Arianna McAllister MASc PEng

Project Engineer

contact

✉ arianna.mcallister@meaforensic.com   📱 647.484.0596   ◎ Toronto

expertise

Collision Reconstruction

Arianna McAllister is a project engineer in the Collision Reconstruction group. From the Toronto office, she assists with the investigation of accidents involving cars, motorcycles, bicycles, pedestrians, and recreational vehicles, such as ATVs and snowmobiles. She helps document and analyze evidence to determine the circumstances of an accident.

Solid answers start with well-documented evidence. "We're very good at collecting and assessing physical evidence," Arianna says. She routinely downloads "black box" crash data from vehicles and uses a 3D scanner to document crash damage and accident locations. Arianna also considers new sources of evidence such as dashcam video and cell phone apps that record the speed and location of runners and cyclists. Once the evidence has been documented, Arianna helps interpret it using engineering principles and physics-based computer simulation software. The result is a clear description of what happened.

Arianna has a Bachelor's degree in Biomedical Mechanical Engineering from the University of Ottawa and a Master's degree in Biomedical Engineering from the University of Toronto. Work on her Master's thesis helped her develop critical thinking skills. "My master's was really a self-directed research job," she observes. Arianna enjoys the mathematical and hands-on problem-solving aspects of her work at MEA. "There is no such thing as a typical case and I have to answer new questions for each one; I enjoy that challenge."

education

Master of Applied Science, Biomedical Engineering, University of Toronto, 2014

Bachelor of Applied Science, Biomedical Mechanical Engineering, University of Ottawa, 2011

professional status

Registered Professional Engineer, Professional Engineers of Ontario (PEO), 2015

professional associations

Society of Automotive Engineers (SAE), since 2017

professional experience

MEA Forensic Engineers & Scientists
Project Engineer, January 2016 to Present

Conducts technical investigations involving motor vehicle accidents including the determination of collision severity, collision sequence, occupant dynamics, seat belt use and effectiveness, and vehicle speed.

Hatch, Mississauga, ON
Mechanical Engineer-in-Training January 2015 to December 2015

Collaborated with other engineering disciplines to design, build, and commission chemical process and mining facilities ($100 000 ~ $10 000 000 project value). Produced peer-reviewed formal calculations, reports, drawings and other client deliverables. Chief package engineer from design to commissioning for industrial equipment and buildings and gained experience with the design of large-scale fluid transfer systems and chemical reaction circuits.

University of Toronto
Engineer, Laboratory Assistant January 2014 – October 2014

Designed and built prototypes for commercialization of proprietary microfluidic based bioprinting technology developed during graduate studies. Transferred technology from a laboratory setting to a product for use in pharmaceutical research.

Benefact Consulting Group, Toronto, ON
Technical Writer January 2013 to January 2015

Assessed relevance of industrial research findings to the Scientific Research and Experimental Development Tax Program. Summarized eligible work and write persuasive claims for the Canada Revenue Agency.

University of Toronto
Research Assistant, September 2011 to January 20014

Developed microfluidic devices for the high throughput formation of 3D patterned soft materials for applications in materials science and regenerative medicine. Developed a strong focus on microfluidic device design, microfabrication techniques, and experimental validation of device designs and hardware.

NTT Basic Research Laboratories, Japan
Research Assistant September 2009 to August 2010

Developed a silicon-based biosensor in the Nano- and Bio-Science research lab at NTT Basic Research Laboratories with results published in peer-reviewed journal and presented at two scientific conferences.

publications

Typical Acceleration Profiles for Left-Turn Maneuvers Based on SHRP2 Naturalistic Driving Data

Mosaic hydrogels: one-step formation of multiscale soft materials

Arianna McAllister MASc PEng
Project Engineer

mea forensic
Let the evidence speak®

training and professional development

March 22–25, 2021 – Input Ace Video Evidence Symposium 2021, Online.

March 25, 2021 – PC-Crash Webinar Series 1 – Tips & Tricks, Online.

May 28-31, 2019 – Motorcycle Collision Reconstruction, York Regional Police, East Gwillimbury, ON.

September 2018 – Ontario Good Roads Associate Snow School 2018, Alliston, Ontario.

August 2018 – 7th International Symposium on Naturalistic Driving Research, Blacksburg, Virginia.

April 2018 – SAE World Congress, Detroit, Michigan.

December 2017 – SAE Introduction to Collision Reconstruction course, Phoenix, Arizona.

September 2017 – PC Crash Essentials Workshop, Vancouver, British Columbia.

June 2017 – Webinar: Factors that influence nighttime visibility – 2, Crash Safety Solutions LLC.

June 2017 – Enhanced Safety of Vehicles Conference, Detroit, Michigan.

May 2017 – Webinar: Factors that influence nighttime recognition, Crash Safety Solutions LLC.

March 2017 – CDR Analyst Course, Whitby, Ontario.

November 2016 – Webinar: Driver response at traffic signals and intersections, Crash Safety Solutions LLC.

September 2016 – PC Crash Essentials Workshop, Vancouver, British Columbia.

September 2016 – Webinar: Closing speed determination, Crash Safety Solutions LLC.

June 2016 – Webinar: Driver, rider, and truck driver forward, backing and lateral acceleration, Crash Safety Solutions LLC.

May 2016 – WREX 2016 Conference, Orlando, Florida.