

Clayton T. Bauer

Orthopaedic Medical Group of Tampa Bay
clayton.bauer@omgtb.com

EDUCATION

M.D./Ph.D. Aug. 2008 – May 2015
Virginia Commonwealth University School of Medicine Richmond, VA

Bachelor of Science Jan. 2004 – May 2007
Wake Forest University Winston-Salem, NC

POSITIONS HELD

Neurosurgeon / Spine Surgeon July 2022 - Present
Orthopaedic Medical Group of Tampa Bay

Resident Physician July 2015 – June 2022
University of South Florida Tampa, FL
Department of Neurosurgery

Additional training: Elective year of residency (July 2019 – July 2020) spent
pursuing additional training in complex spine surgery with
Geoffrey Cronen (orthopedic spine surgeon at Florida
Medical Clinic in Tampa, FL)

Medical Student (M3-M4) Aug. 2013 – May 2015
Virginia Commonwealth University Richmond, VA
School of Medicine

Graduate Student July 2010 – May 2013
Virginia Commonwealth University Richmond, VA
Department of Pharmacology and Toxicology
Principal Investigator: S. Stevens Negus, Ph.D.
Project: Abuse liability assessment of monoamine releasers

Medical Student (M1-M2) Aug. 2008 – July 2010
Virginia Commonwealth University Richmond, VA
School of Medicine

Laboratory Technician May 2007 – Aug. 2008
Wake Forest University Winston-Salem, NC
Department of Physics

Principal Investigator: Jed C. Macosko, Ph.D.
Project: Organelle transport in primary neuron cultures

Research Assistant May 2005 - May 2007
Wake Forest University Winston-Salem, NC
Department of Neurobiology and Anatomy

Principal Investigator: Christopher P. Turner, Ph.D.
Project: Calcium homeostasis in the developing brain

Research Assistant
Wake Forest University
Department of Biology

Jan. 2005 - May 2006
Winston-Salem, NC

Principal Investigator: Wayne Silver, Ph.D.
Project: Trigeminal nerve response to olfactory irritants

LICENSING

United States Medical Licensing Exams (STEP 1, 2, 3) – Completed in 2015
American Board of Neurologic Surgery Primary Exam – Completed in 2020
American Board of Neurologic Surgery Oral Exam - Eligible
Drug Enforcement Agency License - Active
Florida Medical Board License - Active

AWARDS AND HONORS

Honors:

(2007) Bachelor of Science, Cum Laude – Wake Forest University

Awards:

(2013) Travel Award – American Society for Pharmacology and Experimental Therapeutics
(2012) Best Student Presentation – Society for Stimulus Properties of Drugs
(2007) Walter S. Flory Service Award – Wake Forest University
(2006) Elton C. Cocke Award for Excellence in Biology – Wake Forest University

PROFESSIONAL AND ACADEMIC ORGANIZATIONS:

Societies:

(2015 – Present) American Association of Neurological Surgeons
(2010 – 2013) American Society for Pharmacology and Experimental Therapeutics
(2005 – 2013) Society for Neuroscience
(2012) Society for Stimulus Properties of Drugs
(2008 – 2011) American Association for the Advancement of Science
(2005 – 2007) American Medical Student Association

Committees:

(2014 – 2015) VCU School of Medicine LCME Data Collection Committee, Member
(2011 – 2015) VCU School of Medicine Admissions Committee, Member
(2010 – 2015) VCU School of Medicine M.D./Ph.D. Admissions Committee, Member
(2012) VCU Emergency Preparedness Committee, Member
(2011 – 2012) VCU School of Medicine Honor Council, Pharmacology Representative
(2003) Stetson University Honor Council, Vice President

Other:

(2011 – 2012) VCU MD/PhD Program, Co-President

RESEARCH FUNDING

F30 DA034478 (NIH/NIDA)

4/01/13 – 5/15/15

Mechanisms of Psychostimulant Abuse: Project designed to test the hypothesis that the dopamine-mediated abuse liability of monoamine releasers can be limited by the release of serotonin via 5HT_{2C} receptors. Confirmation of this hypothesis would provide a basis for developing both safer monoamine releaser therapeutics and novel treatments for monoamine releaser abuse.

PATENTS, PUBLICATIONS, AND PRESENTATIONS

Patents:

1. **Bauer CT** (2005) Minimally Invasive Adjustable Acetabular Reamer. Patent # 6,918,914

Book chapters and publications by date:

1. Tong X, Wang Y, **Bauer CT**, Jia B, Zhang X, Huo X, Luo G, Wang A, Ma N, Gao F, Mo G, Song L, Sun X, Liu L, Deng Y, Li X, Wang B, Ma G, Wang Y, Ren Z, Miao Z. (2021) Aspiration Thrombectomy for Acute Stroke Patients Lags Behind in China: Data from ANGEL-ACT Registry. *Therapeutic Advances in Neurological Disorders*. Accepted.
2. Tong X, Wang Y, Fiehler J, **Bauer C**, Jia B, Zhang X, Huo X, Luo G, Wang A, Pan Y, Ma N, Gao F, Mo D, Song L, Sun X, Liu L, Deng Y, Li X, Wang B, Ma G, Wang Y, Ren Z, Miao Z. (2020) Thrombectomy Versus Combined Thrombolysis and Thrombectomy in Acute Stroke Patients: A Matched-Control Study. *Stroke*. Accepted.
3. Jia B, Ren Z, Mokin M, Burgin W, **Bauer C**, Fiehler J, Mo D, Ma N, Gao F, Huo X, Luo G, Wang A, Pan Y, Song L, Sun X, Zhang X, Gui L, Song C, Peng Y, Wu J, Zhao S, Zhou Z, Li Y, Jing P, Yang L, Liu Y, Zhao Q, Liu Y, Peng X, Gao QC, Guo Z, Chen W, Li W, Cheng X, Xu Y, Zhang Y, Zhang G, Lu Y, LU X, Wang D, Wang Y, Li H, Ling L, Peng G, Zhang J, Zhang K, Li S, Qi Z, Xu H, Tong X, Ma G, Guo X, Deng Y, Leng X, Leung T, Liebeskind D, Wang L, Wang Y, Miao Z. (2020) Current Status of Endovascular Treatment for Acute Large Vessel Occlusion in China: a Real-world Nationwide Registry. *Stroke*. Accepted.
4. Ren Z, Mokin M, **Bauer CT**, Miao Z, Burgin WS, Wang Y. (2019) Indications for Mechanical Thrombectomy—Too Wide or Too Narrow? *World Neurosurgery*. 127:492-9.
5. **Bauer CT** (2016) Status Epilepticus in Mark Greenberg (Ed.), *Handbook of Neurosurgery*, 8th edition. New York, New York: Thieme Medical Publishers.
6. Lazenka MF, Suyama JA, **Bauer CT**, Banks ML, & Negus SS (2016) Sex Differences in Abuse-related Neurochemical and Behavioral Effects of 3, 4-methylenedioxymethamphetamine (MDMA) in Rats. *Pharmacology Biochemistry and Behavior* 152:52-60.
7. **Bauer CT**, Negus SS, Blough BE, Banks ML (2016) Cocaine-like Discriminative Stimulus Effects of Phendimetrazine and Phenmetrazine in Rats. *Behavioral Pharmacology* 27(2 and 3-special issue):192-195.
8. **Bauer CT**, Banks ML, Blough BE, Negus SS (2015) Role of 5-HT_{2C} Receptors in Effects of Monoamine Releasers on Intracranial Self-Stimulation in Rats. *Psychopharmacology* 232(17):3249-3258.

9. *Banks ML, **Bauer CT**, Blough BE, Rothman RB, Partilla JS, Negus SS (2014) Abuse-related Effects of Dual Dopamine/Serotonin Releasers with Varying Potency to Release Norepinephrine in Male Rats and Rhesus Monkeys. *Experimental and Clinical Psychopharmacology* 22(3):274-284. *Drs. Banks and Bauer are co-first authors.
10. **Bauer CT**, Banks ML, Negus SS (2014) The Effect of Chronic Amphetamine Treatment on Cocaine-Induced Facilitation of Intracranial Self-Stimulation in Rats. *Psychopharmacology (Berl)*. 231(12):2461-2470.
11. **Bauer CT**, Banks ML, Blough BE, Negus SS (2013) Rate-Dependent Effects of Monoamine Releasers on Intracranial Self-Stimulation in Rats: Implications for Abuse Liability Assessment. *Behavioral Pharmacology* 24(5,6):448-458.
12. **Bauer CT**, Banks ML, Blough BE, Negus SS (2013) Use of Intracranial Self-Stimulation to Evaluate Abuse-Related and Abuse-Limiting Effects of Monoamine Releasers in Rats. *British Journal of Pharmacology* 168(4):850-862.
13. Shtridelman Y, Holzwarth GM, **Bauer CT**, Gassman NR, DeWitt DA, Macosko JC (2009) *In vivo* Multimotor Force–Velocity Curves by Tracking and Sizing Sub-Diffraction Limited Vesicles. *Cellular and Molecular Bioengineering* 2: 190-199.
14. **Bauer CT**, Shtridelman Y, Lema Tome CM, Grim JQ, Turner CP, Tytell M, Macosko J (2008) Vesicular Organelle Transport Changes With *In Vitro* Population Density. *Neuroscience Letters* 441: 173-177.
15. Lema Tome CM, Miller R, **Bauer C**, Smith C, Blackstone K, Leigh A, Busch J, Turner CP (2008) Decline in Age-dependent, MK801-induced Injury Coincides With Developmental Switch in Calcium Binding Protein Expression: Somatosensory and Motor Cortex. *Developmental Psychobiology* 50: 665-679.
16. Lema Tome CM, Miller R, **Bauer C**, Nottingham C, Smith C, Blackstone K, Brown L, Bryan R, Leigh A, Brady M, Busch J, Turner CP (2007) Decline in Age-dependent, MK801-induced Injury Coincides With Developmental Switch in Parvalbumin Expression: Cingulate and Retrosplenial Cortex. *Developmental Psychobiology* 49: 606-518.
17. Lema Tome CM, **Bauer C**, Nottingham C, Smith C, Blackstone K, Brown L, Hlavaty C, Nelson C, Daker R, Sola R, Miller R, Bryan R, Turner CP (2006) MK801-induced Caspase-3 in the Postnatal Brain: Inverse Relationship with Calcium Binding Proteins. *Neuroscience* 141: 1351-1363.

Abstracts and presentations by date:

1. **Bauer CT**, Banks, ML, Negus SS. Effects of chronic amphetamine treatment on cocaine-induced facilitation of intracranial self-stimulation in rats. (Experimental Biology [ASPET] and American Society of Physician Scientists – 2013)
2. Der-Avakian A, Boye S, **Bauer CT**, Malanga CJ. Highs and Lows: Insights from the intracranial self-stimulation procedure about normal and abnormal brain reward function in neuropsychiatric disorders. (Invited panelist: Winter Conference for Brain Research – 2013)
3. **Bauer CT**, Banks ML, Blough BE, Negus SS. Selectivity to release dopamine vs. norepinephrine as a determinant of cocaine like discriminative stimulus effects of monoamine releasers in rats. (Society for the Stimulus Properties of Drugs – 2012)
4. **Bauer CT**, Banks, ML, Blough BE, Negus SS. Abuse-related and abuse-limiting effects of monoamine releasers on intracranial self-stimulation in rats (Society for Neuroscience – 2012)

5. **Bauer CT**, Banks ML, Blough BE, Negus SS. Effects of m-fluoroamphetamine and fenfluramine on intracranial self-stimulation (ICSS) in rats (Experimental Biology [ASPET] – 2011)
6. Shtridelman Y, Holzwarth G, **Bauer C**, Gassman N, DeWitt D, Macosko J. Extending the Range of In Vivo Multimotor Force-Velocity Curves by Sizing Vesicles Below the Diffraction Limit (Biophysical Society – 2009)
7. **Bauer CT**, Lema Tome CM, Turner CP. Developmental Switch in Calcium Binding Protein Expression: Cingulate Cortex (Symposium for Young Neuroscientists and Professors of the South East [SYNAPSE] – 2007)
8. Lema Tome CM, Miller R, **Bauer C**, Smith C, Blackstone A, Turner CP. Age-dependent MK801-induced injury and developmental patterns of calcium binding proteins are inversely related: caudate-putamen (Society for Neuroscience – 2007)
9. **Bauer C**, Lema Tome CM, Blackstone A, Smith C, Miller R, Turner CP. Susceptibility to MK801 and developmental patterns of calcium binding proteins are inversely related: cingulate and retrosplenial cortices (Society for Neuroscience – 2007)
10. Nottingham CU, Lema Tomé CM, **Bauer C**, Smith C, Miller R, Leigh A, Bryan R, Blackstone K, Brown L, Brady M, Turner CP. Developmentally Regulated Calcium Binding Proteins Expression in the Rat Brain (Society for Neuroscience – 2006)
11. Lema Tomé CM, **Bauer C**, Nottingham C, Miller R, Smith C, Bryan R, Blackstone K, Brown L, Turner CP. MK801-induced Caspase-3 in the Postnatal Brain: Inverse Relationship with Calcium Binding Proteins (Society for Neuroscience – 2006)

SELECTED LECTURES AND EDUCATION

- Worked to develop a series of neurocritical care lectures as part of an educational curriculum for the USF Department of Neurosurgery with the following lectures personally presented:
 - What is new in the management of ischemic stroke? (Grand Rounds, USF Department of Neurosurgery, 2017)
 - What is new in the management of subarachnoid hemorrhage? (Grand Rounds, USF Department of Neurosurgery, 2017)
- “Deep Brain Stimulation as a Treatment for Substance Abuse: Future or Fallacy?” (Letters to Atticus lecture series, USF Department of Neurosurgery, 2017)
- Developed curriculum and gave multiple presentations for the USF Neurosurgery Written Board Review Course (2019)
- “Alcohol Withdrawal in the Inpatient Setting” (Letters to Atticus lecture series, USF Department of Neurosurgery, 2020)
- Proctored a spine education course at USF for junior residents with a focus on posterior approaches to the thoracolumbar spine (2020 VA/USF Junior Resident Spine Course, 2020)
- Osteotomies and When to Use Them (Spine Conference Educational Series, USF Department of Neurosurgery, 2020)