

# Stanford

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## Austen Brooks Casey

Postdoctoral Scholar, Anesthesiology, Perioperative and Pain Medicine

### Bio

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#### BIO

Austen Brooks Casey, PhD, is a postdoctoral scholar in the Department of Anesthesiology, Perioperative and Pain Medicine (advisor: Boris Dov Heifets, MD, PhD). He originates from western North Carolina, and has had a long-standing interest in drug discovery for major depression and schizophrenia, which was invigorated by initial coursework in organic chemistry and biochemistry. Austen trained at Northeastern University (advisor: Raymond G. Booth, PhD) where he studied the medicinal chemistry and pharmacology of novel ligands targeting serotonergic G protein-coupled receptors. Currently, he is investigating neural circuits activated by psychedelic drugs, with the long-term goal of using modern techniques in neuroscience to complement drug design efforts toward the development of novel antidepressant and antipsychotic medications.

#### PROFESSIONAL EDUCATION

- Doctor of Philosophy, Northeastern University (2021)
- Diploma, Tri-County Early College High School (2014)
- Associate of Arts, Unlisted School (2014)
- Bachelor of Science, Warren Wilson College (2016)
- PhD, Northeastern University, Medicinal Chemistry (2021)
- BS, Warren Wilson College, Chemistry: concentration in Biochemistry (2016)
- AA, Tri-County Community College (2014)

#### STANFORD ADVISORS

- Boris Heifets, Postdoctoral Faculty Sponsor

### Research & Scholarship

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#### LAB AFFILIATIONS

- Boris Heifets, Heifets Lab (8/2/2021)

### Publications

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#### PUBLICATIONS

- **Neural Circuit Delineation of ( $\pm$ )-3,4-methylenedioxymethamphetamine (MDMA)-evoked Sociability and Fear Memory Deficits**  
Casey, A., Rijsketic, D., Zhao, W., Palmer, A., Salgado, J., Llorach, P., Wall, N., Pomrenze, M., Malenka, R., Heifets, B.  
ELSEVIER SCIENCE INC.2024: S254
- **Anesthesia as a Control for Blinding in Psychedelic Therapy**

Hietamies, T., Casey, A., Zhao, W., Rijsketic, D., Deverett, B., Restagar, Z., Heifets, B.  
ELSEVIER SCIENCE INC.2024: S199

- **Opioid receptor expressing neurons of the central amygdala gate behavioral effects of ketamine in mice.** *bioRxiv : the preprint server for biology*  
Pomrenze, M. B., Vaillancourt, S., Llorach, P., Rijsketic, D. R., Casey, A. B., Gregory, N., Salgado, J. S., Malenka, R. C., Heifets, B. D.  
2024
- **UNRAVELing the synergistic effects of psilocybin and environment on brain-wide immediate early gene expression in mice.** *Neuropsychopharmacology : official publication of the American College of Neuropsychopharmacology*  
Rijsketic, D. R., Casey, A. B., Barbosa, D. A., Zhang, X., Hietamies, T. M., Ramirez-Ovalle, G., Pomrenze, M. B., Halpern, C. H., Williams, L. M., Malenka, R. C., Heifets, B. D.  
2023
- **Brain-Wide Activity Mapping Reveals a Required Role for the Dorsal Endopiriform Nucleus in MDMA-Evoked Prosocial Behavior**  
Heifets, B., Rijsketic, D., Salgado, J., Wall, N., Ramirez-Ovalle, G., Llorach, P., Lopez, R., Casey, A., Hietamies, T., Rastegar, Z., Barbosa, D., Beier, K., Malenka, et al  
ELSEVIER SCIENCE INC.2023: S57-S58
- **UNRAVELing the synergistic effects of psilocybin and environment on brain-wide immediate early gene expression in mice.** *bioRxiv : the preprint server for biology*  
Rijsketic, D. R., Casey, A. B., Barbosa, D. A., Zhang, X., Hietamies, T. M., Ramirez-Ovalle, G., Pomrenze, M., Halpern, C. H., Williams, L. M., Malenka, R. C., Heifets, B. D.  
2023
- **"Selective" serotonin 5-HT<sub>2A</sub> receptor antagonists.** *Biochemical pharmacology*  
Casey, A. B., Cui, M., Booth, R. G., Canal, C. E.  
2022: 115028
- **A new class of serotonin 5-HT<sub>2A</sub>/5-HT<sub>2C</sub> receptor inverse agonists: Synthesis, molecular modeling, in vitro and in vivo pharmacology of novel 2-aminotetralins** *British Journal of Pharmacology*  
Casey, A. B., Mukherjee, M., McGlynn, R. P., Cui, M., Kohut, S. J., Booth, R. G.  
2021
- **(S)-5-(2'-Fluorophenyl)-N,N-dimethyl-1,2,3,4-tetrahydronaphthalen-2-amine, a Serotonin Receptor Modulator, Possesses Anticonvulsant, Prosocial, and Anxiolytic-like Properties in an Fmr1 Knockout Mouse Model of Fragile X Syndrome and Autism Spectrum Disorder** *ACS PHARMACOLOGY & TRANSLATIONAL SCIENCE*  
Armstrong, J. L., Casey, A. B., Saraf, T. S., Mukherjee, M., Booth, R. G., Canal, C. E.  
2020; 3 (3): 509-523
- **Synthesis of novel 5-substituted-2-aminotetralin analogs: 5-HT<sub>1A</sub> and 5-HT<sub>7</sub> G protein-coupled receptor affinity, 3D-QSAR and molecular modeling** *BIOORGANIC & MEDICINAL CHEMISTRY*  
Perry, C. K., Casey, A. B., Felsing, D. E., Vemula, R., Zaka, M., Herrington, N. B., Cui, M., Kellogg, G. E., Canal, C. E., Booth, R. G.  
2020; 28 (3): 115262
- **Classics in Chemical Neuroscience: Aripiprazole** *ACS CHEMICAL NEUROSCIENCE*  
Casey, A. B., Canal, C. E.  
2017; 8 (6): 1135-1146