclic peptide analgesics for intranasal delivery” Pending
NIH-NINDS R15 NS0#####-01 (w/Predrag Cudic, PI). Sub. 10/20/2023
under PAR-21-155 as ASSIST 1546444. To be reviewed by DMPB, 2/2024.
Co-Investigator. Total direct costs: \$99,072 (7/1/2024-6/30/2027).
- “Developing peripherally-restricted small molecule heterocyclic peptidomimetics as safer analgesics.” Pending
NIH-NINDS R01 DA058836-01A1 (w/Adel Nefzi, MPI). Resub. 11/5/2023
under PA-20-185 as #GRANT14013865. To be reviewed by DMPB, 3/7/2024.
Multi-Principal Investigator. Total direct costs: \$727,161 (7/1/2024-6/30/2029).
- “Structure-based design of novel kappa opioid ligands” Pending
NIH-NIDA 1 R01 DA0#####-01 (w/Susruta Majumdar, PI). Sub. 11/10/23 (c.sub, 10/5)

Submitted to PA-20-185. To be reviewed by SEP ZRG1NV-Q02 2/2023.

Multi-Principal Investigator. Total direct costs: \$640,224 (7/1/2024-6/30/2029).

“Molecular mechanisms: Dysregulation of monoamine transporters by HIV-1 Tat and cocaine.”

NIH-NIDA 2R01 DA035714-11A1 (w/Jun Zhu, PI). Sub. 1/7/2024 Pending

under PA-20-185 as GRANT 14042673. To be reviewed by HCCS, 3/2024.

Co- Investigator. Total direct costs: \$474,298 (7/1/2024-6/30/2029).

“Targeting mu- and delta-opioid receptors for developing pharmacotherapy for OUD” Pending
NIH-NIDA 1 R01 DA0#####-01 (w/Yangmei Li, PI). Sub. 2/5/2024

Submitted to PA-20-185 as #GRANT#####. To be reviewed by DMPB, 6/2024.

Multi-Principal Investigator. Total direct costs: \$457,694 (12/1/2024-11/30/2029).

Completed support:

Dean’s Fellowship, University of Rochester	9/92 - 7/94
“Pharmacology of Drug Abuse” Training Grant, T32 DA07232	7/94 - 4/98
Participating graduate student, University of Rochester	
“Training in Geriatrics and Neurobiology of Aging” Training Grant, T32 AG00107. Participating postdoctoral fellow, University of Rochester	4/98 - 4/99
“Training in Molecular Pharmacology of Abused Drugs” Training Grant, T32 DA07278. Participating postdoctoral fellow, University of Washington	9/99 - 4/03
“Endogenous Opioid Mediation of Stress and Drug Reward” B-START Grant R03 DA016656-01, Principal Investigator, TDC, \$50,000	4/03 – 3/04
“Endogenous Opioid Mechanisms Modulating Stress” R03 DA016415, Principal Investigator. TDC, \$100,000	9/04 – 7/07
“Endogenous Opioid Mediation of Stress-Induced Behaviors” Provost’s RSDF Principal Investigator, TDC, \$12,000	7/05 - 6/06
“Endogenous Opioid Mechanisms Modulating Stress” 3R03 DA016415-02S1 Principal Investigator, TDC, \$8,431	6/06 - 8/06
“Screening Novel Small-Molecule Kappa Opioid Ligands for Antidepressant, Anxiolytic and Modulatory Reward Properties.” Pfizer research contract. Principal Investigator, TDC, \$50,000	1/07 - 6/08
“In Vivo Screening of Mixture-Based Combinatorial Libraries.” Torrey Pines Institute for Molecular Studies research contract. Principal Investigator, TDC, \$19,118	8/07 - 7/08
“In Vivo antinociceptive screening of novel opioid ligands.” Torrey Pines Institute for Molecular Studies service contract. Principal Investigator, TDC, \$84,403	6/08 - 7/09
“HIV-Tat protein-induced neurodegeneration and impairment of learning and memory.” NIH-NINDS F31 NS064872 (with Amanda Carey) Sponsor and mentor. TDC: \$81,657.	9/08 – 7/10
“Evaluating somatic and psychostimulatory activity of novel opioid analgesics.” Private contract, Phoenix PharmaLabs, Inc. Principal Investigator, Total direct costs: \$13,356.	6/11 – 6/13
“Peptidic Kappa Opioid Receptor Ligands as Potential Treatments for Drug	9/07 - 8/13

- Addiction.” R01 DA023924-01 (Research subcontract; J.V. Aldrich, PI)
Principal Investigator on subcontract, Total direct costs: \$321,792.
- “Development of novel opioid peptides for cocaine abuse.” 3/12-2/15
NIH-NIDA R01 DA032928 (Principal Investigator; J.V. Aldrich)
Principal Investigator on subcontract. Total direct costs: \$258,389.
- “Evaluating novel analgesic compounds for clinical liabilities of use.” 11/14-5/15
Private contract, Syntrix Biosystems.
Principal Investigator, Total direct costs: \$8,091.
- “Evaluating G β γ -inhibitors for potentiation of morphine-mediated antinociception with multi-model assays of nociception and liabilities.” 6/14-5/15
Private contract, University of Rochester.
Principal Investigator, Total direct costs: \$4,285.
- “High throughput in vivo screening: translational generation of novel analgesics.” 8/11 – 4/16
NIH-NIDA R01 DA031370 (Principal Investigator; R.A. Houghten)
Co-Principal Investigator, Total direct costs: \$1,154,527 (ended w/departure from TPI)
- “Preventing and reducing HAND by using new BDNF nanoprobe.” 8/1/15-7/31/17
NIH-NIDA 1 R43 MH108481-01 (Principal Investigator: G. Vitaliano).
Consultant. Total direct costs: \$1,000.
- “Tat mediation of HIV-associated mood disorders via functional deficits in brain” 7/11 - 10/17
NIH-NIMH R01 MH085607.
Principal Investigator. Total direct costs: \$1,467,993.
- “Peptidic ligands for the kappa opioid receptor” 3/12-2/18
NIH-NIDA R01 DA018832 (Principal Investigator; J.V. Aldrich)
Principal Investigator on subcontract. Total direct costs: \$308,464.
- “Discovering a mechanistically novel anxiolytic agent from kava via *in vivo* studies”
UF-COP PROSPER application: Seed/Pilot funding 7/1/17-6/30/18
Co-Investigator w/Chengguo Xing. TDC: \$30,000 (1 year; \$19,999 to McLaughlin)
- “Optimization of non-peptide probes for the NPFF system.” 9/14-8/18
NIH-NIDA 1 R01 DA034777-01A (Principal Investigator; C.R. McCurdy).
Principal Investigator on subcont. Total direct costs: \$127,976.
- “Knock-in mouse model of dopamine transporter-Tat interaction underlying NeuroAIDS”
NIH-NIDA 1 R21 DA041932-01 (J. Zhu, PI) 6/1/16-5/31/19
Principal Investigator on subcontract. Total direct costs: \$44,591.
- “Novel peptide antagonists as treatments for substance abuse” 9/1/15-8/31/19
Department of Defense, Congressionally Directed Medical Research Program
W81XWH-15-1-0464; Partnering application PR141230P1 (Initiating PI: J.V. Aldrich)
Partnering Princ. Invest. Total direct costs: \$756,668. **Note:** NCE until 8/2019.
- “Novel opioid peptides for nose to brain delivery” 9/1/16-8/31/19
NIH-NIDA 1 R21 DA039722-01A1 (P. Cudic, PI) **Note:** NCE until 8/2019.
Principal Investigator on subcontract. Total direct costs: \$36,814.
- “Peptidic kappa opioid receptor ligands as potential treatments for drug addiction.” 6/14-9/20
NIH-NIDA 2 R01 DA023924-06 (Principal Investigator; J.V. Aldrich).
Principal Investigator on subcontract. Total direct costs: \$635,867. **Note:** NCE to 9/2020
- “Assessing allosteric mechanisms of opioid signaling.” 3/1/20-2/28/21
UF –COP PROSPER Application (Initiating PIs, J Aldrich, S. Malany, J. McLaughlin)
Co-Princ. Invest. w/Aldrich and Malany. TDC: \$0 (\$36,000 total to collaborators)

- “Sigma receptor ligands as non-opioid based pain management.” 9/15/17-9/14/21
Department of Defense, Congressionally Directed Medical Research Program
W81XWH-17-1-0558 Partnering application PR161310P1 (Initiating PI, C. McCurdy)
Partnering Princ. Invest. w/Christopher McCurdy. TDC: \$742,961 **Note:** NCE to 9/2021
- “HIV Tat protein mediation of neurochemical changes and increased opioid reward.” 8/15-5/22
NIH-NIDA 1 R01 DA039044-01A1.
Principal Investigator. Total direct costs: \$1,768,530. **Note:** NCE to 5/31/2022
- “Pharmacological probes based on mitragynine pseudoindoxyl.” 9/1/18-11/30/22
NIH-NIDA 1 R21-R33 DA045884-01 (CHEM application; S. Majumdar, PI)
Co-Investigator w/Susruta Majumdar. TDC: \$87,242 (last 2 years; 9/1/20-8/31/22)
- “In vivo characterization of bitopic cyclic ligands and analogs” 1/1/23-6/30/23
Private contract (w/UHSP in St. Louis; Susruta Majumdar, PI).
Principal Investigator. Total direct costs: \$33,731.

PROFESSIONAL SOCIETIES AND ACTIVITIES:

- Rochester Chapter, Society for Neuroscience 9/92 - 7/99
Student Member, Society for Neuroscience 4/95 - 2/01
Full Member, Society for Neuroscience 2/01 - present
Member, International Narcotics Research Conference 7/99 – present
Member, College on Problems of Drug Dependence 6/05 – present
Steering Committee Member, N.E.U.R.O.N. Conference 1/07 – 10/09
Executive Committee Member, International Narcotics Research Conference 6/11 – 7/14
Editorial Board Member, Progress in Neuro-Psychopharmacology & Biological Psychiatry 7/16-7/22/22
- Review Editor in Psychopharmacology, Frontiers in Psychiatry. 9/16-present
Editorial Board Member, Molecules, Medicinal Chemistry Section 8/20-present
Associate Editor & Board Member, Advances in Drug Abuse Research 1/21-present
Program Committee Member, UF Drug Discovery Symposium 1/21-present
Program Committee Co-Chair, International Narcotics Research Conference 1/21 – 7/21
- Guest editor, “Opioids and Their Receptors: Present and Emerging Concepts in Opioid Drug
Discovery” – joint 3rd Special Issue between MDPI journals the International Journal of
Molecular Sciences/Pharmaceutical/Pharmaceutics/Molecules 5/22-present

Grant reviewer for:

- Ad hoc reviewer, NIDA B/START program 11/04
Ad hoc reviewer, VCU A.D. Williams Multi-School Funding 2/2012
Reviewer, Neurological Foundation of New Zealand 5/12 – 5/2016
Reviewer, NIH-NIMH study section ZMH1 ERB-M (03) S (MH-13-030) 12/2012
Reviewer, Chicago Development Center for AIDS Research 2/2013 – 2/2015
Reviewer, USAMRMC 7/2014, 11/2015
Ad hoc reviewer, NIH-NAED study section 7/2015, 3+7/2016, 3/2017
Ad hoc reviewer, NIH-AARR E02 study section 12/2015
Ad hoc reviewer, NIH-2017/01 ZMH1 ERB-M(02) V study section 12/2016
Standing member, NIH-NAED study section 7/17-7/18
Ad hoc reviewer, NIH-2017/10 BRLE study section 6/1/2017
Standing member, NIH-HVCD study section 8/18 – 8/2021

Ad hoc reviewer, NIH-2019-08 ZTD1 TC-7 HEAL study section	6/10/2019
Ad hoc reviewer, University of Sharjah, UAE internal grants	7/23/2019
Ad hoc reviewer, NIH-2019/10 ZMH1 ERB-M(05) S study section	8/6/2019
Ad hoc reviewer, NIH-2020-08 ZDA1 SKM-D(06) R U18 study section	6/16/2020
Ad hoc reviewer, NIH-2022-01 ZDA1 YXF-U(04) R U01 study section	10/18/2021
Ad hoc reviewer, NIH-2022-01 ZMH1 ERB-S(03) R P30/R25 study section	12/3/2021
Ad hoc reviewer, NIH-HVCD study section	3/14-15/2022
Reviewer, University of Florida College of Pharmacy PROSPER grants	6/1/22-present
Ad hoc reviewer, NIH-2022/10 ZMH1 ERB-S(S2) S COVID study section	6/29/2022
Ad hoc reviewer, NIH-2023-01 ZMH1 ERB-M(01) R P30/R25 study section	12/14/2022
Ad hoc reviewer, NIH-2023/05 ZMH1 ERB-R(R1) S COVID study section	2/27/2023
Ad hoc reviewer, NIH-2023/08 ZDE1 AC(22) R HEAL oral OUD study section	4/27/2023
Reviewer, American Foundation for Pharmaceutical Education (AFPE)	5/1/23-present
Ad hoc reviewer, NIH-2024/01 ZDA1 SKP-N (J1) R CEBRA study section	11/27/2023

Ad hoc reviewer for: ACS Chemical Neuroscience, Advances in Pharmacology, Behavioural Brain Research, Biological Psychiatry, Blood, Brain Research Bulletin, British Journal of Pharmacology, Current Alzheimer Research, Current HIV Research, International Journal of Molecular Science, International Journal of Neuropsychopharmacology, Journal of Medicinal Chemistry, Journal of Neuroscience, Journal of Neuroscience Research, Journal of Pharmacology and Experimental Therapeutics, Journal of Psychopharmacology, Molecular Psychiatry, Molecules, Neurobiology of Disease, Neuropsychopharmacology, Peptides; Pharmacological Research, Pharmacology, Biochemistry and Behavior; Progress in Neuro-Psychopharmacology & Biological Psychiatry, Psychopharmacology, Neuropharmacology, Translational Psychiatry

PATENT APPLICATIONS:

1. Aldrich JV, Patkar KA and **McLaughlin JP**: "Method for Treating and/or Preventing Drug Seeking Behavior," US patent US 2009/0111741 A1, published April 30, 2009.
2. Cudic P and **McLaughlin JP**: "Cyclic peptides, cyclic peptide conjugates and methods of use thereof," US patent US 11,578,100 B2, published February 14, 2023.
3. Aldrich JV, Senadheera S and **McLaughlin JP**: "Cyclic tetrapeptide analogs." US patent US 11,820,835 B2, published November 21, 2023. (provisional #62/647,287 filed March 23, 2018, then US patent application PCT/US2019/023698, 16/982,638, September 21, 2020)
4. Majumdar S, Katritch V, Roth B, **McLaughlin JP**, Zaidi S, Pasternak GW and Uprety R: "G-protein biased opioid receptor agonist/analgesics with reduced arrestin recruitment." US patent #11,613,547, published March 28, 2023 (provisional #62/871,578, filed July 9, 2019, provisional 16/924,037).
5. Aldrich JV, **McLaughlin JP** and Yakovlev D: "Novel macrocyclic opioid peptides." US provisional patent application US 63/126,723, filed December 17, 2020. International patent published 14 July 2022 under publication number WO 2022/150167 A2.
6. Cudic P and **McLaughlin JP**: "Methods of identifying opioid cyclic peptides," US patent US 2023/0257418 A1, published August 17, 2023 (from provisional #62/649,290 of 3-28-2018).
7. Katritch V, **McLaughlin JP**, Zaidi S and Majumdar S: "Analgesic delta opioid receptor bitopic ligands." US provisional PCT/US2023/069482, filed June 30, 2023.

BIBLIOGRAPHY: *Full Articles:*

Non-Peer Reviewed Articles:

1. **McLaughlin JP**, Sebastian A, Archer S, Bidlack JM: 14 β -Chlorocinnamoylamino derivatives of metopon interact differentially with the mu opioid receptor. *Regulatory Peptides*, **54**: 187-188, 1994.
2. Petraschka M, Xu M, Westenbroek R, **McLaughlin J**, Chavkin C: Animal models of chronic pain: Neuropathic pain activates the endogenous kappa opioid system in mouse spinal cord and induces opioid receptor tolerance. *J Pain* **5(3)**: S14, 2004.
DOI:10.1016/j.jpain.2004.02.022
3. Aldrich JV, Patkar KA, Chappa AK, Fang W, Audus KL, Lunte SM, Carey AN, **McLaughlin JP**: Development of centrally acting peptide analogs: structure-transport studies and pharmacological evaluation of analogs of the opioid peptide Dynorphin A. *In Proceedings of the 4th International Peptide Symposium*, J. Wilce, Ed., www.peptideoz.org, M 64 (www.peptideoz.org/docs/M_64_Jane_Aldrich.pdf), 2008.
4. **McLaughlin JP**, Gomes S, Seliga A, Goyette SR, Morrison A, Reich CG, Frye CA: Northeast under/graduate research organization for neuroscience (NEURON): Our thirteenth conference for neuroscience trainees and educators. *J Undergrad Neurosci Educ*, **7(2)**:A65-68, 2009. PMID: 23493230.
5. Kulkarni SS, Ross NC, **McLaughlin JP**, Aldrich JV: Synthesis of cyclic tetrapeptide CJ15,208: a novel kappa opioid receptor antagonist. *Adv. Exp. Med. Biol.*, **611**:269-270, 2009.
6. **McLaughlin JP**, Heusser A, Reilley KJ, Giulianotti M, Houghten R.A.: The direct *in vivo* use of mixture-based libraries in the drug discovery process. *Peptide Science*, **92(4)**, 2010.
7. **McLaughlin JP**, Paris JJ: Contribution of HIV-Tat protein to HIV-sequelae (Parts I and II). *Current HIV Research*, **12(6)**:377, 2014 and **13(1)**:2, 2015 (for parts I and II, respectively).
8. Stronski JK, Cohen HP, Suzuki CD: *Glossip v Gross*, Brief of sixteen professors of pharmacology as *amici curiae* in support of neither party. No. 14-7955 (2015) (pertaining to *Warner v Gross*, 776 F.3d 721, 724-25 (10th Cir. 2015), *cert. granted*, 135 S. Ct. 1173 (2015)). (Participating professor).
9. Lewis JQ, Oebker JW, Mesko JL, Eggspuehler CM, Johnson AN, Ellis T: *Otte, Phillips, Tibbetts v. Erdos*, Brief of fifteen professors of pharmacology as *amici curiae* in support of certiorari. No. 17-5198 (pertaining to *Otte et al v Morgan et al*, 582 U.S.____ (Supreme Court of the United States), No. 17A78 (2017)). (Participating professor).
10. Madasu MK, Thang LV, Chilukuri P, Palanisamy S, Arackal JS, Sheahan TD, Foshage AM, Houghten RA, **McLaughlin JP**, McCall JG, Al-Hasani R: Peripheral kappa opioid receptor activation drives cold hypersensitivity in mice. Preprint. *bioRxiv*, October 4, 2020.
doi: <https://doi.org/10.1101/2020.10.04.325118>.
11. Chakraborty S, Diberto JF, Faouzi A, Bernhard SM, Guthridge AM, Ramsey S, Zhou Y, Provasi D, Nuthikattu N, Jilakia R, Nelson MNF, Asher WB, Eans SO, Wilson LL, Chintala SM, Filizola M, van Rijn RM, Margolis EB, Roth BL, **McLaughlin JP**, Javitch JA, Che T, Majumdar S: A novel mitragynine analog with low efficacy mu-opioid receptor agonism displays antinociception with attenuated adverse effects. Preprint. *bioRxiv*, April 23, 2021.
doi: <https://doi.org/10.1101/2021.04.22.440994v1s>.
12. Interview with George Fejer: "The Secrets of Kratom," *Blossomanalysis.com*, October 22, 2021. <https://blossomanalysis.com/the-secrets-of-kratom-interview-with-jay-mclaughlin/>.

13. O'Brien ES, Rangari VA, El Daibani AE, Eans SO, White B, Wang H, Shiimura Y, Kumar KK, Appourchaux K, Huang W, Zhang C, Mathiesen J, Che T, **McLaughlin JP**, Majumdar S, Kobilka BK: Negative allosteric modulation of the μ -opioid receptor. Preprint. *bioRxiv*, September 11, 2023. doi: <https://www.biorxiv.org/content/10.1101/2023.09.08.556921v1>.

Book Chapters:

- Hymel KA, Paris JJ, **McLaughlin JP**: Modulation of opioid analgesic reward by inflammatory agents. In V. Preedy (Ed), *Neuropathology of drug addiction and substance misuse*, Volume 3, Chapter 55 (pp.545-554). London: Academic Press (Elsevier), (*published 4-25-2016*)
- Zhu J, Davis SE, Zhan C-G, **McLaughlin JP**: Molecular mechanisms of dopaminergic transmission in NeuroHIV. In S. Buch (Ed), *HIV-Associated Neurocognitive Disorders*, Volume #, Chapter ## (pp.###-###). London: Academic Press (Elsevier), (*in press 11-22-2022*).
- Rodriguez M, Perry M, Owens F, **McLaughlin JP**, El-Hage N: Neuropathic pain in HIV and the role of the autophagy pathway. In S. Buch (Ed), *HIV-Associated Neurocognitive Disorders*, Volume #, Chapter ## (pp.###-###). London: Academic Press (Elsevier), (*resubmitted, 12-1-2022; originally submitted 8-7-2022*).

Peer-Reviewed Articles:

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 79. Cirino TJ, Alleyne AR, Duarte V, Figueroa A, Simons CA, Anceaume EM, Kendrick J, Wallman O, Eans SO, Stacy HM, Medina JM, **McLaughlin JP**: Expression of human immunodeficiency virus transactivator of transcription (HIV-Tat₁₋₈₆) protein alters nociceptive processing that is sensitive to anti-oxidant and anti-inflammatory interventions. *Journal of Neuroimmune Pharmacology*, 2021 Feb 22; <https://doi.org/10.1007/s11481-021-09985-4>. PMID: 33619645.
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86. Aldrich JV, **McLaughlin JP**: Peptide kappa opioid receptor ligands and their potential for drug development. *Handbook of Experimental Pharmacology*, "Kappa Opioid Receptors," Lee-Yuan Liu-Chen and Saadet Inan, editors. 2022, **271**:197-220. doi:10.1007/164_2021_519. PMID:34463847. eBook ISBN: 978-3-030-89074-2; Print ISBN: 978-3-030089073-5.
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97. **McLaughlin JP**, Rayala R, Bunnell A, Tantak M, Eans SO, Nefzi K, Ganno ML, Dooley CT, Nefzi A: Bis-cyclic guanidine heterocyclic peptidomimetics as opioid ligands with mixed μ -, δ - and κ -opioid receptor interactions: A potential approach to novel analgesics. *Int J Mol Sci* 2022, **23(17)**:9623-9642. <https://doi.org/10.3390/ijms23179623>. PMID: 36077029.
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100. Faouzi A, Wang H, Zaidi SA, DiBerto JF, Che T, Qu Q, Robertson MJ, Madasu M, El-Daibani AE, Varga BR, Zhang T, Ruiz C, Liu S, Xu J, Appourchaux K, Slocum ST, Eans SO, Cameron MD, Al-Hasani R, Pan YX, Roth BL, **McLaughlin JP**, Skiniotis G, Katritch V, Kobilka BK, Majumdar S: Structure-based design of bitopic ligands for the μ -opioid receptor. *Nature*. 2023 Jan 26, **613(7945)**: 767-774. <https://doi.org/10.1038/s41586-022-05588-y>. PMID:36450356.
101. Rayala R, Tiller A, Majumdar SA, Stacy HM, Eans SO, Nedovic A, **McLaughlin JP**, Cudic P: Solid-phase synthesis of the bicyclic peptide OL-CTOP containing two disulfide bridges, and assessment of its in vivo μ -opioid receptor antagonism after nasal administration. *Molecules (themed issue: "Synthesis and application of opioids;" Fürst and Mahmoud, editors)*. 2023 Feb 15, **28(4)**: 1822-1840. PMID: 368388810. <https://doi.org/10.3390/molecules28041822>.

102. Ramasamy T, Doke M, **McLaughlin JP**, Thangavel S: Circadian disruption and psychostimulants dysregulates plasma acute-phase proteins and circulating cell-free mitochondrial DNA. *Brain Behavior & Immunity - Health* 2023 June 27, **31**:100659-100667. <https://doi.org/10.1016/j.bbih.2023.100659>. PMID: 37455861.
103. Scherrer KH, Eans SO, Medina JM, Senadheera SN, Khaliq T, Murray TF, **McLaughlin JP**, Aldrich JV: Tryptophan substitution in CJ-15,208 (*cyclo*[Phe-D-Pro-Phe-Trp]) introduces δ -opioid receptor antagonism, preventing antinociceptive tolerance and stress-induced reinstatement of extinguished cocaine-conditioned place preference. *Pharmaceuticals (themed issue: "Recent trends in cyclic peptides as therapeutic agents;" Giulianotti and Eichler, editors)* 2023 August 29, **16(9)**:1218-1238. <https://doi.org/10.3390/ph16091218>. PMID: 37765026.
104. Li Y, Ganno-Sherwood M, Eans SO, Eliasof A, Houghten RA, **McLaughlin JP**: Identification and pharmacological characterization of a low-liability antinociceptive bifunctional MOR/DOR cyclic peptide. *Molecules (joint themed issue "Opioids and Their Receptors: Present and Emerging Concepts in Opioid Drug Discovery", Mariana Spetea, editor)* 2023 November 11, **28(22)**:7548-7566. <https://doi.org/10.3390/molecules28227548>. PMID: 38005269.
105. Hammond HR, Eans SO, Cirino TJ, Ananthan S, Jimenez-Torres AC, Zhu J, **McLaughlin JP**: SRI-30827, a novel allosteric modulator of the dopamine transporter, alleviates HIV-1 Tat-induced potentiation of cocaine conditioned place preference in mice. *Brief report. NeuroImmune Pharmacology and Therapeutics*; 2023 December 1, #:1-6. <https://doi.org/10.1515/nipt-2023-0022>. PMID: pending.

Selected Abstracts: (of the last year, out of 227 total dating from 1994)

1. Alleyne AR, Harden S, Eans SO, Wilson LL, McCurdy C, Frazier CJ, **McLaughlin JP**: Prophylactic administration of sigma-1 receptor ligands mitigates both physiological and neuronal responses to methamphetamine-induced sensitization. *Soc. Neurosci. 48: San Diego, CA; Nov. 12-16, 2022*.
2. **McLaughlin JP**, Vargas BR, Bernhard SM, Eans SO, Che T, Katritch V, Skiniotis G, Kobilka B, Majumdar S: Bitopic engagement of the orthosteric and allosteric sodium binding sites on the mu and delta opioid receptors produces low efficacy agonism with reduced liabilities of use. *Soc. Neurosci. 48: San Diego, CA; Nov. 12-16, 2022*.
3. Zhu J, Strauss MJ, Torres AJ, Davis SE, Porter KD, **McLaughlin JP**, Zhan C-G: HIV-1 Tat protein-induced inhibition of [3 H]dopamine uptake in the prefrontal cortex of inducible Tat transgenic mice is attenuated in dopamine transporter Y88F knock-in mice harbored with the Tat transgenic mice. *Soc. Neurosci. 48: San Diego, CA; Nov. 12-16, 2022*.
4. Aldrich JV, Khaliq T, Eans SO, Brice-Tutt AC, **McLaughlin JP**: Pharmacokinetics of macrocyclic tetrapeptide kappa opioid peptide antagonists and their potential for drug development. *7th Annual Kappa Therapeutics Meeting; Bethesda, MD; March 26-28, 2023*.
5. Alleyne AR, Harden S, Burns SM, Eans SO, Wilson LL, McCurdy C, Frazier CJ, **McLaughlin JP**: Prophylactic administration of sigma-1 receptor ligands mitigates both physiological and neuronal responses to methamphetamine-induced sensitization. *UF CARE Symposium: Gainesville, FL; Apr. 16-17, 2023*.
6. Tournesy S, **McLaughlin JP**, Che T, Katritch V, Bernhard SM, Eans SO, Skiniotis G, Kobilka B, Majumdar S: Novel delta opioid receptor bitopic ligand produces safe, low efficacy agonism. *UF CARE Symposium: Gainesville, FL; Apr. 16-17, 2023*.

7. Tribbitt D, Strauss MJ, Davis SE, Eans SO, Alshakhshir N, **McLaughlin JP**, Zhu J: HIV-1 Tat protein exacerbates methamphetamine-induced inhibition of the vesicular monoamine transporter-2 and potentiates methamphetamine conditioned place preference in HIV-1 Tat transgenic mice. *UF CARE Symposium: Gainesville, FL; Apr. 16-17, 2023*.
8. **McLaughlin JP**, Vargas BR, Bernhard SM, Eans SO, Che T, Katritch V, Skiniotis G, Kobilka B, Majumdar S: Bitopic engagement of the orthosteric and allosteric sodium binding sites on the mu and delta opioid receptors produces low efficacy agonism with reduced liabilities of use. *UF Scripps Chemical Biology & 5th UF Drug Discovery Symposium: Jupiter, FL; April 20-21, 2023*.
9. Bernhard S, Varga BR, El Daibani A, Lam JH, Zaidi S, Appourchaux K, Eans SO, Katritch V, **McLaughlin JP**, Majumdar S, Che T: Structure, function, and pharmacology of delta opioid receptor bitopics. *ASPET 2023 Annual Meeting; St. Louis, MO; May 18-23, 2023*.
10. Ople R, Wang H, Li Q, Bernhard S, Appourchaux K, Sashrik S, Eans SO, Huttenhain R, **McLaughlin JP**, Kobilka BK, Majumdar S: Structure based approaches on fentanyl template to design novel mu opioid modulators. *ASPET 2023 Annual Meeting; St. Louis, MO; May 18-23, 2023*.
11. Zhu J, Strauss MJ, Torres AJ, Davis SE, Porter KD, **McLaughlin JP**, Zhan C-G: Dopamine transporter Tyrosine88 knock-in mice attenuates HIV-1 Tat protein induced inhibition of the dopamine transporter and the potentiation of cocaine reward in HIV-1 Tat transgenic mice. *85th College on Problems of Drug Dependence; Denver, CO; June 17-21, 2023*.
12. Aldrich JV, Khaliq T, Eans SO, Brice-Tutt AC, **McLaughlin JP**: Optimization of macrocyclic peptides as potential treatments for substance abuse. *8th Annual Chemistry and Pharmacology of Drug Abuse (CPDA) conference; Boston, MA; August 3-4, 2023*.
13. Bernhard SM, Varga BR, El Daibani A, Appourchaux K, Eans SO, Katritch V, **McLaughlin JP**, Fay JF, Majumdar S, Che T: Structural analysis of delta opioid receptor ligands for chronic pain therapeutics. *8th Annual Chemistry and Pharmacology of Drug Abuse (CPDA) conference; Boston, MA; August 3-4, 2023*.
14. **McLaughlin JP**, Eans SO, Tsai B, Brice-Tutt AC, Yakovlev D, Knapp BI, Bidlack JM, Aldrich JV: Probing analogs of macrocyclic tetrapeptide CJ-15,208 for orally-active kappa opioid receptor antagonism as a potential therapeutic treatment to prevent stress-induced cocaine reinstatement. *NIH/NINDS Therapeutic Development Projects Satellite Meeting to the Soc. Neurosci. 49: Washington, DC; Nov. 13, 2023*.
15. Zhu J, Jimenez Torres AC, Davis SE, Porter KD, Eans SO, Tribbitt DK, Alshakhshir N, Ananthan S, Augelli-Szafran CE, **McLaughlin JP**: SRI-32743, an allosteric inhibitor of monoamine transporters, attenuates HIV-1 Tat-induced inhibition of serotonin transporter in the midbrain and Tat-induced increased immobility in the tail-suspension test in inducible Tat transgenic mice. *28th Society on NeuroImmune Pharmacology, Charleston, SC; March 10-13, 2024*.
16. Thangavel S, Iyappan H, Samikkannu M, Haorah J, **McLaughlin JP**: Epigenetic signature of class-III histone deacetylation SIRT5-role in HIV neuropathogenesis. *28th Society on NeuroImmune Pharmacology, Charleston, SC; March 10-13, 2024*.
17. **McLaughlin JP**, Eans SO, Figueroa AM, Alleyne AR, Cirino TJ, and Liu B: Mice lacking osteopontin demonstrate increased sensitivity and a potentiation of conditioned place preference to varied abused substances. *28th Society on NeuroImmune Pharmacology, Charleston, SC; March 10-13, 2024*.

18. Hammond HR, Eans SO, Cirino TJ, Kaufman MJ, Thangavel S, **McLaughlin JP**: Dimethyl Fumarate (DMF) ameliorates deficits of cognition, mood, and substance abuse in mice exposed to HIV-1-Tat protein and/or morphine. *28th Society on NeuroImmune Pharmacology, Charleston, SC; March 10-13, 2024.*
19. Figueroa AM, Guergues J, Wohlfahrt J, Zhang P, Alleyne AR, Cirino TJ, Stacy H, Eans SO, Kendall A, Doan T, **McLaughlin JP**, Stevens SM, Liu B: Impact of osteopontin on microglial phenotypes in response to peripheral proinflammatory challenge in mice. *28th Society on NeuroImmune Pharmacology, Charleston, SC; March 10-13, 2024.*
20. Bernhard SM, Varga BR, Eans SO, Katritch V, **McLaughlin JP**, Fay JF, Majumdar S, Che T: Structural analysis of delta opioid receptor ligands for chronic pain therapeutics. *ASPET (American Society for Pharmacology and Experimental Therapeutics); Arlington, VA; May 16-19, 2024.*
21. Varga BR, Bernhard SM, El Daibani A, Zaidi S, Aquilar J, Nazarova A, Lam JH, Appourchaux K, Eans SO, Margolis E, Fay JF, Pradhan A, Katritch V, **McLaughlin JP**, Che T, Majumdar S: Efficacy modulation by targeting the sodium binding allosteric site in the delta opioid receptor. *ASPET (American Society for Pharmacology and Experimental Therapeutics); Arlington, VA; May 16-19, 2024.*

TEACHING AND PROFESSIONAL ACTIVITIES:

List of mentored undergraduate and graduate students available on request.

Teaching Assistant, NSC 201, Introduction to Neuroscience University of Rochester	9/93 - 12/93
Lecturer, PHM/NSC 551, Neuropharmacology University of Rochester	5/96 - 5/98
Organizing staff, International Narcotic Research Conference, Saratoga Springs, New York, 1999 and Seattle, Washington, 2000.	5/99 - 7/00
Lecturer, PHM 534, Molecular basis of complex motivated behavior University of Washington	10/00
Lecturer, NBIO 404, Neuropharmacology University of Washington	4/02
Lecturer, PHM 512, Pharmacology University of Washington	2/04
Lecturer and course director, PSY U656, Seminar in Psychobiology Northeastern University	9/04 – 12/08
Lecturer and course director, PSY U606, Laboratory in Psychobiology Northeastern University	1/05 – 5/08
Lecturer, PSC G314, Chemistry and Biology of Drugs of Abuse	1/06
Lecturer and course director, PSY G240, Biology of Behavior Seminar Northeastern University	9/06 – 12/06
Lecturer, PSY U510, Serotonin; Affective Disorders	3/07
Lecturer and course director, PSY G40, Proseminar in Biology of Behavior Northeastern University	9/07 – 12/07
Lecturer, PSC G322, Chemistry and Biology of Drugs of Abuse	10/07
Organizer and Host, North East Under/graduate Research Organization for Neuroscience (N.E.U.R.O.N.); Boston, Massachusetts	10/07 – 11/08

Executive Committee, International Narcotic Research Conference	6/11 – 7/14
Guest editor, themed issues for 12(6) and 13(1), Current HIV Research	6/14 – 3/15
Organizing staff, International Narcotic Research Conference, 2015	7/14 - 7/15
Lecturer, PHA5561C, Systems physiology and pathophysiology-II University of Florida	2/15 – current
Lecturer, PHA6508, Systems physiology and pathophysiology-I University of Florida	8/15 – current
Instructor, PHA5902 – Research in Pharmacodynamics University of Florida	8/15 – current
Instructor, PHA7979 – Advanced Research in Pharmacodynamics University of Florida	8/15 – current
Lecturer, PHA5517, Opioid and Peptide pharmacology University of Florida	1/16 – current
Instructor, PHA7980 – Doctoral Research, University of Florida	4/16 – current
Lecturer, PHA6935, Life Cycle of a Drug: An introduction to Drug Discovery and Development, University of Florida	5/17 – current
Lecturer, PHA5788C, Patient Care-VI, University of Florida	5/17 – current
Instructor, PHA4911 – Undergraduate Research in Pharmacodynamics University of Florida	8/17 – current
Instructor, PHA5930 – Seminar in Pharmacy Research, University of Florida	11/19 –current

INVITED TALKS AND SEMINARS:

1. **McLaughlin JP**, Sebastian A, Archer S, Bidlack JM: 14 β -Chlorocinnamoylamino derivatives of metopon interact differentially with the mu opioid receptor. Oral presentation. *International Narcotic Research Conference, North Falmouth, MA; July, 1994.*
2. **McLaughlin JP**, Archer S, Bidlack JM: Investigation into the binding mechanisms of the radiolabeled cinnamoylamino dihydrocodeinone derivative: [^3H]N-CPM-CACO. Oral presentation. *College on Problems of Drug Dependence, San Juan, Puerto Rico; June, 1997.*
3. **McLaughlin JP**, Xie W, Jiang H, Wu D, Bidlack JM: Enhanced antinociceptive effect of morphine in mice lacking the enzyme PLC β 3. Oral presentation. *International Narcotic Research Conference, Garmisch-Partenkirchen, Germany; July, 1998.*
4. **McLaughlin JP**: Investigation into mechanisms of opioid tolerance with novel opioid affinity ligands. Invited speaker. *Laboratory of Dr. Chris Evans, University of California, Los Angeles; August, 1999.*
5. **McLaughlin JP**, Chavkin C: Modulation of mu opioid receptor tyrosine phosphorylation state potentiates signaling. Oral presentation. *Soc. Neurosci. 29, New Orleans, LA; November, 2000.*
6. **McLaughlin JP**, Myers LC, Zarek PE, Mackie K, Chavkin C: Phosphospecific antibody recognizes the desensitized form of the kappa opioid receptor (KOR). Oral presentation. *International Narcotic Research Conference, Helsinki, Finland, July, 2001.*
7. **McLaughlin JP**, Chavkin C: Kappa opioid systems mediate stress responses. Oral presentation. *International Narcotic Research Conference, Monterey, California, July, 2002.*
8. **McLaughlin JP**: Kappa opioid receptor phosphorylation: receptor regulation with behavioral consequences. Invited speaker. *Laboratory of Dr. Mark Von Zastrow, University of California, San Francisco; July, 2002.*

9. **McLaughlin JP**, Chavkin C: Prolonged kappa-opioid receptor phosphorylation mediated by G-protein Receptor Kinases underlies sustained analgesic tolerance in mice. Oral presentation. *Soc. Neurosci. 33: (New Orleans, LA; November, 2003.)*
10. **McLaughlin JP**: Molecular determinants of depressive and addictive behavior: the role of opioid receptor phosphorylation. Oral Presentation. *Current Trends in Drug Abuse Research, Northeastern University, Boston; March, 2005.*
11. **McLaughlin JP**, Pintar JE, Chavkin C: Probing mechanisms modulating stress and addictive behaviors with kappa opioid receptor antagonists. Oral Presentation. *College on Problems of Drug Dependence, Orlando, FL; June, 2005.*
12. **McLaughlin JP**: Molecular modulations of motivation and reward: the role of the kappa opioid systems. *McLean Hospital/Harvard, Belmont, MA; November 2005.*
13. **McLaughlin JP**: New insights into depression: a role for kappa opioid ligands. *Pfizer Pharmaceuticals, Groton, CT; February 2006.*
14. **McLaughlin JP**: Peptidic kappa opioid receptor ligands as potential treatments for drug addiction. *University of Kansas, Lawrence, KS; December 2006.*
15. **McLaughlin JP**: Molecular mechanisms underlying behavioral pharmacology. *McLean Hospital/Harvard, Belmont, MA; March 2007.*
16. **McLaughlin JP**: Probing mechanisms modulating stress, depression and reward: the role of kappa opioid systems. *University of Pennsylvania, Philadelphia, PA; May, 2007.*
17. **McLaughlin JP**: Investigations into the prolonged mechanism of kappa opioid receptor antagonism, and screening of novel short-acting, selective antagonists. *McLean Hospital/Harvard, Belmont, MA; January 2008.*
18. **McLaughlin JP**: *In-vivo* screening of mixture-based combinatorial peptide libraries. *Torrey Pines Institute for Molecular Studies, Port Pierce, FL; March, 2008.*
19. **McLaughlin JP**: Neurobiology of stress: modulating effects on depression, drug abuse and learning and memory. *Moravian College, Bethlehem, PA; March, 2008.*
20. **McLaughlin JP**: Kappa-opioid mediation of stress-induced behaviors: evidence for novel ligand-specific signaling? *Temple University, Philadelphia, PA; December, 2008.*
21. **McLaughlin JP**: The quest for the Holy Grail: Novel opioid ligands as possible treatments for pain and drug abuse. Oral Presentation. *Winter Conference on Brain Research, Breckenridge, CO; January, 2010.*
22. **McLaughlin JP**: The quest for the Holy Grail: Novel opioid ligands as possible treatments for pain and drug abuse without clinical liabilities. *Florida Atlantic University, Boca Raton, FL; February, 2010.*
23. **McLaughlin JP**: Kappa opioid mediation of stress-induced behaviors. *College on Problems of Drug Dependence. Scottsdale, AZ; June, 2010.*
24. **McLaughlin JP**, Sperling, R.E., Gomes, S.M. and Ganno-Sherwood, M.: Endogenous kappa opioid mediation of stress-induced reinstatement and potentiation of ethanol seeking behavior. *Second International Congress on Alcoholism and Stress: A framework for future treatment strategies. Volterra, Italy; May, 2011.*
25. **McLaughlin JP**: Functional consequences of kappa opioid receptor ligand-directed signaling. *University of Minnesota, Minneapolis, MN; October 7, 2011.*
26. **McLaughlin JP**: Functional consequences of opioid receptor ligand-directed signaling. *Scripps Florida, Jupiter, FL; December 6, 2011.*
27. **McLaughlin JP**: Novel opioid ligands as possible treatments for pain and drug abuse. *University of Mississippi, University, MS; September 25, 2012.*

28. **McLaughlin JP:** Exposure to HIV-1 Tat protein is sufficient to produce neuropsychiatric effects of HIV-1 infection. *UC San Diego, San Diego, CA; November 12, 2013.*
29. **McLaughlin JP:** Development of mixed opioid agonist/antagonists as analgesics with lower liabilities of use and to prevent reinstatement of extinguished drug-seeking behavior. *University of Rochester, Rochester, NY; March 6, 2014.*
30. **McLaughlin JP:** Conditional central expression of HIV-1 Tat protein potentiates cocaine- and ethanol-mediated reward and reinstates extinguished reward-seeking behavior. *Society on NeuroImmune Pharmacology. New Orleans, LA; March 27, 2014.*
31. **McLaughlin JP:** Developing novel opioid ligands as lower-liability treatments for pain and drug abuse. *University of Florida, Gainesville, FL; June 26, 2014.*
32. **McLaughlin JP:** Development of mixed opioid agonist/antagonists as analgesics with lower liabilities of use and to prevent reinstatement of extinguished drug-seeking behavior. *University of Mississippi, University, MS; September 11, 2014.*
33. **McLaughlin JP:** Dysfunction and neuropsychiatric consequences of exposure to HIV-1 Tat protein. *The Scripps Research Institute, Jupiter, FL; May 20, 2015.*
34. **McLaughlin JP, Ganno ML, Paris JJ, Zhang Y, Kreek MJ:** Exposure to HIV-1 Tat protein potentiates the rewarding effects of morphine and reinstates extinguished conditioned place preference. *College on Problems of Drug Dependence. Phoenix, AZ; June 2015.*
35. **McLaughlin JP:** Developing mixed action opioid agonist/antagonist cyclic tetrapeptides as lower-liability treatments for pain and drug abuse. *CARE, University of Florida, Gainesville, FL; January 20, 2016.*
36. **McLaughlin JP:** Dysfunction and neuropsychiatric consequences of exposure to HIV-1 Tat protein. *The 2016 HIV/AIDS Research and Practice Symposium, Tampa, FL; March 3, 2016.*
37. **McLaughlin JP:** Dysfunction and neuropsychiatric consequences of exposure to HIV-1 Tat protein. *Neuroscience Seminar Series; Univ. of Florida, Gainesville, FL; March 24, 2016.*
38. **McLaughlin JP:** Characterizing and treating dysfunction and neuropsychiatric consequences arising from exposure to HIV-1 Tat protein. *University of Rochester, Rochester, NY; May 25, 2016.*
39. **McLaughlin JP:** Characterizing and treating dysfunction and neuropsychiatric consequences arising from exposure to HIV-1 Tat protein. *University of Missouri, Kansas City, MO; Sept. 15, 2016.*
40. **McLaughlin JP:** Characterizing and treating dysfunction and neuropsychiatric consequences arising from exposure to HIV-1 Tat protein. *Virginia Commonwealth University, Richmond, VA; Sept. 20, 2016.*
41. **McLaughlin JP:** Development of mixed opioid agonist/antagonists as analgesics with lower liabilities of use and to prevent reinstatement of extinguished drug-seeking behavior. *Florida Atlantic University, Jupiter, FL; October 12, 2016.*
42. **McLaughlin JP:** Neurobehavioral research in Tat transgenic mice: Effects of HIV-1 Tat protein. *Optimizing animal models for evolving HAND phenotypes and CNS reservoir research. In conjunction with the International Symposium and NeuroVirology. Toronto, Canada; October 25, 2016.*
43. **McLaughlin JP:** HIV- Tat protein: sufficient to cause HIV-Associated Neurological Deficits (HAND)? Invited speaker. *Florida Health Grand Rounds, Alachua, FL; November 8, 2016.*
44. **McLaughlin JP:** Characterizing and treating dysfunction and neuropsychiatric consequences arising from exposure to HIV-1 Tat protein. *Johns Hopkins University, Baltimore, MD; February 7, 2017.*

45. **McLaughlin JP:** Development of mixed opioid agonist/antagonists as analgesics with lower liabilities of use and to prevent reinstatement of extinguished drug-seeking behavior. *Boston University, Boston, MA; March 1, 2017.*
46. **McLaughlin JP:** Characterizing and treating dysfunction and neuropsychiatric consequences arising from exposure to HIV-1 Tat protein. *University of Nebraska Medical Center, Omaha, NE; March 17, 2017.*
47. **McLaughlin JP:** Brain exposure to HIV-1 Tat protein potentiates the psychostimulant effects of morphine, modulates consumption and reinstates extinguished reward-seeking. *Society on NeuroImmune Pharmacology, Philadelphia, PA; March 30, 2017.*
48. **McLaughlin JP:** Developing mixed action opioid agonist/antagonists as lower-liability treatments for pain and drug abuse. *LIBR- Johns Hopkins University, Baltimore, MD; March 28, 2018.*
49. **McLaughlin JP:** Characterizing and treating neuropsychiatric dysfunction arising from exposure to HIV-1 Tat protein. *Universidad Central del Caribe, Bayamón, Puerto Rico; April 24, 2018.*
50. **McLaughlin JP:** Opioid pain relief versus overdose and dependence: How can science swing the balance? (2 h MCE course). *Alachua County Association of Pharmacists. Gainesville, FL; October 9, 2018.*
51. **McLaughlin JP:** Refinement of cyclic tetrapeptide mixed opioid agonist/antagonists as safer analgesics and treatments for opioid addiction. *5th Annual Society for Personalized Nano-Medicine, Miami, FL; November 1, 2018.*
52. Huigens R and **McLaughlin JP:** Better living through chemistry: Using ring distortion to re-engineer new treatments for opioid addiction. *PharmTalk Faculty Mixed, College of Pharmacy, University of Florida, Gainesville, FL; November 27, 2018.*
53. **McLaughlin JP**, Wilson LL, Eans SO, Stacy HM, Uprety R, Sames D, Pasternak G, Majumdar S: Evaluation of Kratom and mitragynine as treatments for pain and opioid withdrawal, and for addictive liabilities in mouse models. *Second International Kratom Meeting. Orlando, FL; February 8-10, 2019.*
54. **McLaughlin JP**, Eans SO, Brice-Tutt AC, Stacy HM, Simpson G, Coleman JS, Ferracane MJ, Aldrich JV: Refinement of cyclic tetrapeptide multifunctional opioid agonist/antagonists as safer analgesics and treatments for opioid addiction. *UF Drug Discovery Symposium, Gainesville, FL; April 25-26, 2019.*
55. Xing C and **McLaughlin JP:** Kava, cancer, tobacco and stress. *PharmTalk Faculty Mixed, College of Pharmacy, University of Florida, Gainesville, FL; November 12, 2019.*
56. **McLaughlin JP:** Evaluating contributions of HIV-1 Tat protein to neuro-dysfunction and psychiatric deficits associated with neuroAIDS. *Drexel University, Philadelphia, Pennsylvania; September 22, 2020.*
57. **McLaughlin JP:** HIV-1 Tat protein mediated neuronal dysfunction and behavioral deficits: mechanistic insights for potential translational interventions for neuroAIDS? *George Mason University, Fairfax, Virginia (virtual); September 6, 2022.*
58. **McLaughlin JP:** HIV-1 Tat protein mediated neuronal dysfunction and behavioral deficits: mechanistic insights for potential translational interventions for neuroAIDS? *Rush University, Chicago, Illinois; September 14, 2022.*
59. **McLaughlin JP:** Contributions of HIV-1 Tat protein to CNS dysfunction and behavioral deficits: potential mechanistic and therapeutic insights for neuroAIDS? *Drug Discovery &*

Biomedical Sciences, College of Pharmacy, University of South Carolina, Columbia, South Carolina; October 12, 2022.

60. McCurdy CR, Sharma A, **McLaughlin JP**, Grundmann O: Kratom review and application for treating opioid dependence. *Statewide Drug Policy Advisory Council (DPAC), Tallahassee, FL (virtual presentation); February 2, 2023.*
61. **McLaughlin JP**: Investigating the sigma-1 receptor as a potential target for treating chronic pain or psychostimulant use disorder. *Department of Anesthesiology, School of Medicine, Washington University in St. Louis, St. Louis, Missouri; March 21, 2023.*
62. **McLaughlin JP**: New ways to treat pain: Developing safer painkillers at UF. *The Villages, Gainesville, Florida; April 11, 2023.*
63. **McLaughlin JP**. HIV-1 Tat protein mediates CNS dysfunction and behavioral deficits: and accelerates aging? *Center for Cognitive Aging and Memory Research Day: Gainesville, FL; May 17, 2023.*

REFERENCES:

Available upon request.