Curriculum Vitae

Kyle Serkies, B.A.Sc., M.A.Sc., EIT

Advantage Forensics® Inc. (416) 630-0700

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PRACTICE AREAS

- **Material Testing**
- **Product Failure**
- **Collision Reconstruction**
- **Motorcycle Collisions**
- **Biomechanics**
- **Computer Simulation & Animation**

ACADEMIC BACKGROUND

Master of Applied Science, Biomedical Engineering, University of Toronto, 2015

- Master's courses in biomedical device design and biomaterials

Bachelor of Applied Science, Materials Engineering with minor in Bioengineering, University of Toronto, 2011

- Bachelor's courses in mechanical behavior of materials, fracture & failure analysis, corrosion, computer simulation, polymer engineering, biomaterials and physiology

ADDITIONAL COURSES, TRAINING & AWARDS

- Motorcycle Maintenance Course, Humber College, Toronto, 2015
- Heraeus Kulzer Travel Award, International Association for Dental Research, 2015
- School of Graduate Studies Conference Grant, University of Toronto, 2014
- Class M Motorcycle License, 2014
- Teaching Assistantship Training Course, University of Toronto, 2013
- Laboratory Biosafety Course, 2012
- First Jump Certification, Canadian Sport Parachuting Association, 2012
- Undergraduate Student Research Award, NSERC, 2011
- Nanotechnology Summer Fellowship Award, University of Toronto, 2011
- Dean's Honour List, University of Toronto, 2009-2011
- Student Council Athletics Director, Department of Materials Science & Engineering, University of Toronto, May 2009 – April 2010
- Ontario Private Security License, 2009
- Ontario Smart Serve Certification, 2009
- Pleasure Craft Operators License, 2005

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EMPLOYMENT HISTORY

Advantage Forensics Inc., Toronto

Associate, March 2015 to present
Member of material failure team, product failure team, and collision reconstruction team

Tequila Jacks Toronto, Toronto

Manager of Security Operations, April 2011 to present
Lead management of security staff, liaise with Fire & Police Departments, provide fact witness testimony in court

York Simcoe Bucs OVFL Football, Newmarket

Special Teams/Linebacker/Conditioning Coach, October 2013 to July 2015
Conditioned and developed strength and speed of young football players in preparation for collegiate level

Institute of Biomaterials and Biomedical Engineering, University of Toronto, Toronto

Graduate Research Assistant, September 2011 - December 2014
Analyzed fracture toughness, failure mode and polymer degradation of biomaterials specimens

Head Teaching Assistant, University of Toronto, Toronto

Molecules & Materials Undergraduate Engineering course, January to April 2014 & January to April 2013

Research Assistant, University of Toronto, Toronto

Department of Materials Science & Engineering, September 2010 – August 2011
Designed state-of-the-art tester for measurement of strength and failure mode of zebra mussel adhesive plaques, using Instron, SEM, and optical microscopy technologies

PROFESSIONAL SOCIETIES & ASSOCIATIONS

Professional Engineers of Ontario, Engineer in Training designation

The Minerals, Metals & Materials Society

American Society for Metals

International Association for Dental Research

Canadian Association for Dental Research

American Society for Testing & Materials:

- Committee D14: Adhesives
  - D14.10 Sub-committee: Working Properties
  - D14.30 Sub-committee: Wood Adhesives
- Committee D20: Plastics
  - D20.50 Sub-committee: Durability of Plastics
- Committee D30: Composite Materials
- Committee E04: Metallography
- Committee E08: Fatigue and Fracture
  - E08.05 Sub-committee: Cyclic Deformation and Fatigue Crack Formation
  - E08.06 Sub-committee: Crack Growth Behavior
- Committee E58: Forensic Engineering
  - E58.02 Sub-committee: Product Defect Incidents
- Committee F04: Medical and Surgical Materials and Devices
  - F04.12 Sub-committee: Metallurgical Materials
  - F04.13 Sub-committee: Ceramic Materials
- Committee F08: Sports Equipment, Playing Surfaces, and Facilities
  - F08.24 Sub-committee: Paintball and Equipment
- Committee G02: Wear and Erosion
  - G02.40 Sub-committee: Non-Abrasive Wear
- Committee G03: Weathering and Durability
  - G03.04 Sub-committee: Biological Deterioration

PAPERS, PUBLICATIONS & PROJECTS

- "The Effect of Simulated Human Salivary Enzymes and Matrix Metalloproteinase Inhibition on the Degradation and Fracture of the Self-etched Resin-dentin Interface", *Dental Materials* (in press)
- Abstract Review Committee, Institute of Biomaterials and Biomedical Engineering Science Day, University of Toronto, 2014
- Development of a fine motor skill training tool prototype for children with autism, University of Toronto Bioengineering Science course, 2011
- "Byssal plaque adhesion strength of dreissena polymorpha and dreissena bugensis on polymeric substrates", Institute of Biomaterials and Biomedical Engineering: *Proceedings of the IBBME Undergraduate Summer Research Program*, 2011
- Design of an expansion for a steel production facility including plant design, equipment layout & material flow, University of Toronto Plant Design for Materials Process Industries course, 2011
- Design of an anti-theft computer monitor mount for a computing facility, University of Toronto Engineering Strategies and Practice course, 2008

LECTURES & PRESENTATIONS

- Expert witness panellist: "Examining & Cross-Examining Experts", The Advocates Society, May 2015
- Seminar presenter: "Does Matrix-Metalloproteinase Inhibition Affect Esterase-mediated Degradation of Self-etched Resin-dentin Interfaces?", International Association for Dental Research, Boston, March 2015
- Poster presenter: "The Effect of Simulated Human Salivary Enzymes and Matrix Metalloproteinase Inhibition on the Degradation and Fracture Toughness of the Self-etched Resin-dentin Interface", Faculty of Dentistry, University of Toronto, February 2015
- Poster presenter: "The Effect of Simulated Human Salivary Enzymes and Matrix Metalloproteinase Inhibition on the Degradation and Fracture Toughness of the Self-etched Resin-dentin Interface", Institute of Biomaterials and Biomedical Engineering, University of Toronto, May 2014
- Poster presenter: "Byssal Plaque Adhesion Strength of Dreissena Polymorpha", Materials Science and Engineering Undergraduate Thesis, University of Toronto, April 2011