

Curriculum Vitae Regina M. Carelli

University Address:

Department of Psychology
Davie Hall, CB #3270
University of North Carolina
Chapel Hill, NC 27599
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Education:

- Ph.D. Experimental Psychology, Behavioral Neuroscience Program, Rutgers University, New Brunswick, NJ, 1991.
- M.S. Experimental Psychology, Behavioral Neuroscience Program, Rutgers University, New Brunswick, NJ, 1987.
- B.A Psychology/English, Rutgers University (Rutgers College), Departmental Honors (Highest Distinction) in Psychology. New Brunswick, NJ, 1984.

Employment:

- 2006-present Professor, Department of Psychology, University of North Carolina, Chapel Hill, NC
- 2006-present Member, UNC Neuroscience Center, University of North Carolina, Chapel Hill, NC.
- 2004-present Director, Behavioral Neuroscience Program, Department of Psychology, University of North Carolina, Chapel Hill, NC
- 1997-present Graduate Faculty, Curriculum in Neurobiology, University of North Carolina, Chapel Hill, NC.
- 2002-2006 Associate Professor, Department of Psychology, University of North Carolina, Chapel Hill, NC
- 1997-2002 Assistant Professor, Department of Psychology, University of North Carolina, Chapel Hill, NC.

1996-1997 Assistant Professor, Department of Physiology & Pharmacology, Wake Forest University School of Medicine, Winston-Salem, NC.

1991-1996 Postdoctoral Fellow, Department of Physiology & Pharmacology, Wake Forest University School of Medicine, Winston-Salem, NC.

1987-1991 Graduate Research Assistant, Department of Psychology, Rutgers University.

1985-1987 Teaching Assistant, Department of Psychology, Rutgers University

Summer (85/86) Research Summer Consultant, Ciba-Geigy Corporation, Behavioral Neuroscience Division, Summit NJ.

Research Support:

Ongoing Grants:

2007-2012 Principal Investigator, National Institute on Drug Abuse. R01: “Neurophysiological Cocaine & Natural Rewards” Competing continuation: Total: \$1,460,000

2004-2009 Principal Investigator (Co-PI: R.M. Wightman, Ph.D.), National Institute on Drug Abuse. R01: PA # PAR-01-047: Cutting-Edge Basic Research Awards: R01 Stage II Award: “Combined Voltammetry/Electrophysiology in Behaving Rats”. Total: \$ 1,782,407. No cost extension 2009-2010.

2007-2012 Co-Principal Investigator (PI: R. Mark Wightman, Ph.D), National Institute on Drug Abuse. R01: “Dynamics of In Vivo Dopamine Release” Total: \$ 1,757,781

Training Grants:

1997-present Mentor (Director, Linda A. Dykstra, Ph.D.) National Institute on Drug Abuse. “Predoctoral Training in Research on Drug Abuse” Total: 949,185

1997-present Mentor (Director, Robert Rosenberg, PhD) Research Training in the Neurosciences. National Institute of Neurological Disorders and stroke.

Completed Grants:

2005-2007 Co-Investigator with Donita L. Robinson. Drinking preference and heterogeneity in the nucleus accumbens response to ethanol. Bowles Alcohol Center Grant Pilot Project program. Total: \$60,000.

2001-2006 Principal Investigator, National Institute on Drug Abuse. R01: "Neurophysiological Study: Cocaine & Natural Rewards" Score: 0.3% Total: \$ 1,263,046

2003-2004 Subcontract (PI: Patricio O'Donnell, Ph.D.) National Institute of Health. "Electrophysiology of the Prefrontal Cortex. Total: \$ 50,000

2001-2003 Principal Investigator (Co-PI: R.M. Wightman, Ph.D.), National Institute on Drug Abuse. PA # PAR-01-047: Cutting-Edge Basic Research Awards: R21 Stage I Award: "Combined Voltammetry/Electrophysiology in Behaving Rats" Total: \$ 300,000

2000-2003 Co-Principal Investigator (PI: Donald T. Lysle, Ph.D.). National Institute on Drug Abuse. "Determinants of Opioid/Immune Interactions". Total: \$539,015

2000-2003 Co-Principal Investigator (PI: Donald T. Lysle, Ph.D.) National Institute on Drug Abuse. "Behavioral Factors in Heroin's Effect on Nitric Oxide" Total: \$539,593

1999-2003 Co-Principal Investigator (PI: Mitchell J. Picker, Ph.D.) National Institute on Drug Abuse. "Biobehavioral Actions of Partial Mu Agonists" Total: \$689,020

1999-2002 Principal Investigator, The Whitehall Foundation Research Grant. "Neurophysiological Examination of Brain Reward Processing". Total: \$123,000

1999 Principal Investigator, UNC (Mason and Linda Stephenson Faculty Award): "Neurophysiological Examination of Heroin Self-Administration" Total: \$1,000

1998 Principal Investigator, UNC Chapel Hill (Junior Faculty Development Award): "Neurophysiological Examination of Basolateral Amygdala Cell Firing during Cocaine Self-Administration". Total: \$5,000

1996-2001 Principal Investigator, National Institute on Drug Abuse R29 Award (DA10006): "Development of a Rat Model of Cocaine Abuse in Humans". Total: \$506,203

1993-1995 Principal Investigator, Postdoctoral National Research Service Award. National Institute on Drug Abuse (DA05535): "VTA & Accumbens cell activity during self-administration". Total: \$75,200.

Consultant:

- 2006-2010 Consultant (PI: Patricio O'Donnell, Ph.D.) National Institute of Mental Health "Information processing in the Nucleus Accumbens".
- 1999-2005 Consultant (PI: Patricia Sue Grigson, Ph.D.). National Institute on Drug Abuse. "Drugs of Abuse and Learned Aversions: Solving a Paradox."
Total: \$959,517

Mentor/Sponsor/Advisor for Predoctoral, Postdoctoral or K Awards:

- pending Michael Sadoris (PI) Postdoctoral National Research Service Award.
"Rapid dopamine release in nucleus accumbens in Pavlovian-to-Instrumental Transfer"
- 2009-2014 Robert A. Wheeler (PI) K99 Pathway to Independence Award "The neural Regulation of Negative Affect in a New Model of Cocaine Seeking".
Score: 141
- 2007-2009 Supplement of "Combined Voltammetry/Electrophysiology in Behaving Rats" to Promote Diversity (recipient: Manna Beyenne).
- 2007-2010 Joshua L. Jones (PI) Predoctoral National Research Service Award.
"Amygdalar regulation of nucleus accumbens reward signaling" Score: 132
- 2006-2009 Jeremy J. Day (PI) Predoctoral National Research Service Award. NIDA
"Neural regulation of effort in goal-directed behaviors" Score: 125
- 2006-2009 Brandon J. Aragona, PhD (PI) Postdoctoral National Research Service Award. National Institute on Drug Abuse. "Dopamine, accumbens signaling & associative learning"
- 2006-2009 Robert A. Wheeler, PhD (PI) Postdoctoral National Research Service Award. National Institute on Drug Abuse. "The Nucleus Accumbens and Relative Reward"
- 2004-2009 Advisor, C.J. Malanga (PI) Mentored Clinical Scientist Development Award (K08), National Institute on Drug Abuse, "Effects of Prenatal Cocaine Exposure on Brain Reward"
- 2004-2009 Mitchell F. Roitman, Ph.D. (PI) Mentored Research Scientist Development Award (K01), National Institute on Drug Abuse, "Rapid DA-Acb Signaling in Ingestive Behaviors"

- 2004-2009 Donita L. Robinson (PI) Mentored Research Scientist Development Award (K01), National Institute on Alcohol Abuse and Alcoholism, "Ethanol drinking in rats: accumbal circuit activity".
- 2003-2006 Jonathan A. Hollander (PI), Predoctoral National Research Service Award, National Institute on Drug Abuse, "Neurophysiological Effects of Cocaine Abstinence".
- 2002-2005 Garret D. Stuber (PI), Predoctoral National Research Service Award. National Institute on Drug Abuse, "Phasic dopamine during cocaine self-administration".
- 2002-2004 Mitchell F. Roitman, Ph.D (PI), Postdoctoral National Research Service Award. National Institute on Mental Health, "Modulation of reward-related accumbens activity".

Scientific Advisory Board:

Ernest Gallo Clinic and Research Center. 2008 Scientific Advisory Board, ad hoc member. Casa madrona Hotel, Sausalito, CA, November 23-25, 2008

Academic Awards and Honors:

- 1984 Henry Rutgers Undergraduate Honors: Highest Distinction
- 1994 College on Problems of Drug Dependence, 1994 Travel Award
- 1996/97 Western NC Chapter of the Society for Neuroscience: Secretary/Treasurer
- 1996 National Institute on Drug Abuse FIRST Award (R29)
- 1998 Mason and Linda Stephenson Faculty Award
- 1999 University of North Carolina Junior Faculty Development Award
- 1999 The Whitehall Foundation Research Award
- 2000 Elected Member of the UNC Faculty Council (3 year term)
- 2001 Presidential Early Career Award for Scientists and Engineers (PECASE)
- 2005 The University of Texas Medical Branch (UTMB) Department of Pharmacology and Toxicology, "NIDA Distinguished Professor for 2005"
- 2005 Invited Speaker, Frontiers of Science, National Academy of Sciences
- 2007 Elected Chair: Gordon Research Conference on Catecholamines (Co-Chair, 2009; Chair, 2011)
- 2009 Invited Participate (by UNC Chancellor, Holden Thorp); Workshop entitled "The Entrepreneurial Mindset- Maximizing Faculty Impact" May 11-14, 2009

Professional Affiliations:

- American Psychological Society (1993-1994)
- Society for Neuroscience (1986-present)
- College on Problems of Drug Dependence (1997-present)

Professional Services:

Journal Review (ad hoc):

The Journal of Neuroscience; Neuroscience; Pharmacology, Biochemistry & Behavior; Experimental and Clinical Psychopharmacology; European Journal of Neuroscience; Nature Reviews Neuroscience; Brain Research; Neuroscience Letters; Neuron; Behavioral Brain Research; Journal of Pharmacology and Experimental Therapeutics; Neuropharmacology, Alcohol; Experimental Brain Research; Neuropsychopharmacology, Nature, Psychopharmacology, Trends in Neuroscience; Learning and Memory, Behavioral Neuroscience; Behavioural Pharmacology, Cerebral Cortex, Science

Editorial Board:

Consulting Editor: Behavioral Neuroscience (2007-present)
Editorial Board Member: Behavioural Brain Research (2008-2011)
Associate Editor: European Journal of Neuroscience (2008-present)

Grant Review:

United States Army Medical Research and Materiel Command. Ad hoc reviewer.
National Institute of Health: Scientific Review Special Emphasis Panel F02A (Ad hoc reviewer: March 20, 2003; June 24, 2003; Oct 28, 2003, March 2, 2004).
National Institute of Health: Special Emphasis Panel ZRG1 IFCN-A (04) (Ad hoc reviewer: June 13, 2005).
National Institute of Health: Neurobiology of Motivated Behavior Study Section [NMB] (Formerly IFCN-1) Ad hoc reviewer: June 10-11, 2004; October 18-19, 2004; February 3-4, 2005; February 9-10, 2006; June 5-6, 2006.
National Institute of Health: Neurobiology of Motivated Behavior Study Section [NMB] Regular Member: 2006-2010.

Administrative Experience:

Physiology & Pharmacology Department, Wake Forest University Medical School
Promotions Committee

Department of Psychology, University of North Carolina, Chapel Hill

Admissions Committee: Curriculum in Neurobiology (1997-present)
Admissions Committee: Biological Psychology Program (1997-present)
Animal Care Committee (1997-2000)
Psychology Department Chair Selection Committee (1998)
Harriet L. Rheingold Predoctoral Research Grant Committee
Participation in: Minority Student Graduate School Day
Participation in: UNC Psychology Department's Board of Advancement Meeting
Biological Psychology Faculty Search Committee (2000-2001)
Psychology Department: Undergraduate Advisor (Fall 2001-Fall 2004)
Psychology Department: Honors Council (2001-2005)

Cognitive Psychology Faculty Search Committee (2002-2003 and 2003-2004)
Psychology Department Chair Selection Committee (2004)
Director: Behavioral Neuroscience Program (formally Biological Program), Psychology Department (2004-present)
Psychology Department Advisory Committee (elected 3 year term- 2004-2007; elected to a second 3-year term, 2007-2010)
Faculty Teaching Mentor (2004-2005)
Departmental Webpage Committee (2004)
Chair: Biological Psychology Faculty Search Committee (2004-2005)
Merit Evaluation Committee (Spring 2005)
Co-Chair: BRIC Neuroimaging Psychology Faculty Search Committee (2006-2007)
Third year review committee for Jennifer Arnold (2006)
Chair: Third Year Review/Early Tenure Promotion Task Force (2006-2007)
Faculty mentoring committee for Jennifer Arnold (2006-2009)
Chair: Third Year Review for Rita Fuchs-Lokensgard (2007-2008)
Chair: Psychology Department Chair Selection Committee (Spring 2007)
Chair: Faculty mentoring committee for Rita Fuchs-Lokensgard (2007-2009)
Chair: Committee for Promotion to Full Professor for Todd Thiele (2007-2008)
Chair: Psychology department Accounting Position Search Committee (2007-2008)
Psychology Department Post-Tenure Review Committee Member (spring 2008)
Chair: Behavioral Neuroscience Graduate Admissions Committee (2008)
Faculty mentoring committee for Charlotte Boettinger (2008-2011)
Member: Search Committee for Carol L. Cheatham (May 2008)
Chair: Behavioral Neuroscience Program Coordinator Search Committee (2008)
Member: Committee for Promotion to Full Professor for Eric Youngstrom (2008)
Member: Committee for Promotion to Associate Professor for Jennifer Arnold (2009)

Outside Psychology Department, UNC, Chapel Hill

Committee to form Human Biology Major at UNC (2002-2003)
UNC Faculty Council: Fall 2000-2003
University Task Force on Women in Science (2003/04)
Chair: Student Progress Committee, Curriculum in Neurobiology (2003-present)
Assistant Director for Student Affairs: Curriculum in Neurobiology (2003-2006)
Evaluation of the Curriculum in Neurobiology/Neuroscience Center Committee: Member (Chair: Bob Duronio): Fall, 2004
Executive Committee: Curriculum in Neurobiology (2005-present)
Searle, Scholars, Pew Scholars, and Beckman Young Investigators Selection Committee August, 2006
University Conflict of Interest Committee (2008)
Biological and Biomedical Science Program (BBSP) Graduate Admissions (Cell Signaling) Committee, 2008-2009
Search Committee: Director, Curriculum in Neurobiology, Spring 2009

Teaching Experience:

Undergraduate Teaching Experience, Rutgers University

Instructor for:

Conditioning and Learning (3 credits)
Physiological Psychology Laboratory (1 credit)
Neuropsychopharmacology Laboratory (1 credit)

Undergraduate Teaching Experience, University of North Carolina, Chapel Hill

Instructor for:

Learning: 3 credits
Physiological Psychology: 3 credits
Physiological Psychology Laboratory: 3 credits

Graduate Teaching Experience, University of North Carolina, Chapel Hill

Instructor for:

Applications of Experimental Psychology to Health Research: 3 credits
Seminar in the Biological Foundations of Psychology: 3 credits
Behavior and its Biological Basis II: 3 credits
Research Seminar in Experimental Psychology: 3 credits

Graduate Masters Committees, University of North Carolina, Chapel Hill

Charlie Cook (M.S., Biological Psychology)
Alison Crumling (M.S., Biological Psychology): Chair/Advisor
Kelly Carrigan (M.S., Biological Psychology)
Andrew Barrett (M.S., Biological Psychology)
Jonathon Hollander (M.S. Biological Psychology): Chair/Advisor, May, 2002
Ryan Lanier (M.S. Biological Psychology), July, 2002
Richard Roop (M.S. Biological Psychology): Chair/Advisor, September 2002
Tim Saurer (M.S., Biological Psychology, May 2004)
Dennis Sparta (M.S., Biological Psychology, June 2004)
Danya Hayes (M.S., Biological Psychology, fall 2007)
Jeremy J. Day (M.S., Biological Psychology: Chair/Advisor, December, 2006)
Joshua Jones (M.S., Behavioral Neuroscience: Chair/Advisor, November, 2007)
Emily Lowery (MS. Behavioral Neuroscience: April, 2008)
Angela Sparrow (MS, Behavioral Neuroscience, October, 2008)
Heather Lasseter (MS, Behavioral Neuroscience, Feb, 2009)

Graduate Dissertation Committees, University of North Carolina, Chapel Hill

Charlie Cook (Ph.D., Biological Psychology; Advisor Mitch Picker)
Juanita Lynn Perez (Ph.D., Biological Psychology: Advisor: Don Lysle)
Dani Smith (Ph.D., Curriculum in Neurobiology: Advisor Michela Gallagher)
Margaret J. VanDoren (Ph.D., Curriculum in Neurobiology: Advisor Leslie Morrow)
Christina Nelson (Ph.D., Biological Psychology: Advisor Don Lysle)
Kathleen Rosa (Ph.D., Quantitative Psychology: Advisor: Abigail Panter)
Debbie Lubin (Ph.D., Biological Psychology; Advisor; Joey Johns, 2001)
Kelly Carrigan (Ph.D., Biological Psychology; Advisor, Donald Lysle, Spring 2002)
Karen L. Neitzel (Ph.D., Curriculum in Neurobiology; Advisor, Richard Mailman)
Michael Heien (Ph.D., Chemistry, Advisor: R. Mark Wightman, April 2005)

Jill Venton (Ph.D., Chemistry; Advisor R. Mark Wightman)
Amanda Sharko (Ph.D., Pharmacology; Advisor Clyde Hodge, April 2008)
Garret Stuber (Ph.D., Neurobiology, Co-Advisor with R. Mark Wightman, March 2005)
Jonathan Hollander (Ph.D., Biological Psychology; Advisor, Regina Carelli, 2006)
Jay Elliott (Ph.D., Biological Psychology; Advisor: Don Lysle, April 2005)
Ryan Lanier (Ph.D., Biological Psychology, Advisor: Don Lysle, April 2005)
Justin Kita (Ph.D., Chemistry; Advisor: R. Mark Wightman, 2008)
Tim Saurer (Ph.D., Biological Program, Advisor: Don Lysle, Oct, 2007)
Charles E. Miller, Jr (Ph.D. Chemistry; Advisor: R. Mark Wightman, 2008)
Rebekah Stevenson (Curriculum in Neurobiology, Advisor: Clyde Hodge, April 2008)
Dennis Sparta (Biological Psychology, Advisor: Todd Thiele, December 2007)
Beth Mechlin (Behavioral Neuroscience Program, Advisor: Sue Girdler, Jan, 2009)
Jeremy J. Day (Behavioral Neuroscience Program, Advisor, Carelli, April 2009)
Manna Beyene (Curriculum in Neurobiology, Advisor: R. Mark Wightman, pending)
Andre Hermans (PhD, Chemistry, Advisor, R. Mark Wightman, Sept, 2007)
Pavel Takmakov (PhD, Chemistry, Advisor, R. Mark Wightman, pending)
Richard B. Keithley (PhD, Chemistry, Advisor, R. Mark Wightman, pending)
Angela Sparrow Lyons (PhD, Behavioral Neuroscience, Advisor, Todd Thiele, pending)
Dayna Hayes (PhD, Behavioral Neuroscience, Advisor, Todd Thiele, May 2009)

Graduate Masters and/or Dissertation Committees, National (outside UNC)

Robert C. Twining (Ph.D. Neuroscience Program, Milton S. Hershey Medical Center, College of Medicine, Hershey, PA: Advisor Patricia S. Grigson, Ph.D., 2007).
Yvette Peters (Ph.D. Neuroscience Program, Albany Medical College, Albany, NY; Advisor: Patricio O'Donnell, Ph.D., 2004)
Aya Sasaki (Masters, Neurobiology Program, Duke University, Advisor: Erich Jarvis, Ph.D., 2002)
Janaina Pantoja (PhD. Neurobiology Program, Duke University, Advisor: Miguel A.L. Nicolelis, MD, PhD, pending)
Jeffrey Klein (PhD. Neurobiology Program, Duke University, Advisor: Michael Platt, PhD, pending)

Undergraduate Honors Committees, University of North Carolina, Chapel Hill

Andrew Barrett (B.S. Honor's thesis)
Beverly Allan (B.S. Honor's thesis): Chair/Advisor
Jefferson Williams (B.S. Honor's thesis: 2001): Chair/Advisor
Sherilyn Black (B.S. Honor's thesis: 2001)
Emily Roach (B.S. Honor's thesis: 2001)
Erica Bowton (B.S. Honor's thesis: 2003)
Kate Wassum (B.S. Honor's thesis: 2004; Chair with Joseph Cheer)
Shin-Yi Lao (B.S. Honor's thesis: 2005; Chair with Donita Robinson)
Hannah Bishop (B.S. Honor's thesis: 2007; Chair with Franck Polleux)
Alice Stamatakis (B.S. Honor's thesis; Chair, Carelli, pending)

Supervision of Undergraduate Research, University of North Carolina, Chapel Hill

Beverly Allen: Psychology 98/99: 3 semesters (Psychology Honor's research)

Recipient of the James Henley Thompson and Evelyn Barnett Thompson Undergraduate Research Award, 1998-99 (\$500).

Recipient of the David Bray Peele Memorial Research Fund, 1999 (\$200)

Dhritiman Mukherjee- Psychology 98 (2 semesters and summer)

Richard Roob- Psychology 98 (2 semesters and summer)

Jefferson Williams- Psychology 98/99 (Psychology Honor's research)

Sherilyn Black- Psychology 98 (1 semester)

Amy Callihan- Psychology 98 (Fall 2001)

Sarah Cristiani – Psychology 98 (1 semester- Spring 2002)

Jennifer Ariansen- Psychology 98 (1 semester, Spring 2003)

Joyce Wondolowski (work-study student; after graduation became a Res. Tech III)

Nate Cleaveland- Biology student (after graduation became a Res. Tech III-present)

Kate Wassum (Psychology Honor's student: 2004; co-mentor with Joseph Cheer)

Shin-Yi Lao (Psychology Honor's student: 2005; co-mentor with Donita Robinson)

Hunter Holloway (2008: co-mentor with Donita Robinson)

Alice Stamatakis (Carelli, mentor, 2009-2010)

Supervision of Graduate Research, University of North Carolina, Chapel Hill

Alison Crumling- Masters student in Biological Psychology Program

Lee Gray- Medical Student- UNC (sponsor for NIH Short-term student research award)

Karen Neitzel- Neurobiology graduate student (laboratory rotation, Fall 1998)

Jonathan Hollander- Biological Psychology Grad. Student (Fall 2000-present: Advisor)

Richard Roop- Biological Psychology Graduate Student (Fall 2000-2002: Advisor)

Garret Stuber- Neurobiology Graduate Student (Spring 2001-graduated spring 2005: Advisor; currently completing post doc with Antonello Bonci, Gallo Institute)

Jennifer Hillman- Neurobiology Graduate Student (laboratory rotation, Fall 2002)

Jeremy Day- Biological Psychology Graduate Student (Fall 2004-present)

Joshua Jones- Biological Psychology Graduate Student (beginning Fall 2005)

Manna Beyene – Curriculum in Neurobiology- joint mentor with R. Mark Wightman

Sarah Taves- Curriculum in Neurobiology (lab rotation, Fall 2005)

Rebecca Balter- Curriculum in Neurobiology (lab rotation, Spring 2008)

Courtney Cameron – Behavioral Neuroscience Graduate Student (Fall 08- present)

Jonathan Sugam– Behavioral Neuroscience Graduate Student (Fall 08- present)

Jennifer Green- Behavioral Neuroscience Graduate Student (Fall 09-present)

Supervision of Postdoctoral Research/Mentor for Research Assistant Prof, UNC, Chapel Hill

Paul E. Phillips: Post doctoral student in Chemistry & Psychology (2001-2004); currently is an Assistant Professor at The University of Washington.

Mitchell Roitman: Post doctoral student in Psychology (2001-2004). Research Assistant Professor of Psychology (2004-2006). 2006-present, Assistant Professor in Psychology at the University of Illinois at Chicago (UIC).

Robert Wheeler: Post doctoral student in Psychology (2003-2009). Promoted to Research Assistant Professor of UNC Psychology, 2009-present

Yvette Peters: Post doctoral student in Psychology (2004-2005)

Brandon Aragona: Post doctoral student in Chemistry & Psychology (co-advisor with R.M. Wightman, 2005-present)

Assistant Professor, University of Michigan, Psychology Dept, Sept, 2008
Joseph Cheer: Postdoctoral student, Chemistry (advisor: R.M. Wightman, 2003-2006),
currently Assistant Professor at Albany Medical Center.
Catrina (Nina) Owesson-White: Post doctoral student in Chemistry & Psychology
(co-advisor with R.M. Wightman, 2005-present)
Donita L. Robinson: Research Assistant Professor, Psychiatry. Research conducted in my
laboratory, for mentored K award, 2004-2006). Currently, Assistant Professor in
Psychiatry, Bowles Alcohol Center, UNC, Chapel Hill.
Fabio Cacciapaglia: Post doctoral student in Chemistry & Psychology
(co-advisor with R.M. Wightman, 2005-present)
Michael Sadoris: Postdoctoral student in Psychology, 2008-present

Peer-Reviewed Research Publications:

1. Wagner GC, Carelli RM, Jarvis MJ (1985) Pretreatment with ascorbic acid attenuates the neurotoxic effects of methamphetamine in rats. *Research Communications in Chemical Pathology and Pharmacology*, 47(2): 221-228.
2. Wagner GC, Jarvis MF, Carelli RM (1985) Ascorbic acid reduces the dopamine depletion induced by MPTP. *Neuropharmacology*, 24(12): 1261-1262.
3. Wagner GC, Carelli RM, Jarvis MF (1986) Ascorbic acid reduces the dopamine depletion induced by methamphetamine and the 1-methyl-4-phenyl pyridinium ion. *Neuropharmacology*, 25(5): 559-561.
4. Wagner GC, Carelli RM (1987) Effects of fluprazine (DU27716) and ethanol on target biting behavior and intruder-evoked attacks. *Psychopharmacology*, 91: 193-197.
5. Carelli RM, Wagner GC (1988) The effects of repeated administration of fluprazine on target biting and intruder-evoked attacks. *Psychopharmacology*, 95: 476-481.
6. O'Neill KA, Carelli RM, Jarvis MF, Liebman JM (1989) Hyperactivity induced by N-Methyl-d-Aspartate injections into nucleus accumbens: lack of evidence for mediation by dopaminergic neurons. *Pharmacology, Biochemistry and Behavior*, 34: 739-745.
7. West MO, Carelli RM, Cohen SM, Gardner JP, Pomerantz M, Chapin JK, Woodward DJ (1990) Single units in the dorsolateral striatum of the rat are correlated with specific locomotor limb movements. *Journal of Neurophysiology*, 64(4): 1233-1246.
8. Carelli RM, West MO (1991) Representation of the body by single units in the dorsolateral striatum of the freely moving rat. *The Journal of Comparative Neurology*, 309: 231-249.
9. Tomie A, Carelli RM, Wagner GC (1993) Negative correlation between tone (S-) and water increases target biting during S- in rats. *Animal Learning and Behavior*, 21(4): 355-359.

10. Carelli RM, King VC, Hampson RE, Deadwyler SA (1993) Firing patterns of nucleus accumbens neurons during cocaine self-administration in rats. *Brain Research*, 626: 14-22.
11. Carelli RM, Deadwyler SA (1994) A comparison of nucleus accumbens neuronal firing patterns during cocaine self-administration and water reinforcement in rats. *The Journal of Neuroscience*, 14(12): 7735-7746.
12. Carelli RM, Deadwyler SA (1996) Dose-dependent transitions in nucleus accumbens cell firing and behavioral responding during cocaine self-administration sessions in rats, *The Journal of Pharmacology and Experimental Therapeutics*, 277(1): 385-393.
13. Carelli RM, Deadwyler SA (1996) Dual factors controlling the activity of nucleus accumbens cell firing during cocaine self-administration, *Synapse*, 24: 308-311.
14. Carelli RM, Wolske M, West MO (1997) Loss of lever-press related firing of rat striatal forelimb neurons after repeated sessions in a lever pressing task. *The Journal of Neuroscience*, 17(5): 1804-1814.
15. Carelli RM, Deadwyler SA (1997) Cellular mechanisms underlying reinforcement-related processing in the nucleus accumbens: Electrophysiological studies in behaving animals. *Pharmacology, Biochemistry and Behavior*, 57(3): 495-504.
16. Carelli RM, Ijames S, Konstantopoulos J, Deadwyler SA (1999) Examination of factors mediating the transition to behaviorally correlated nucleus accumbens cell firing during cocaine self-administration sessions in rats. *Behavioral Brain Research*, 104: 127-139.
17. Carelli RM (2000) Activation of accumbens cell firing by stimuli associated with cocaine delivery during self-administration, *Synapse*, 35: 238-242.
18. Grigson PS, Twining RC, Carelli RM (2000) Heroin-induced suppression of saccharin intake in water-deprived and water-replete rats. *Pharmacology, Biochemistry & Behavior*, 66(3): 603-608.
19. Carelli RM, Ijames S (2000) Nucleus accumbens cell firing during maintenance, extinction, and reinstatement of cocaine self-administration behavior in rats. *Brain Research*, 866: 44-54.
20. Carelli RM, Ijames S, Crumling A (2000) Evidence that separate neural circuits in the nucleus accumbens encode cocaine versus 'natural' (water and food) reward, *The Journal of Neuroscience*, 20(11): 4255-4266.
21. Carelli RM, Ijames SG (2001) Selective activation of accumbens neurons by cocaine-associated stimuli during a water/cocaine multiple schedule, *Brain Research*, 907(1-2): 156-161.
22. Roop RG, Hollander J, Carelli RM (2002) Accumbens activity during a multiple schedule for water and sucrose reinforcement in rats, *Synapse*, 43: 223-226.

23. Hollander J, Ijames SG, Roop RG, Carelli RM (2002) An examination of nucleus accumbens cell firing during extinction and reinstatement of water reinforcement behavior in rats, *Brain Research*, 929: 226-235.
24. Lanier R, Ijames SG, Carrigan KA, Carelli, RM, Lysle DT (2002) Self-administration of heroin induces alterations of inducible nitric oxide synthase, *Drug and Alcohol Dependence*, 66(3): 225-233.
25. Carelli RM (2002) Nucleus accumbens cell firing during goal-directed behaviors for cocaine versus 'natural' reinforcement. *Physiology & Behavior*, 76(3): 379-387.
26. Carelli RM (2002) The nucleus accumbens and reward: Neurophysiological investigations in behaving animals. *Behavioral and Cognitive Neuroscience Reviews*, 1(4): 281-296.
27. Phillips PE, Robinson DL, Stuber GD, Carelli RM, Wightman RM (2003) Real-time measurements of phasic changes in extracellular dopamine concentration in freely moving rats by fast-scan cyclic voltammetry. *Methods Mol Med.*, 79:443-64.
28. Phillips PEM, Stuber GD, Heien MLAV, Wightman RM, Carelli RM (2003) Subsecond dopamine release promotes cocaine seeking, *Nature*, 422(6932):614-618.
29. Carelli RM, Williams JG, Hollander J (2003) Basolateral amygdala neurons encode cocaine self-administration and cocaine-associated cues. *The Journal of Neuroscience*, 23: 8204-8211.
30. Carelli RM, Wondolowski J (2003) Selective encoding of cocaine versus natural rewards by nucleus accumbens neurons is not related to chronic drug exposure. *The Journal of Neuroscience*, 23: 11214-11223.
31. Roitman MF, Stuber GD, Phillips PEM, Wightman RM, Carelli RM (2004) Dopamine operates as a subsecond modulator of food seeking. *The Journal of Neuroscience*, 24, 1265-1271.
32. Carelli RM (2004) Nucleus accumbens cell firing and rapid dopamine signaling during goal-directed behaviors in rats. *Neuropharmacology*, 47S1: 180-189.
33. Carelli RM, Wightman RM (2004) Functional microcircuitry in the accumbens underlying drug addiction: insights from real-time signaling during behavior. *Current Opinion in Neurobiology*, 14(6):763-768.
34. Stuber GD, Roitman MF, Phillips PEM, Carelli RM, Wightman RM (2005) Rapid dopamine signaling in the nucleus accumbens during contingent and non-contingent cocaine administration. *Neuropsychopharmacology*, 30(5):853-863.
35. Roitman MF, Wheeler RA, Carelli RM (2005) Accumbens cell firing is innately tuned to rewarding and aversive taste stimuli, encode their predictors and are linked to motor output. *Neuron*, 45: 587-597.

36. Peters Y, O'Donnell P, Carelli RM (2005) Prefrontal cortical cell firing during maintenance, extinction and reinstatement of goal-directed behavior for natural reward. *Synapse*, 56:74-83.
37. Stuber GD, Wightman RM, Carelli RM (2005) Extinction of cocaine self-administration reveals functionally and temporally distinct dopaminergic signals in the nucleus accumbens. *Neuron*, 46(4): 661-669.
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104. Aragona BJ, Day JJ, Cleaveland NA, Roitman MF, Wightman RM, Carelli RM (2008) Real-time dopamine transmission within the nucleus accumbens core and shell during early acquisition of a cue-cocaine association. Society for Neuroscience Abstract, Washington DC.

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106. Day JJ, Jones, JL, Carelli RM (2008) Nucleus accumbens neurons encode both predicted and expended response costs during effort-based decision making. Society for Neuroscience Abstract, Washington DC.

107. Cacciapaglia F, Owesson-White C, Wheeler RA, Wightman RM, Carelli RM (2008) Nucleus accumbens cell firing and rapid dopamine release during food-seeking behavior in rats. Society for Neuroscience Abstract, Washington DC.

108. Owesson-White AC, Ariansen JL, Cheer JF, Wightman RM, Carelli RM (2008) Simultaneous electrophysiological and electrochemical measurements reveal coordinated dopamine release and neural activity in the nucleus accumbens during cocaine self-administration in rats. Society for Neuroscience Abstract, Washington DC.

Invited Speaker:

Duke University, Durham, NC. March, 1998. Psychology Department Invited Speaker: "The nucleus accumbens and reward: Electrophysiological studies in behaving animals".

The University of North Carolina, Chapel Hill. Oral presentation to the Biological Psychology Program, UNC, March 1998. "The nucleus accumbens and reward: Electrophysiological studies in behaving animals".

National Institute on Drug Abuse: National Institutes of Health. Symposium entitled “Frontiers in Neuroscience: Wired for Addiction” June 22, 1998, National Institute of Health Campus, Bethesda, MD. Invited Speaker: “The nucleus accumbens and reward: Electrophysiological studies in behaving animals”.

National Institute on Drug Abuse (NIDA) sponsored poster session entitled “Career Pathways in Behavioral Neuroscience”, Invited Participant. Held at the Society for Neuroscience meeting in Miami, Florida, October 27, 1999.

The University of North Carolina, Chapel Hill. Oral presentation to the Biological Psychology Program, December, 2000. “Women in Science”

National Institute on Drug Abuse (NIDA) Workshop entitled “Computational Models: Applications to Drug Abuse”. May 30-31, 2000, Bethesda, MD. Invited Speaker: “Nucleus accumbens cell firing during cocaine self-administration and water reinforcement sessions in rats”.

National Institute on Drug Abuse (NIDA) Workshop entitled: “Fifth Annual Institutional Research Training Grant Directors Meeting”. October 13, 2000. Bethesda MD.

The University of North Carolina, Chapel Hill. Oral presentation to the Biological Psychology Program. March, 2001. “Neurophysiological Investigation of Cocaine Reinforcement”

Penn State University College of Medicine, Hershey PA. May 17, 2001. Neuroscience Seminar Series: Invited Speaker: “Neurophysiological Investigation of Cocaine Addiction”.

Symposium entitled “Like Drugs for Chocolate: Separate Rewards Modulated by Common Mechanisms?” sponsored by the Society for the Study of Ingestive Behavior (SSIB) and the National Institute on Drug Abuse. June 26-30, 2001, Philadelphia, PA. Invited Speaker: “Neurophysiological investigation of cocaine self-administration vs. ‘natural’ reinforcement”.

The University of North Carolina, Chapel Hill. Women in Science and Research Organization. Invited Speaker: “Women in Science”. June 10, 2002.

Duke University, Durham, NC. March 5, 2003. Cortex Club Invited Speaker: “Neurophysiological investigation of cocaine addiction”.

Bowles Alcohol Center, May 12, 2003, The University of North Carolina, Chapel Hill. Invited Speaker: "Neurophysiological Investigation of Brain Reward Processing".

2003 Gordon Conference on Catecholamines. Queens College, Oxford, UK. August 3-8, 2003. Invited Chair: Catecholamines: Plasticity, Learning and Reward.

European Behavioral Pharmacology Society 10th Biennial Meeting. Antwerp Belgium, September 6-9, 2003. Invited Speaker: "Neurophysiological and neurochemical investigation of cocaine versus 'natural' rewards".

American Society of Addiction Research. Invited Speaker by Frank Vocci (Director of the Division of Treatment Research and Development at the National Institute on Drug Addiction). Title: "Neurophysiology of Cocaine Addiction". Washington, DC, October 30, 2003.

2003 National Institute on Drug Abuse "Frontiers in Addiction Research" Mini-Convention. November 7, 2003, New Orleans, LA. Invited Speaker: "Rapid Dopamine Signaling: Cocaine vs. Natural Rewards".

Medical University of South Carolina, Department of Physiology & Neuroscience, Invited Speaker in the Addiction Seminar Series. "Neurophysiological Investigation of Brain Reward Processing" March 5, 2004.

Duke University, Durham, NC. March 19, 2004. Psychology Department Invited Speaker: "Neurophysiological Investigation of Brain Reward Processing".

Graduate School Neurosciences Amsterdam and the NWO Cognition Program. Invited Workshop presenter for: "Reinforcement Learning: Dopamine, attention and computational models". April 26-27, 2004, Amsterdam, The Netherlands.

University of Cambridge, Behavioral Neuroscience Symposium Invited Speaker: "Neurophysiology of Brain Reward Processing", May 3, 2004, Cambridge, England, UK.

Penn State University (main campus), Neuroscience Seminar Series: Invited Speaker: "Neurophysiological Investigation of Cocaine Addiction". Nov 18, 2004.

The University of North Carolina, Physics Department, The Computational Neurobiology Journal Club, Nov 22, 2004.

The University of Texas Medical Branch (UTMB) Department of Pharmacology and Toxicology, "NIDA Distinguished Professor for 2005", March 31, 2005.

Baylor College of Medicine, Department of Neuroscience, Invited Speaker: April 1, 2005, Houston, TX.

National Institute of Environmental Health Sciences, NIH Neuroscience Seminar Series, Invited Speaker: "Rapid Dopamine-Accumbens Signaling & Cocaine Addiction". May 18, 2005.

National Institute on Drug Abuse, Invited Speaker. Rapid Dopamine-Accumbens Signaling & Cocaine", June 1, 2005.

The International Study Group Investigating Drugs as Reinforcers (ISGIDAR). Invited Speaker, June 18, 2005. Orlando, FL. "Rapid Dopamine-Accumbens Signaling during Cocaine Self-Administration".

Gordon Research Conference on Catecholamine, Proctor Academy, July 24-29, 2005. Invited Speaker. "Dopamine release during behavior".

17th Frontier of Science Symposium of the National Academy of Science, Invited Speaker. "Why our brains get addicted: Insights from Neurobiology". October 27-29, Beckman Center, Irvine, CA.

Society for Neuroscience, Mini-Symposium entitled "Neuroplasticity induced by abused drugs: is it relevant to addiction? November 12-16, 2005, Washington, DC., Invited Speaker, "Accumbens cell firing during cocaine-seeking: effects of abstinence".

The University of North Carolina, Chapel Hill, Neuroscience Center, Invited Speaker, March 2, 2006.

University of Michigan, Department of Psychology, Invited Speaker, March 14, 2006.

Harvard Medical School, Department of Neurobiology, Invited Speaker, April 18, 2006.

Duke University, Tobacco Addiction Research Group, Invited Speaker, May 1, 2006.

Emory University, The Center for Behavioral Neuroscience Symposium, May 19-20, 2006.

Saint Louis University School of Medicine, Department of Pharmacological and Physiological Science. September 12, 2006.

University of Pittsburgh, Neuroscience Seminar Series, January 9, 2007.

Invited Mentor for the Gordan-Kenan Graduate/Post-Doc Research Seminar on Catecholamines August 4-5, 2007; and Invited Discussion Leader for the Gordon Conference on Catecholamines, August 6-10, 2007, Oxford University, Oxford UK.

University of Maryland School of Medicine, Department of Anatomy and Neurobiology and Psychiatry, Invited Seminar, October 16, 2007.

Department of Psychiatry, UT Southwestern Medical Center, Invited Speaker, February 12, 2008.

Neurobiology Seminar Series at the University of Chicago, Invited Speaker, April 10, 2008.

Invited Speaker and Session Chair for the 12th International Conference on *In Vivo* Methods, Monitoring Molecules in Neuroscience, Vancouver, British Columbia, Canada, August 10-14, 2008.

Eastern Psychological Association, 2009 Meeting, Invited Speaker, March 5-8, Pittsburgh, PA, 2009.

University of Minnesota, Biennial Symposium on the Neurobiology of Drug Addiction: Keynote Speaker, April 24, 2009.

Mentor, Gordon-Kenan Graduate/Post-Doc Research Seminar on Catecholamines August 8-9, 2009; and Co-Chair of the Gordon Conference on Catecholamines, August 9-14, 2009, University of New England, Biddeford, ME.

Duke University, Department of Neurobiology, Invited Speaker, September 15, 2009.