

# PETER M. E. CUMMINGS, B.A., M.Sc.

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## EDUCATION

### ROYAL COLLEGE OF SURGEONS IRELAND

Dublin, Ireland

- Currently enrolled as a final-year medical student.
- Clinical rotations in the following:
  - Surgery (6 months)
  - Medicine (6 months)
  - ENT
  - Ophthalmology
  - Tropical Medicine/human rights medicine
  - Ob/Gyn/neonatology
  - Psychiatry
  - General Practice
- Elective rotations in the following:
  - Neurosurgery, Beaumont Hospital, Dublin, Ireland.
    - Surgical elective with extensive involvement in patient management and operative procedures.
  - Forensic Pathology, Office of the Chief Medical Examiner of New York City.
    - Work involved identification of the victims of the World Trade Center Disaster and of American Airlines flight 587. Also involved in daily autopsy procedures and scene investigation.
  - Epidemiology/medical statistics
  - Ethics in Medicine
- Extracurricular activities include:
  - Founding member of the Royal College of Surgeons Forensic Medicine Society
  - Founding member of the Royal College of Surgeons Jazz Society
  - Founding member of the Royal College of Surgeons Chess Club

### DALHOUSIE UNIVERSITY

Halifax, Nova Scotia Canada

Master of Science in Pathology, October 1999. Graduated with Distinction.

- Extensive study of pathophysiology and clinical chemistry with emphasis on clinical diagnosis.
- Thesis title: *Oxidative-stress and Endothelial Dysfunction as Risk Factors in the Development of Coronary Artery Disease*
- Thesis research involved determining the effects of folate supplementation on endothelial function in patients with hyperhomocysteinemia as well as determining the effects of acute glucose loading on endothelial function in a normal population and non-insulin dependent diabetics. Thesis work also involved PCR and restriction enzyme digestion of DNA, as well as the development of HPLC methodologies.
- Extensive field and course work in forensic pathology.

*Peter M.E. Cummings*

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- Member of the Swissair Flight 111 forensic identification team.
- Extensive work with identification techniques including DNA, dental, and X-ray methods.
- Experience assisting in over 300 forensic autopsy procedures.
- Experience in excavation of mass graves.

#### **UNIVERSITY OF MAINE**

**Orono, Maine USA**

Bachelor of Arts in zoology with a minor in psychology, June 1996.

- Honors thesis on the development and organization of the skeletal system.
- Dean's list four semesters and Presidential Award for Academic Excellence two semesters.
- Extensive study of comparative anatomy.
- Study of physiology, cell biology, chemistry and biochemistry.
- Several years of research experience in organic chemistry.
- Two years of Spanish.
- Studied at University Collage Cork, Ireland Fall Term 1993.

#### **EASTERN MAINE TECHNICAL COLLEGE**

**Bangor, Maine USA**

State certification as an Emergency Medical Technician, June 1995.

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### **WORK EXPERIENCE**

#### **OFFICE OF THE CHIEF MEDICAL EXAMINER**

**Halifax, Nova Scotia Canada**

##### **Death Scene Investigator**

**May-September 1999**

- Notified of all deaths in the province of Nova Scotia.
- Responsible for determining if the case in question was to be accepted by the Medical Examiner's Office, as required by the Fatalities Act of Nova Scotia.
- Required to attend the scene if the death occurred within a particular geographical area.
- Position required close collaboration with law enforcement agencies, including the Royal Canadian Mounted Police (RCMP), local and provincial police authorities, and the Halifax Regional Major Crime Unit.
- Responsible for notifying and communicating with the next-of-kin, including obtaining detailed descriptions of the victims medical history and the events leading up to the death, often requiring escorting a family or family member into the morgue for identification.
- Required a strong sense of independence as well as confidence in decision-making abilities.
- Required sensitivity to the feelings of families as well as the ability to communicate both honestly and sympathetically.
- Required strong observational skills and the ability to interpret not only the obvious, but also the obscure.
- Required a working knowledge of medicine, including a solid background in forensic pathology.
- Hours were usually multiple 24-hour shifts throughout the week.

#### **Swissair Forensic Identification Team**

**1998-1999**

- Worked in disaster response morgue facility with an international medical and investigative team.
- Assisted in the identification process of crash victim's remains using dental, X-ray, fingerprint, and DNA techniques.

**UNIVERSITY OF MAINE**  
**Organic Chemistry Lab Instructor**

**Orono, Maine USA**  
**1992-1997**

- Instructed students in organic reactive theory, lab technique, use and interpretation of nuclear magnetic resonance (NMR), gas chromatography (GC), and infrared spectrometry (IR).
- Responsible for chemical inventory, lab preparation, maintenance of equipment including 300MHz NMR, gas chromatograph, mass spectrometer, infrared spectrometer and several PC's.
- Co-authored the lab manual, developed new experiments for students. Extensive use of PC Model and other computer generated chemical model programs.
- Discovered a temperature dependent bond rotation in N,N-diethyl-m-toluamide (DEET) utilizing proton NMR and computer modeling.

**SCS 100 Instructor**

**1994-1996**

- This class was designed to aid first-year students in academic distress.
- Responsibilities included teaching time management skills, note taking skills, and test taking strategies necessary for academic success.

**Preventive Medicine Program**

**1992-1995**

- Responsibilities included performing physical examinations on fellow students and educating them on various health issues and the importance of prevention.
- Co-founder/developer of a Medical Assistance and Self-Help Room (The M.A.S.H. Room) which treated students with everything from cuts to colds. This was implemented to act as triage for the doctors and nurses at the University's busy student health center. M.A.S.H. now sees thousands of students a year.
- Co-developer of an asthma clinic which was used to aid students experiencing respiratory distress.

**Upward Bound**

**1993**

- Provided underprivileged high school students from Maine an opportunity to work and take classes for a summer to better prepare themselves for college.
- Responsibilities included securing employment for each student in an area of career interest and monitoring their progress throughout the summer as well as transporting the students to and from work and supervised weekend camping trips.

**MAINE CHAPTER OF THE NATIONAL ASSOCIATION FOR THE  
ADVANCEMENT OF COLORED PEOPLE (NAACP)**

**UNIVERSITY OF MAINE**  
**Volunteer Student Liaison**

**Orono, Maine USA**  
**1992-1995**

- Recruited inner-city minority students for the University of Maine as part of a cultural diversity initiative.
- Responsible for acquainting the students with the university campus and facilities.
- Accompanied students on numerous trips around the state.
- Available to help with adjustment issues such as culture shock or homesickness. Often helped with study skills or just spent time being a friend.

**PUBLICATIONS (peer-reviewed)**

1. 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.
2. 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.
3. **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.
4. **Cummings PM**. *Homocysteine: A Risk Factor for Occlusive Vascular Disease*. J of NSSMLT. 1998(1):2-3.

#### ABSTRACTS

1. 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).
2. 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.
3. 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.
4. 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.
5. 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.
6. 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.

7. 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.
8. 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.

### PRESENTATIONS

1. Butt JC, **Cummings PM**. *Swiss Air 111*. Presentation at 26<sup>th</sup> Annual New England Seminar in Forensic Sciences, Waterville, Maine. August 11, 1999.
2. **Cummings PM**. *Forensic Pathology: Answering the Question 'Who?'*. Guest Lecturer: *BioTech Alive Week*. The Discovery Centre, Halifax, Nova Scotia. May, 1999.
3. **Cummings PM**. *Identifying the Victims of SwissAir 111*. Queen Elizabeth II Health Science Centre, NSSMLT Continuing Medical Education Seminar. May, 1999.
4. **Cummings PM**. *Identifying the Victims of SwissAir 111: The Role of DNA*. Continuing Medical Education Session, Molecular Biology Department, Queen Elizabeth II Health Science Centre. April, 1999.
5. **Cummings PM**. *Identifying Victims of Mass Disasters: Methods Employed in the SwissAir 111 Investigation*. Department of Pathology Seminar Sessions. Dalhousie University, Halifax Nova Scotia, January 1999. (This was the first public disclosure of the identification process and techniques used in the Swissair 111 investigation).

### CONFERENCES

- 27<sup>th</sup> Annual New England Seminar in Forensic Sciences, Waterville, Maine, August 13-17, 2000.
- 26<sup>th</sup> Annual New England Seminar in Forensic Sciences, Waterville, Maine, August 8-12, 1999.
- 71<sup>st</sup> American Heart Association Scientific Sessions, Dallas, Texas November 1998.
- Second International Meeting on Homocysteine Metabolism, University Nijmegen, Nijmegen The Netherlands, April, 1998.

### CURRENT RESEARCH ACTIVITIES

- Epidemiology of subway related fatalities on the NYC subway system from 1995 to 2002.
- Brugada Syndrome as a Possible Cause of SIDS.
- Long- QT Syndrome.
- Sudden Cardiac Death in Athletes.

- Sexual Asphyxia in the Female Population.
- Environmental Tobacco Smoke Exposure as a Risk Factor for Cardiovascular Mortality.
- Post-traumatic stress development in disaster workers.

### AWARDS AND CITATIONS

- **Professor Max Ryan Radiology Medial, Royal College of Surgeons in Ireland**  
For essay discussing the radiological management of cerebral aneurysms.
- **International Poet of Merit Award 2001, 2002**  
Awarded by for original poetry composition.
- **Letter of Commendation, Royal College of Surgeons in Ireland, 2000**  
For psychology project evaluating post-traumatic stress in morgue workers of the Oklahoma City Federal Building bombing and the Swissair Flight 111 crash.
- **Queen Elizabeth II Health Science Centre Award for Community Service, 1999**  
For service to the community in relation to the crash of Swissair flight 111.
- **Provincial Award for Outstanding Community Service, 1999**  
For service to the community in relation to the crash of Swissair flight 111.
- **Canadian Federal Government Citation for Outstanding Community Service, 1999**  
For service to the community in relation to the crash of Swissair flight 111.

### INTERESTS AND HOBBIES

Avid guitar player for 20 years. Collect vintage jazz records. Tour guide of the Official U2 walking tour of Dublin, Ireland called 'A musical Journey'. Contributing journalist for 'Cool and Strange Music Magazine'. Enjoy mountain biking, hiking, and fishing. Have traveled throughout the United States, England, Holland, Croatia, Bosnia-Herzegovina and Ireland.

### SPECIAL SKILLS

- Unique knowledge and experience in forensic pathology including identification techniques.
  - In-depth knowledge of human anatomy and pathophysiology.
  - Work with PC and Macintosh computers. Proficient in Excel, Microsoft Word, Word Perfect, Power Point, and web design programs such as Dreamweaver.
  - Knowledge of Spanish.
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