

## Education

- 00 – 03 Research Fellow of the Australian Research Council. Monash University; Melbourne, VIC; Australia  
Electroanalysis of Neuropeptides and other Biological Compounds of Interest  
Developed protein-film-voltammetry for the analysis of photosynthetic proteins and neuropeptides.  
Modified electrode surfaces for the detection of the methionine-containing neuropeptide substance-p.
- 99 – 03 Post-doctoral Research Assistant. Monash University; Melbourne, VIC; Australia  
Voltammetry in the Absence of Electrolyte  
Under direction of: Alan M. Bond  
Utilized macro- and microelectrodes with transient and steady-state electrochemical techniques.  
Performed electrochemical quartz crystal microbalance experiments (Elchema EQCM).  
Performed spectrophotometric and spectroelectrochemical experiments (Cary 5 UV/VIS/NIR).  
Utilized locally written simulation software and graphics programs for data analysis.  
Supervised third-year and honor students with laboratory experiments, reports and presentations.  
Contributed to peer review of manuscripts for submission to neuroscientific and analytical journals.
- 93 – 98 Ph.D., Chemistry. University of North Carolina; Chapel Hill, NC, USA; Awarded May 1998  
Thesis title: *Voltammetric Analysis of Biogenic Amines*  
Advisor: R. Mark Wightman  
Fabricated microelectrodes for use as biological sensors.  
Modified electrode surfaces and optimized electronics and voltammetric parameters to enhance chemical sensitivity and selectivity of electrochemical techniques.  
Utilized dissection and surgical techniques for the study of neurochemical phenomena in anesthetized and conscious animals.  
Contributed to peer review of manuscripts for submission to neuroscientific and analytical journals.
- 88 – 93 B.S., Chemistry; B.A., English. Summa Cum Laude Graduate with Highest Honors in Chemistry and English.  
The College of William and Mary; Williamsburg, VA, USA; Obtained May 1993  
Advisor: Gary Rice  
Employed a helium discharge detector coupled to gas chromatography to detect chlorine-and sulfur-containing pesticides via vacuum-ultraviolet emission.  
Analyzed landfill and soil samples for B.A.S.F. utilizing analytical methods, including: sample digestion, UV-VIS molecular absorption spectroscopy, and atomic absorption spectroscopy.

## Writing and Work Experience

2016-present: Melissa Rooney Writing Blog: <http://www.melissarooneywriting.com/blog/>

2010-present: Senior Editor of Academic Research, American Journal Experts LLC Corporate, Durham, N.C.

2010-2014: Newspaper Columnist, Durham News (Viewpoints, Raleigh News and Observer), Mark Schultz, Ed.

2005-present: Children's Writer (Prose and Poetry):  
Write and publish works for toddlers through 5<sup>th</sup> grade, on various topics from scientific to cultural;  
See list of publications below.

April 2010: Children's Writer's Bootcamp (Charlotte, NC):  
Two full days of local instruction and exercises on writing children's fiction (all ages), with emphasis on character and plot development, dialogue, descriptive writing, point of view, writing strong beginnings, editing one's own work and submitting manuscripts to publishers. Instructors: Linda Arms White (Christopher Award-winning author ) and Laura Backes (Publisher, *Children's Book Insider*).

## Arts and Educational Experience

2009-present: Teaching Artist, Durham Arts Council's Creative Arts in Public & Private Schools program (CAPS):  
Create and run workshops with schools and community partners throughout Durham, Orange, and Granville counties to build students' academic achievement as well as self-esteem, confidence, and appreciation for the arts and diverse cultures:  
Didgeridoo – Breathing lessons; Electrons and Electricity through "Eddie the Electron."

2015-present: Educational Exhibitor at annual Community and Science-based Museum Events:

Conduct hands-on book readings, tables and/or workshops at museum and community events, including UNC Science Festival (Morehead Planetarium, Chapel Hill, NC); Roanoke Science Festival (Virginia Museum of Transportation, Roanoke, VA); Danville Science Center (Danville, VA); Binding Time Book Festivals (Danville, VA); Rockfish Valley Community Center (Afton, VA); Durham County Library (South Regional, Durham, NC), Elementary School Science Events, etc.

2014-present: Regular invited participant in UNC Career Symposiums, UNC Creative Careers Industry Nights and related events for graduate and undergraduate students entering the workforce (Chapel Hill, NC).

2008-2014: Northeast Creek Neighborhood Group Developer (Durham, NC):

Inform and educate neighborhoods about the importance of water quality and threats to the water quality of Northeast Creek. Projects include booths/crafts at events like RTP's IBM annual Earth Day Fair.

2009-2012: Northeast Creek Week Organizer (Durham, NC):

Organize educational activities centered on the importance of preserving our waterways, including my own story- and craft-times at local libraries and elementary schools .

April, 2010: Learning Through Empowerment and Creativity: Integrating Drama and Theater into the Curriculum (Part II). Carrboro (NC) workshop facilitated by master teaching artist Virginia Queen. 1.5 hours credit.

April, 2010: Turn Your Students into Learning Stars: Integrating Music and Creative Movement into the Curriculum, Parts I and II. Carrboro (NC) workshop facilitated by master teaching artist Jody Cassell. 3 hours credit.

March, 2010: Building Student Literacy and a Caring Community: Integrating Visual Arts into the Curriculum, Parts I and II. Carrboro (NC) workshop facilitated by master teaching artist Rachel Galper. 3 hours credit.

2008-2009: Piedmont Festival for Wildlife, Northeast Creek Exhibitor/Organizer, including live animals (Durham NC).

2006-2008: Workshops for Durham County Public Library Children's Programs (Durham, NC):

Mrs. Samantha Wikstrom, Parkwood Branch contact; Margaret Anderson and Sandra Lovely, South Regional Branch contacts.

2006-2007: Highschool Chemistry Tutor (contacts available upon request).

2005-2008: In-Home Caregiver and Educator for toddlers aged 1 to 4 (contacts available upon request).

## **Boards and Committees**

2013-present: Associate Supervisor, Durham Soil and Water Conservation District:

Promote, conserve, and educate the public about Durham County's natural resources and sustainability, including partnering and facilitating projects with local schools and government departments as well as monthly board meetings and commitments.

2015-present: Beautification & Horticulture Committee Chair/Grants Writer, Jordan High School Parent Student Teacher Association:

Write grants and obtain funding for Horticulture and Science programs and Sustainable Landscaping plans at JHS  
Purchase plants, amendments and equipment from local distributors;  
Educate students during installation and maintenance of gardens (rain, butterfly, rose, tea, herb, vegetable, etc.) and rainwater harvesting methods with a focus on environmental engineering and sustainability.

2015-2017: Grants Writer, Creekside Elementary School Parent Teacher Association

Researched local, state and federal grant funding, assessing the applicability and probability of attaining each grant, and composed grant applications for those most appropriate for Creekside Elementary School.

2014-2015: Beautification and Horticulture Committee Chairperson, Lowe's Grove Middle School Parent Teacher Association:

Wrote grants and obtain funding for Horticulture and Science programs and Sustainable Landscaping plans at JHS  
Purchased plants, amendments and equipment from local distributors;  
Educated students during installation and maintenance of gardens (rain, butterfly, rose, tea, herb, vegetable, etc.) and rainwater harvesting methods with a focus on environmental engineering and sustainability.

2012-14: Lowe's Grove Parent Teacher Association President (reinstated the LGMS PTA in 2012).

2010-2014: Chair, Community Awareness Committee, Fairfield Homeowners Association, Durham NC.

2010-2014: Interneighborhood Council Representative, Fairfield Homeowners Association, Durham, NC.

2011: Jordan Watershed Oversight Committee (WOC) member:

NC Department of Environment and Natural Resources, Division of Water Quality. Appointed by the Director to represent

environmental interests. The WOC oversees fair implementation of the Jordan Agriculture Rules (Jordan Lake nutrient reduction strategy).

2011: County-appointed participant in the Durham County Strategic Planning Focus Group.

2011-2014: Grounds Committee Chairperson, Creekside Elementary Parent Teachers Association:  
Worked with elementary teachers, students, and parents to utilize available funding (through the PTA, grants, etc.) for vegetable and fruit gardens and other gardening/sustainability projects on school grounds. Oversaw the gardening program (Adopt-A-Plot) during recess blocks, including gardening with students aged 5 to 10 years.

2009-2014: Grants Committee Chairperson, Creekside Elementary Parent Teachers Association:  
Researched local, state and federal grant funding, assessing the applicability and probability of attaining each grant, and composed grant applications for those most appropriate for Creekside Elementary School.

2010: City Council-nominated member of the Non-City Agency Review Panel:  
Reviewed and evaluated applications submitted by non-profit organizations (Durham) seeking local funding.

2009-2011: Creekside Elementary School Site-Improvement-Plan Committee, Parent representative.

2008-2010: Creekside Elementary School Site-Based Committee, Parent representative.

2004-2006: Director at Large, Fairfield Homeowner's Association Board of Directors

### College Teaching Experience

Lecturer, Monash University

01-02: Prepared and presented lectures to first year chemistry students with particular emphasis on kinetics, equilibria, and periodicity. Held Office hours for one-on-one tutoring. Prepared and graded computer tests and final exams.

Teaching Assistant, University of North Carolina

93-94: Instructed and tested first-year graduate students in a graduate level electronics laboratory and an undergraduate analytical laboratory. Conducted biweekly tutorial sessions for those enrolled in undergraduate analytical chemistry.

Laboratory Assistant, The College of William and Mary

Fall 92-Summer 93: Assisted general chemistry and analytical students with their weekly laboratory assignments and use of chemistry department instrumentation.

Honors:

- \* First Place, Stories for Children, Burlington Writer's Club, 2016, for "Milk Drinkers Turning to Powder"
- \* First Place, Children's Poetry, Burlington Writer's Club, 2016, for "Counting on Me"
- \* Inaugural recipient of the Durham Public Schools' Get Involved! Award, 2011, chosen from 3,691 DPS volunteers
- \* Finalist, Carrboro Arts Center Photo Exhibition, May, 2011, for "Tortuga"
- \* Honorable Mention (3<sup>rd</sup> place), Adult Fiction, Burlington Writer's Club, 2010, for *Forgiven*
- \* First Place, Charles Shull Traditional Poetry, Poetry Council of North Carolina, 2009, for "Hope"
- \* First Place in 'Poetry for Children' category, Burlington Writer's Club, 2009, for 'Beyond the Dark'
- \* 'Eight to Watch', Raleigh News and Observer, 2008
- \* Neighborhood Hero, Interneighborhood Council of Durham, 2006
- \* Collier Charitable Fund Recipient, 2002
- \* Australian Research Council Post-Doctoral Fellowship, 2000-2003
- \* Eastman Travel Grant, 1997
- \* Reilley Fellowship for First Year Chemistry Graduate Students, 1993
- \* American Chemical Society Undergraduate Award, 1993

### Select Publications:

#### *Creative Writing:*

**Rooney, M.B.** (2017, in press) *Eddie the Electron Moves Out*, Amberjack Publishing, with Harry Pulver, <https://amberjackpublishing.com/books/eddie-electron-moves/>.

**Rooney, M.B.** (2015) *Eddie the Electron*, Amberjack Publishing, with Harry Pulver, <https://amberjackpublishing.com/books/eddie-the-electron/>.

**Rooney, M.B.** (2014) *The Fate of a Frog*, with Stacy Stubbs Fabbre (illustrator), Createspace, <https://www.createpace.com/4723816>.

**Rooney, M.B.** (2013) *I Chalk*, Createspace, <https://www.createpace.com/3987147>.

- Rooney, M.B.** (2010) "Southern Rainbow," *Alamance Magazine*, Volume 8, Number 1, August, 2010.
- Rooney, M.B.** (2009) "Hope" in *Bay Leaves Anthology* (2009), published by the Poetry Council of North Carolina (PCNC).
- Rooney, M.B.** (2009) "When I Kicked the Ball Down the Field," *Highlights Magazine*, in press.
- Rooney, M.B.** (2009) *Eddie the Electron*, Createspace, <https://www.createpace.com/3376568>.

**News Articles:**

Complete list (including full articles) available at [http://www.melissarooneywriting.com/DN\\_Articles/newspaper\\_publications.htm](http://www.melissarooneywriting.com/DN_Articles/newspaper_publications.htm).

- Rooney, M.B.** (2016) "About CAPS (Creative Arts in Public and Private Schools)," *Stir Crazy Moms of Durham* (29 March 2016).
- Rooney, M.B.** (2014) "Mothers and Daughters," *The Durham News* (My View, 5 December 2014).
- Rooney, M.B.** (2014) "Durham's Bionomic Education and Training Center Program and the Future of our Youth," *Transformations*, Alliance for Innovation (December 2014).
- Rooney, M.B.** (2014) "4-Wheeled Litmus Test," *The Durham News* (My View, 20 Aug 2014).
- Rooney, M.B.** (2014) "When Parents Can't Read," *The Durham News* (My View, 9 June 2014).
- Rooney, M.B.** (2014) "Letters to My Mother, Myself," *The Durham News* (My View, 9 May 2014).
- Rooney, M.B.** (2013) "Discrimination Against Edible Plants," *The Durham News* (My View, Oct 2013).
- Rooney, M.B.** (2013) "From an Agnostic Christian," *The Durham News* (My View, 31 Mar 2013).
- Rooney, M.B.** (2012) "All or None," *The Durham News* (Viewpoints, 14 Feb 2012).
- Rooney, M.B.** (2011) "From Down Under," *The Durham News* (Viewpoints, 21 Aug 2011).
- Rooney, M.B.** (2011) "Digging our way out," *The Durham News* (Viewpoints, 26 Jan 2011).
- Rooney, M.B.** (2010) "Stop Short-Changing Babies," *The Durham News* (Viewpoints, 20 October 2010).
- Rooney, M.B.** (2010) "The 2nd Time Around," *The Durham News* (Viewpoints, 16 June 2010).

**Scientific Journal Articles:**

- Rooney, M.B.;** Honeychurch, M.J.; Selvaraj, F.M; Blankenship, R.E.; Bond, A.M.; Freeman, H.C. (2003) "A Thin-Film Electrochemical Study of the 'Blue' Copper Proteins, Auracyanin A and Auracyanin B, from the Photosynthetic Bacterium *Chloroflexus aurantiacus*: The Reduction Potential as a Function of pH," *Journal of Biological Inorganic Chemistry*, 8 (3): 306-17.
- Bond, A.M.; Coomber, D.C.; Harika, R.; Hultgren, V.M.; **Rooney, M.B.**; Vu, T.; Wedd, A.G. (2001) "Cyclic voltammetric studies on [SMo12O40]<sup>2-</sup> and [SMo12O40]<sup>3-</sup> at macrodisk electrodes in acetonitrile with and without added supporting electrolyte," *Electroanalysis*, 13: 1-6.
- Stevens, N. P. C.; **Rooney, M. B.**; Bond\*, A. M.; Feldberg, S. W. (2001) "A comparison of simulated and experimental voltammograms obtained for the [Fe(CN)<sub>6</sub>]<sup>3-/4-</sup> couple in the absence of Added Supporting Electrolyte at a Rotating Disc Electrode," *Journal of Physical Chemistry A*, 105: 9085-9093.
- Rooney, M. B.**; Coomber, D. C.; Bond, A.M. (2000) "Achievement of Near Reversible Behavior for the [Fe(CN)<sub>6</sub>]<sup>3-/4-</sup> Redox Couple Using Cyclic Voltammetry at Glassy Carbon, Gold, and Platinum Macrodisk Electrodes in the Absence of Added Inert Electrolyte," *Analytical Chemistry*, 72: 3486-3491.
- Kilpatrick, M. R.; **Rooney, M. B.**; Michael, D. J.; Wightman, R. M. (2000) "Extracellular Dopamine Dynamics in Rat Caudate-Putamen during Experimenter-Delivered and Intracranial Self-Stimulation," *Neuroscience*, 96: 697-706.
- Walker, Q. D.; **Rooney, M. B.**; Wightman, R. M.; Kuhn, C. M. (2000) "Dopamine Release and Uptake are Greater in Female than Male Striatum as measured by Fast Cyclic Voltammetry," *Neuroscience*, 95: 1061-1070.
- Wightman, R. M; **Bunin, M. A.** (2000) "Paracrine Neurotransmission in the CNS: Reply to Letter to Editor," *Trends in Neurosciences*,

Garris, P. A.; Kilpatrick, M.; **Bunin, M. A.**; Michael D.; Walker, Q. D.; Wightman, R. M. (1999) "Dissociation of Dopamine Release in the Nucleus Accumbens from Intracranial Self-Stimulation," *Nature*, 398: 67-69.

**Bunin, M. A.**; Wightman, R. M. (1999) "Paracrine Neurotransmission in the CNS: Involvement of 5-HT," *Trends in Neurosciences*, 22: 377-382.

**Bunin, M. A.**; Wightman, R. M. (1998) "Measuring Uptake Rates in Intact Tissue," In *Neurotransmitter Transporters*, Susan G. Amara, Editor, Methods in Enzymology, Vol. 296, 689-707.

**Bunin, M. A.**; Prioleau, C.; Mailman, R. B.; Wightman, R. M. (1998) "Release and Uptake Rates of 5-Hydroxytryptamine in the Dorsal Raphe and Substantia Nigra Reticulata of the Rat Brain," *J. Neurochem.*, 70: 1077-1087.

**Bunin, M. A.**; Wightman, R. M. (1998) "Quantitative Evaluation of 5-Hydroxytryptamine (Serotonin) Neuronal Release and Uptake: An Investigation of Extrasynaptic Transmission," *J. Neurosci.*, 18: 4854-4860.