

**Curriculum Vitae**  
**Peter Cummings, M.Sc., M.D.**  
**6 Magnolia St Beverly MA 01915**

**Academic Training:**

6/2004 M.D. Royal College of Surgeons, Dublin Ireland; Honors degree  
6/1999 M.Sc. Dalhousie University, Halifax Nova Scotia; Pathology  
5/1997 B.A. University of Maine, Orono ME; Zoology

**Additional Training:**

7/2008-6/2009 Fellow in Forensic Pathology, Office of the Chief Medical Examiner, Boston, MA  
7/2004-6/2008 Pathology residency and Neuropathology fellowship University of Virginia, Charlottesville, VA

**Current Employment:**

1/2013-present Assistant Professor, Boston University School of Medicine Dept of Anatomy and Neurobiology

**Hospital Appointments or Other Employment:**

4/2015-present CEO & CMO Sentinel Sports, Inc, Beverly, MA  
10/2009-present CMO Northeast Neuropathology & Autopsy Services, Beverly, MA  
07/2008-6/2015 Medical Examiner, Office of the Chief Medical Examiner, Boston, MA  
3/2010-2013 Lecturer, Department of Neuropathology, Brigham & Women's Hospital, Boston, MA  
1/2010-present Affiliated Faculty Dept. Neurobiology and Neuroanatomy, Boston University, Boston, MA  
2006-2008 District Medical Examiner, Commonwealth of Virginia  
1997-1999 Death Scene Investigator, Office of the Chief Medical Examiner, Halifax, Nova Scotia, Canada

**Honors:**

2005, 06, 07 Outstanding Contribution to Teaching, University of Virginia, Charlottesville, VA  
2001 Professor Max Ryan Radiology Medal, Royal College of Surgeons, Dublin, Ireland  
2000 Letter of Commendation for research, Dept. of Psychology Royal College of Surgeons, Dublin, Ireland  
1999 Numerous Canadian Government Citations for Outstanding Community Service following the crash of SwissAir Flight 111

**Licenses and Certification:**

7/2008-present Massachusetts License #235452  
10/2010 American Board of Pathology, Forensic Pathology  
10/2009 American Board of Pathology, Neuropathology  
9/2008 American Board of Pathology, Anatomic Pathology  
7/2004-2008 Virginia Medical License

**Teaching Experience and Responsibilities:**

1/2013-present Lecturer Forensic Pathology course, Boston University School of Medicine, Dept of Neuroanatomy and Neurobiology Forensic Anthropology Program  
2008-present Lecture/instruct pathology residents in forensic pathology, Office of the Chief Medical Examiner, Boston, MA  
2004-2008 Department of Pathology Laboratory Instructor, University of Virginia, Charlottesville VA

- 2004-2006 Academic tutor biochemistry, neuroscience, anatomy, physiology for medical students in academic distress, University of Virginia, Charlottesville, VA
- 2004-2006 Medical Academic Advancement Program assisting minority students prepare for the MCAT
- 2000-2004 Pathology Tutor, Royal College of Surgeons, Dublin, Ireland
- 1992-1995 Organic Chemistry Laboratory Instructor, University of Maine, Orono, ME
- 1993-1994 Study Skill course instructor for students in academic distress, University of Maine, Orono, ME

### **Major Mentoring Activities:**

- 7/2014-present Richard Atkinson, MD, forensic pathology fellow, Office of the Chief Medical Examiner, Boston, MA; Dr. Atkinson will be an attending in this office following the completion of his fellowship in 7/2015.
- 7/2014-present Robert Welton, MD, forensic pathology fellow, Office of the Chief Medical Examiner, Boston, MA; Dr. Welton will be an attending in this office following the completion of his fellowship in 7/2015.
- 7/2013-72014 Anna McDonald Greene, MD, Forensic Pathology Fellow, Office of the Chief Medical Examiner, Boston MA; now attending forensic pathologist for the State of North Carolina

### **Grants Submitted**

#### **NASA Ground-based Studies in Radiation Biology**

Title: The Role of High-charge High-energy Radiation in the Development of Inflammatory Central Nervous System Injury. Successful Step-1, Invited Step-2 Feb 2007.

#### **NASA Ground-based Studies in Radiation Biology**

Title: The Role of High-charge High-energy Radiation in the Development of Inflammatory Central Nervous System Injury. Successful Step-1, Invited Step-2 June 2006.

### **Current Research Activities**

Pediatric Head Injury and Concussion  
Astrocytic Response to Injury  
Molecular and Morphologic Timing of Hypoxic/Ischemic Changes in the Brain  
The Effects of Cosmic Radiation on Astrocyte Activation (NASA Funded)  
Characterization of the Retinal Glial Response to Spaceflight  
(NASA Biospecimen Exchange Program)

### **Major Administrative Responsibilities:**

- 7/2010-6/2015 Director of Forensic Neuropathology, Office of the Chief Medical Examiner, Boston, MA

### **Other Professional Activities:**

### **Professional Societies:**

- 2014-present American Academy of Forensic Sciences
- 2008-2010 American Association of Neuropathologists
- 2008-2010 National Association of Medical Examiners

### **Invited Lectures and Conference Presentations:**

- 8/2011-8/2014 Faculty Colby College New England Seminar in Forensic Sciences, gave numerous lectures on forensic pathology at this national meeting
- 4/2007 High-energy high-charge (HZE) exposure stimulates progressive astrogliosis in the CA1 region of the hippocampus in rats. Presentation Experimental Biology Scientific Sessions, Washington, D.C.
- 11/2006 Dementia Astronautica: High-energy (HZE) radiation exposure causes delayed axonal degeneration and and progressive gliosis in the central nervous system of mice. Presentation at American Society of Gravational and Space Biology, Washington, D.C.

### **Bibliography:**

#### **Original, Peer Reviewed Articles**

1. Edlow BL, Haynes RL, Takashashi E, Klein JP, **Cummings P**, Benner T, Greer DM, Greenberg SM, Wu O, Kinney HC, Folkerth RD. Disconnection of the ascending arousal system in traumatic coma. *J Neuropathol Exp Neurol.*2013;72(6):505-23.
2. Huang L, Smith A, **Cummings PM**, Kendall EJ, Obenaus A. Neuroimaging assessment of memory-related brain structures in a rat model of acute space-like radiation. *J Magn Reson Imaging.* 2009;29(4):785-92.
3. **Cummings PM**, Obenaus A, Heffron D, Nelson G, Mandell JW. High-energy (HZE) Radiation Exposure Causes Delayed Axonal Degeneration and Astrogliosis in the Central Nervous System of Mice. *J of Grav Space Biol.* 2007;20(20):89-91.
4. Cummings PM, Le BH, Lopes, MBS. Postmortem findings in morbidly obese individuals dying after gastric bypass procedures. *Human Pathology.* 2007;38:593-97.
5. Title LM, **Cummings PM**, Giddens K, Nassar BA. Oral Glucose Loading Acutely Attenuates Endothelium-dependent Vasodilation in Healthy Non-Diabetic Adults: An Effect Prevented by Vitamins C and E. *J Am Coll Cardiol.* 2000 Dec;36(7):2185-91.
6. Title LM, **Cummings PM**, Giddens K, Genest JJ Jr., Nassar BA. Effect of Folic Acid and Antioxidant Vitamins on Endothelial Dysfunction in Patients with Coronary Artery Disease. *J Am Coll Cardiol.* 2000 Sep;36(3):758-65.
7. **Cummings PM**. Oxidative Stress and Endothelial Dysfunction in the Development of Coronary Artery Disease. Master's Thesis. Dalhousie University, Halifax, Nova Scotia, Canada. September 1999.

## Case Reports, Reviews, Chapters, and Editorials:

### Textbooks

1. **Cummings P**, Trelka D, Springer K. Atlas of Forensic Histopathology. Cambridge University Press, Cambridge England 2010.
2. Trelka D, **Cummings P**, Pearls and Pitfalls of Infant and Child Death Investigation. Cambridge University Press, Cambridge England, anticipated fall, 2015.

### Case Reports

1. Sutton JT, **Cummings PM**, Ross WG, Lopes MB. Sudden death of 7-year-old-boy due to undiagnosed glioblastoma.. Am J Forensic Med Pathol. 2010;31(3):278-80.

### Abstracts

Obenaus A, Huang L, Smith A, Lalas S, Nelson G, **Cummings P**, Kendall E. *Magnetic resonance imaging can identify regional central nervous system abnormalities following <sup>56</sup>Fe radiation exposure.* NASA Human Research Program Investigators' Workshop, League City, TX, February, 2008.

Huang L, Smith A, **Cummings PM**, Kendall EJ, Obenaus A. *Magnetic Resonance Imaging of Acute Alterations in the Rat Brain Following Simulated Space Radiation.* International Society for Magnetic Resonance Medicine, Toronto, Canada, May 2008.

**Cummings PM**, Obenaus A. *Dementia Astronautica- A Possible Outcome of Long Duration Space Missions?* American Society of Gravitational and Space Biology 23<sup>re</sup> Annual Scientific Sessions, Ames Research Center, CA October 2007.

Obenaus A, **Cummings PM**. *Delayed Axonal Degeneration and Astrogliosis in the Central Nervous System of Rats After <sup>56</sup>Fe Radiation Exposure.* 18<sup>th</sup> Annual NASA Space Radiation Investigators' Workshop, July 13-15, 2007, Rohnert Park CA.

**Cummings PM**, Obenaus A, Heffron D, Nelson G, Mandell JW. *High-energy High-charge (HZE) Exposure Stimulates Progressive Astrogliosis in the CA1 Region of the Hippocampus in Rats.* Experimental Biology Scientific Sessions, April 2007.

**Cummings PM**, Obenaus A, Heffron D, Nelson G, Mandell JW. *High-energy (HZE) Radiation Exposure Causes Delayed Axonal Degeneration and Astrogliosis in the Central Nervous System of Mice.* American Society of Gravitational and Space Biology 2006 22<sup>nd</sup> Annual Scientific Sessions, Washington D.C., November 2006.

**Cummings PM**, Mains R. *Research Needed to Reduce Medical Barriers to Long-duration Space Flight and Colonization*. Space Technology and Applications International Forum 2007 annual meeting Albuquerque, NM February 2007. Accepted.

Le BH, **Cummings PM**, Lopes MB. *CD10 (CALLA) Expression in Meningioma*. International Congress of Neuropathology, San Francisco Sept. 2006 Poster Presentation.

Le BH, **Cummings PM**, Lopes MB. *Expression of CD34 in Epilepsy-Related Lesions*. International Congress of Neuropathology, San Francisco Sept. 2006 Poster Presentation.

Cathro HP, **Cummings PM**, Cramer JD, Isaacs RD. *CD20+ Lymphocytic Aggregates in Biopsies for Acute Rejection Are Not Associated with Increased Renal Allograft Loss in Adults*. *Modern Pathology*; 2005(18):265-66. Poster presentation at the 94<sup>th</sup> United States and Canadian Academy of Pathology session, March 2005.

Title LM, **Cummings PM**, Giddens K, Nassar BA. *Effect of Folic Acid on Plasma Asymmetric Dimethylarginine, an Endogenous Inhibitor of Nitric Oxide Synthase*. *Circulation*. 2000;102 (suppl). Presented at the American Heart Association 72<sup>nd</sup> Scientific Session, Nov. 13, 2000 (poster presentation).

Title LM, **Cummings PM**, Giddens K, Nassar BA. *Effect of Folic Acid on Plasma Asymmetric Dimethylarginine, an Endogenous Inhibitor of Nitric Oxide Synthase*. Presented at the 53<sup>rd</sup> Canadian Cardiovascular congress meeting, Oct. 30, 2000.

Title LM, **Cummings PM**, Giddens K, Nassar BA. *Vitamins C and E Prevent Acute Endothelial Dysfunction After Oral Glucose Loading in Healthy Non-diabetic Adults*. *Circulation*. 1999;100 (suppl):I-127. Presentation at the American Heart Association 72<sup>nd</sup> Scientific Sessions. November 1999.

Title LM, **Cummings PM**, Giddens K, Genest JJ Jr., Nassar BA. *Folic Acid Supplementation Improves Endothelial Dysfunction In Patients With Coronary Artery Disease*. *Can J Cardiol*. 1999;15 (suppl. D): 125D. Presentation at the Canadian Cardiovascular Society 52<sup>nd</sup> Annual Meeting. November 1999.

Title LM, **Cummings PM**, Giddens K, Nassar BA. *Vitamins C and E Prevent Acute Endothelial Dysfunction After Oral Glucose Loading in Healthy Non-diabetic Adults*. *Can J Cardiol*. 1999;15 (suppl. D) 125D. Presentation at the Canadian Cardiovascular Society 52<sup>nd</sup> Annual Meeting. November, 1999.

Title, **Cummings PM**, Giddens K, Genest JJ Jr., Nassar BA. *Folic Acid Supplementation Improves Endothelial Dysfunction In Patients With Coronary Artery Disease*. *Circulation*. 1999;100 (suppl.): I-827. Presentation at the American Heart Association 72<sup>nd</sup> Scientific Sessions. November, 1999.

Title LM, **Cummings PM**, Dunn J, Zayed E, Dempsey G, O'Neil BJ, Johnstone DE, Bata IR, Nassar BA. *Relation Between Homocysteine, A Mutation in Methylenetetrahydrofolate Reductase And Extent of Coronary Artery Disease*.

Circulation 1998; 98 (suppl): I-439. Presented at the 71<sup>st</sup> American Heart Association Scientific Sessions, Nov. 10, 1998.

Title LM, **Cummings PM**, Dunn J, Zayed E, Dempsey G, O'Neil BJ, Johnstone DE, Bata IR, Nassar IR. *Relation Between Homocysteine, A Mutation in Methylenetetrahydrofolate Reductase And Extent of Coronary Artery Disease*. Can J Cardiol 1998 (suppl). Presented at the 51<sup>st</sup> Canadian Cardiovascular Society Annual Meeting, Oct. 21, 1998.

## **Media**

People Magazine 'A Cold Case Comes to Life' 4/2009

Voice of America interview 'Was Yasser Arafat Poisoned?' 7/17/2012

PBS NOVA ScienceNOW 'Can Science Stop Crime?' Aired 10/17/2012

PBS NOVA 'Cold Case JFK' Aired 11/13/2013

Huffington Post 'Why the Assassination of JFK Matters 50 Years Later' 11/20/2013

## **Novels (fiction)**

*The Neuropathology of Zombies*, Sinister Press, 2012

*The Seven Stars*, Sinister Press, 2012