

Geoffrey Thor Desmoulin, Ph.D., R.Kin., P.L.Eng.

Curriculum Vitae

[corporate: gtdscientific.com](http://corporate.gtdscientific.com)

personal: LinkedIn.com

Education

Institution	Degree/ Certification	Major	Specialty
University of Calgary (UofC)	PhD.	Mechanical Engineering	Repetitive impact injury biomechanics and novel treatment
Wayne State University (WSU)	MS.	Biomechanical Engineering	Injury Biomechanics
Simon Fraser University (SFU)	MSc.	Kinesiology	In-vivo biomechanics of low back pain
Simon Fraser University	BSc. (Hons.)	Kinesiology	Limb biomechanics of peripheral nerve stimulation for neural rehabilitation
Southern Alberta Institute of Technology (SAIT)	EMT -A	Health Sciences	Emergency Medical Technician - Ambulance
Southern Alberta Institute of Technology	Systems Technician	Building Technology	Building systems technology and design

Court Qualifications, Professional Registration and Appointments

- Qualified Expert in *Biomechanics, Biomechanical Engineering, Biomechanical Testing, and Biomechanical Incident Reconstruction* in U.S. Federal Court, Eastern District of Pennsylvania, 9th District of California, District of Colorado, District of North Dakota, District of Columbia, District of Arizona, Northern District of Illinois, State Court of Delaware, State Court of Idaho, Superior Court of Washington, Sacramento Superior Court, and the Supreme Courts of British Columbia and the Yukon.
- *Engineers and Geoscientists British Columbia*: Engineering Licensee #158397.
- *British Columbia Association of Kinesiologists*: Registered Member #2012080.
- Appointed *Honorary Lieutenant-Colonel* (D45 862 697) to the 39 Signal Regiment (UIC 6710) by National Defence Headquarters in Ottawa (May 25, 2015 – May 24, 2018).
- *Former Adjunct Professor* at the University of British Columbia (UBC); Duties included teaching Injury Biomechanics and assist with the development and implementation of UBC STAR Survive and Thrive Applied Research Initiative.
- *Firearms License* Possession and acquisition of restricted firearms #13295786.0002.

Career History

Principal GTD Scientific Inc. (May '09-present)
Provide leadership to the company and world-class biomechanical solutions for clients. Our forensic engineering services specialize in injury biomechanics, incident reconstruction, and physical testing to determine product safety and injury causation especially as a result of violent encounters. Our applied engineering services specialize in product testing and research to evaluate existing products or aid our clients in new product development. We design, build, bend, break, crash, shoot, deconstruct and reconstruct while measuring critical information to provide objective answers. Our experience has garnered us various court qualifications and an extensive international client list making GTD your first choice when looking for the highest quality results.

Television Host and Engineering Advisor Viacom Media Networks (May '07-Feb '12)
A high-profile position assessing engineering aspects, injury potential, and overall battlefield effectiveness of weapons used by warriors throughout history for a television series. The series, "*Deadliest Warrior*" has filmed thirty-three episodes (1-hour format) to date highlighting sixty-four warriors including S.W.A.T. officers and former C.I.A. operatives. *Deadliest Warrior* re-runs continue to air throughout the world in over sixteen countries, thirty-two different languages, and is available in over 96-million homes in the United States alone. This position required technical knowledge combined with strong public relations skills.

Associate Research Director Optima Health Solutions (Nov '05-May '12)
Leading, coordinating and implementing international collaborative clinical research and product development (R&D) that support the objectives of Optima Health Solutions on a contract basis. The primary product, the Khan Kinetic Treatment™, is a class II non-invasive treatment of spine related pain. Being a visionary, strategist and tactician were imperative to success.

Teaching Assistant Simon Fraser University (Jan'04-Dec'05)
Conducted lecture style tutorials and facilitated group discussions of complex scholastic material. Course topics included: Physiology, Biomechanics and movement. Clear explanation and impartiality were emphasized.

Research Kinesiologist NeuroStream Technologies Inc. (May'01-Jan'04)
Executed pre-clinical and clinical R&D of class IV neural rehabilitation medical devices. Operations were carried out to achieve product approvals from the Medical Device Bureau of Canada and the Food and Drug Administration of the United States of America. Dynamic role requiring a high level of diplomacy and technical research ability. The technology developed here was eventually bought by Ottobock SE & Co. KGaA in Germany at a successful valuation.

Research Assistant Simon Fraser University (Sept'99-April'01; Jan'04-Dec'05)
Studied neural control of spine mechanics using ultrasound imaging to greater understand low back pain. Re-designed force sensitive gloves for surgical education during corrective scoliosis procedures at the B.C. Children's Hospital (Department of Orthopedic Surgery). Creative problem solving and an ability to meet deadlines were paramount.

Fire Fighter Canmore Emergency Services (June'94-May'97)
Responded to fires, medical emergencies, motor vehicle accidents, and other rescue operations. Learned to work well under pressure in a team environment. Training was conducted by the

Alberta Fire Training School, City of Calgary Fire Department, British Columbia Justice Institute, Southern Alberta Institute of Technology as well as in house training services.

Consultancies

- Jul 16, 2024 Consulting Agreement with concerned parent of child who received a head injury as a result of a thrown rock. On-going.
- Jul 5, 2024 Consulting Agreement with U.S. Law Firm to investigate a lethal police use of force incident. On-going.
- May 31, 2024 Consulting Agreement with Insurance Company to determine the level of injury between a motorcycle rider and vehicle when the speed of impact is lowered. Resolved.
- May 30, 2024 Consulting Contract with concerned parent of a questionable death to determine whether suicide or homicide. On-going.
- May 28, 2024 Consulting Agreement with Canadian Law Firm to reconstruct an All-Terrain Vehicle roll over. On-going.
- May 15, 2024 Consulting Agreement with U.S. Law Firm to perform a shooting crime scene movement reconstruction. On-going.
- May 13, 2024 Consulting Agreement with U.S. Law Firm to perform testing on safety equipment to determine risk of injury with and without its use. On-going.
- Apr 26, 2024 Consulting Agreement with U.S. Law Firm to perform 3D visualization and a biomechanical risk assessment on a police use of force incident. On-going.
- Apr 11, 2024 Consulting Agreement with U.S. Law Firm to reconstruct a shooting involving two undercover police officers. On-going.
- Mar 15, 2024 Consulting Agreement with U.S. Municipality to perform a 3D reconstruction on a lethal police use of force incident. On-going.
- Jan 25, 2024 Consulting Agreement with U.S. Law Firm to biomechanically investigate a Custody Death. On-going.
- Dec 26, 2023 Consulting Agreement with U.S. Law Firm to perform a 3D reconstruction on a lethal police use of force incident. On-going.
- Dec 8, 2023 Consulting Agreement with U.S. Law Firm to investigate the effect of TASER dry stunning on the body. Resolved.
- Oct 13, 2023 Consulting Agreement with alternate defence council to investigate a home defence homicide. Resolved.
- Aug 25, 2023 Consulting Agreement with Canadian Law Firm to perform a collision reconstruction. Resolved.
- Jul 26, 2023 Consulting Agreement with U.S. Law Firm to determine suspicious death as being from suicide or homicide. Resolved.
- Jun 13, 2023 Consulting Agreement with U.S. Law Firm to biomechanically investigate an In-Custody Death. Resolved.
- May 25, 2023 Consulting Agreement with U.S. Law Firm to investigate a civilian-on-civilian death. On-going.
- Apr 11, 2023 Consulting Agreement with U.S. Law Firm to perform a vehicle-pedestrian reconstruction. Resolved.
- Apr 10, 2023 Consulting Agreement with U.S. Municipality to assess various less-lethal munition to determine the most likely to cause a specific injury. Resolved.
- Feb 2, 2023 Consulting Contract with a U.S. Law Firm to investigate the cause of arm injury during a police use of force incident. Resolved.

- Jan 2, 2023 Consulting Agreement with a U.S. Law Firm to determine steering input to an All-Terrain Vehicle that collided with a police officer on foot. Resolved.
- Dec 12, 2022 Consulting Contract with a U.S. municipality to investigate a shooting incident leaving one party severely injured. Resolved.
- Nov 14, 2022 Consulting Agreement with a U.S. municipality to assess the likelihood and severity of injury if being hit by a specific object. Resolved.
- Nov 14, 2022 Consulting Contract with a Canadian municipality to reconstruct a shooting homicide. Resolved.
- Sep 2, 2022 Consulting Contract with a Canadian Law Firm to investigate a vehicular-pedestrian incident causing death. Resolved.
- Sep 1, 2022 Consulting Contract with a Canadian Law Firm to investigate a stabbing homicide. Resolved.
- Aug 4, 2022 Consulting Agreement with a Canadian Law Firm to investigate the amount of force imparted to the driver of a vehicular incident captured by a dash mounted camera. Resolved.
- June 7, 2022 Consulting Agreement with a U.S. Law Firm to investigate the cause of an injury to an employee of a large hardware store. Resolved.
- June 3, 2022 Consulting Agreement with a U.S. Law Firm to investigate an industrial incident causing head injury. Resolved.
- May 31, 2022 Consulting Contract to investigate a slip and fall causing head injuries. Resolved.
- May 24, 2022 Multiple Consulting Contracts with the Federal Public Defender to biomechanically assess the injury potential of police baton strikes of a person of interest as seen via CCTV footage. Resolved.
- May 11, 2022 Consulting Contract with a U.S. Law Firm to investigate the biomechanical effects of specific injuries that occurred throughout a homicide and how those injuries prevented the victim from escape. Resolved.
- Apr 2, 2022 Consulting Contract with a U.S. Law Firm to investigate a shooting homicide. Resolved.
- Mar 10, 2022 Consulting Contract with a U.S. municipality to reconstruct a shooting homicide. Resolved.
- Jan 24, 2022 Consulting Contract with a U.S. Law Firm to investigate a shooting of a Navy SEAL. Resolved.
- Oct 13, 2021 Consulting Contract with a U.S. Law Firm to investigate a multiple person shooting incident in order to determine the shooter which caused a specific injury to a bystander. Resolved.
- Sept 24, 2021 Consulting Contract with an Australian municipality to determine events and actions of multiple people one of whom was gravely injured. On-going.
- Sep 7, 2021 Consulting Contract with a U.S. municipality to determine the likelihood of a back injury being caused by an arrest captured by body worn cameras. Resolved.
- Sept 2, 2021 Consulting Contract with a U.S. Law Firm to reconstruct an incident and determine the cause of injury between a major hardware store and one of its clients. Resolved.
- Aug 30, 2021 Consulting Contract with a U.S. Law Firm to biomechanically reconstruct and give causation to a slip and fall incident on a ship in international waters. Resolved.
- Jul 9, 2021 Consulting Contract with a U.S. Law Firm to determine injury likelihood being due to a police use-of-force intervention. Resolved.
- Jul 8, 2021 Consulting Contract with a U.S. attorney to investigate the location of his client during a shootout with police using thermal imagery. Concluded.

- Jun 28, 2021 Consulting Contract with a U.S. Law Firm to determine change in injury severity to two children during a vehicle collision with and without restraints. Resolved.
- Jun 16, 2021 Consulting Contract with Local Government Insurance Trust to perform a biomechanical reconstruction of a police shooting homicide during a foot pursuit. Resolved.
- Apr 19, 2021 Consulting Contract with a U.S. municipality to investigate the biomechanical aspects of a high-profile police shooting homicide of an African American male. Resolved.
- Apr 8, 2021 Consulting Contract with U.S. Law Firm to investigate causation of disc herniation injuries during a police arrest. Resolved.
- Mar 23, 2021 Consulting Contract with Canadian Law Firm regarding the cause of injury of a child vehicle occupant during a side-swipe impact with a tree. Resolved.
- Feb 26, 2021 Consulting Contract with U.S. Law Firm to perform a biomechanical reconstruction of a police shooting homicide in a low light area between two buildings. Resolved.
- Feb 23, 2021 Consulting Contract with U.S. Law Firm to investigate a criminal matter involving a police shooting homicide. Resolved.
- Feb 12, 2021 Consulting Contract with Canadian Law Firm regarding the cause of injury during a fall arrest harness failure. Resolved.
- Feb 3, 2021 Consulting Contract with U.S. municipality to investigate the biomechanical aspects of holster disarming of a police officer. Resolved.
- Jan 28, 2021 Consulting Contract with Canadian municipality to investigate the defective nature causing a mechanical failure of a directional explosive device resulting in injury. On-going.
- Dec 17, 2020 Consulting Contract with a U.S. Law Firm to biomechanically reconstruct events leading to head injuries during peace officer intervention. Resolved.
- Dec 6, 2020 Consulting Contract with a Canadian Law Firm to investigate both the police practices and biomechanical aspects of a lethal police shooting into a vehicle. Resolved.
- Oct 14, 2020 Consulting Contract with a U.S. Law Firm on the causation of head injuries during a police use-of-force incident. Resolved.
- Oct 06, 2020 Consulting Contract with Canadian Law Firm regarding the cause of a slip and fall incident. Resolved.
- Sep 23, 2020 Consulting Contract with U.S. Law Firm to investigation biomechanical injury causation of patellar tendon ruptures at a trampoline park. Resolved.
- Apr 10, 2020 Consulting Contract with U.S. Police Department to determine which of two narratives is more likely in a shooting homicide. Resolved.
- Mar 26, 2020 Consulting Contract with U.S. City and its associated Police Department on visualizing the perspective of the Officer who discharged his firearm during a shooting. Resolved.
- Mar 24, 2020 Consulting agreement with U.S. City Police Legal Defense Department regarding a spinal injury sustained by plaintiff during an arrest. Resolved.
- Feb 26, 2020 Consulting Contract with U.S. Law firm to provide a biomechanical injury analysis of a failed coil spring compressor. Resolved.
- Feb 18, 2020 Consulting Contract with U.S. Law Firm to provide a biomechanical opinion on an Officer Involved Shooting resulting in a homicide with limited body worn camera footage. Resolved.
- Jan 30, 2020 Consulting Contract with U.S. Law Firm to determine perspective and movement of an Officer who discharged his sidearm during a shooting and the witness that observed it. Resolved.

- Jan 30, 2020 Consulting Contract with U.S. Law Firm to determine cause of ejection from recreational vehicle during a tire failure. Resolved.
- Jan 30, 2020 Consulting Contract with U.S. Law Firm to investigate the cause of an automobile accident causing death. Resolved.
- Nov 7, 2019 Consulting Contract with Canadian Law firm to provide a biomechanical incident reconstruction of a vehicle-pedestrian collision. Resolved.
- Oct 28, 2019 Consulting Contract with Canadian Law Firm to provide a preliminary opinion on the mechanisms of failure of an implanted medical device. Resolved.
- Aug 28, 2019 Agreement with Canadian Medical Assessments Firm to identify the mechanisms of slip and injury causation. Resolved.
- Aug 8, 2019 Consulting Contract with U.S. Use-of-Force research institute to provide training in the Science of Violence™. Complete.
- Jul 31, 2019 Consulting Contract with Canadian Law Firm to determine the initial speed and resulting human factors of a motorcycle just prior to impact with a vehicle. Resolved.
- Jun 14, 2019 Consulting Contract with Canadian Law Firm to provide probability of injury in a low-velocity vehicle collision. Resolved.
- May 1, 2019 Consulting Contract with U.S. Law Firm to determine causation of human ejection from vehicle during roll-over. Resolved.
- May 1, 2019 consulting Contract with U.S. Law firm to determine cause of death during a loss of vehicle control event due to failed right front tire. On-going.
- Apr 22, 2019 Consulting Contract with Canadian Law Firm to determine the probability of injury of a passenger involved in a near-side vehicle impact. Resolved.
- Apr 11, 2019 Agreement with Canadian law firm to identify and determine the cause of specific skin marks. Resolved.
- Mar 20, 2019 Partnership agreement with a Canadian based learning center to deliver GTD Scientific Inc. courses. Complete.
- Mar 14, 2019 Consulting Agreement with a U.S. Law Firm to investigate the probability of injury in a low-velocity vehicle collision. Resolved.
- Jan 8, 2019 Consulting Contract with U.S. City Attorney's Office to investigate an Officer Involved Shooting incident causing death. Resolved.
- Oct 28, 2018 Consulting Contract with U.S. City Attorney's Office to investigate the probability of shoulder injury during a Police use-of-force incident. Resolved.
- Jul 30, 2018 Consulting Contract with U.S. Ballistic Defense Company to evaluate the effectiveness of their primary product. Complete.
- Jul 18, 2018 Consulting Contract with U.S. City Attorney's Office to perform a forensic injury biomechanics investigation of a stabbing homicide. Resolved.
- Jul 9, 2018 Consulting Contract with U.S. Law Firm to investigate a police use of force incident from a biomechanical safety vantage point. Resolved.
- Jul 5, 2018 Consulting Contract with U.S. Law Firm to provide preliminary opinion of a building construction failure causing injury. Complete.
- Jun 18, 2018 Talent option agreement with Canadian Production Company to develop and host a forensic engineering-based television show. Complete.
- Jun 9, 2018 Consulting Contract with Canadian Medical Assessments Firm to biomechanically investigate causation of a spiral fracture of the humerus in a person residing in a care home. Resolved.
- Apr 9, 2018 Consulting Contract with U.S. Municipality to perform a biomechanical and human factors assessment on a Police Officer use of force with a less-lethal control implement causing lacerations. Resolved.
- Mar 13, 2018 Consulting Contract with U.S. Municipality to perform an incident

- reconstruction of a bicycle-on-bicycle collision resulting in catastrophic brain injury. Resolved.
- Feb 22, 2018 Consulting Contract with U.S. Municipality to perform a biomechanical assessment of the cause of an individual's fall from a bicycle that resulted in brain injury. Resolved.
 - Feb 13, 2018 Consulting Contract with Canadian Law Firm to perform a biomechanical assessment of a mountain bike maneuver resulting in fork failure. Resolved.
 - Dec 21, 2017 Consulting Contract with U.S. Blast Mitigation Company to perform an injury audit of deflagration explosion experiments utilizing novel technology. Complete.
 - Nov 28, 2017 Consulting Contract with Canadian Law Firm to perform a biomechanical reconstruction of an incident involving two (2) motorcycles. Resolved.
 - Nov 16, 2017 Consulting Contract with Canadian Law Firm to perform a biomechanical assessment of a slip and fall matter. Resolved.
 - Oct 24, 2017 Consulting Contract with Canadian Law Firm to perform a biomechanical assessment in order to identify the time at which an injury occurred during an emergency landing of an airplane. Resolved.
 - Jul 7, 2017 Consulting Contract with U.S. Law Firm to perform a biomechanical design review of an airbag impact attenuator that is implicated in a matter involving a double ankle fracture. Resolved.
 - Jun 28, 2017 Consulting Contract with U.S. Municipality to perform a biomechanical reconstruction in order to identify causation of a fall from a bicycle resulting in brain injury. Resolved.
 - May 27, 2017 Consulting Contract with U.S. Law Firm to determine if a reality television game show set was unreasonably unsafe with respect to a shoulder injury that occurred during a fall while filming. Resolved.
 - May 23, 2017 Talent option agreement with Canadian Production Company to design and participate in a forensic engineering-based television show. Complete.
 - Apr 24, 2017 Consulting Contract with Canadian Recreational Facility to perform materials testing on foam intended for impact attenuation applications. Resolved.
 - Apr 18, 2017 Consulting Contract with Canadian Law Firm to perform a biomechanical assessment of a slip and fall incident causing brain injury. Resolved.
 - Jan 16, 2017 Consulting Contract with Canadian Law Firm to perform a biomechanical and materials assessment on a trampoline park matter causing a catastrophic spinal cord injury. Resolved.
 - Jan 11, 2017 Consulting Contract with Canadian Police Department to perform a mechanism of injury assessment involving suspicious fractures in a toddler. Resolved.
 - Jan 6, 2017 Consulting Contract with Canadian Law Firm to perform a biomechanical tissue injury assessment of a chain saw incident in order to confirm or deny conflicting discovery statements of opposing parties. Resolved.
 - Nov 29, 2016 Consulting Contract with Canadian Law Firm to perform a biomechanical and materials assessment on a trampoline park matter causing a catastrophic spinal cord injury. Resolved.
 - Sept 20, 2016 Consulting Contract with Canadian Law Firm to perform a human factors lighting evaluation on a slip and fall matter. Resolved.
 - Sept 14, 2016 Consulting Contract with Canadian Municipality to perform a Use of Force evaluation on an incident involving a Police Officer. Resolved.
 - Sept 5, 2016 Consulting Contract with U.S. Law Firm to perform a children's playground product design review and evaluation from an injury biomechanics perspective. Resolved.

- Aug 2, 2016 Consulting Contract with U.S. Law Firm to biomechanically investigate the cause of and mechanism of injury for a bilateral patellar tendon rupture in a recreation facility. Resolved.
- Jun 29, 2016 Consulting Contract with U.S. Municipality to investigate movement of a person wielding a weapon of opportunity during an Officer Involved Shooting incident. Resolved.
- Jun 28, 2016 Consulting Contract with U.S. Law Firm to biomechanically investigate a falling incident causing severe orthopedic injury on a large water vessel. Resolved.
- Apr 20, 2016 Consulting Contract with Canadian Fitness Company to evaluate the by-law violations, if any, as it related to persistent complaints within the surrounding community. Resolved.
- Mar 21, 2016 Consulting Contract with Canadian Law Firm to perform a surreptitious investigation regarding evaluation of standards compliance and operations of a gymnastics facility. Resolved.
- Mar 8, 2016, Consulting Contract with U.S. Company to perform a human injury study within a blast environment in order to assess effectiveness of new mitigation technology. Complete.
- Feb 22, 2016, Consulting Contract with U.S. Municipality to perform a human factors and biomechanical assessment of an Officer Involved Shooting incident. Resolved.
- Jan 13, 2016, Consulting Contract with U.S. Municipality to perform a biomechanical assessment of a police officer takedown resulting in assailant injury. Resolved.
- Dec 4, 2015, Consulting Contract with Canadian Law Firm to perform an aviation incident reconstruction, crashworthiness assessment, and forensic biomechanical analysis of sustained injuries. Resolved.
- Nov 24 2015, Consulting Contract with Canadian Law Firm to perform a forensic biomechanical analysis of a pedestrian versus vehicle incident. Resolved.
- Nov 4, 2015, Consulting Contract with U.S. Law Firm to create a biomechanical injury report on findings for an incident causing a closed head injury. Resolved.
- Aug 23, 2015, Consulting Contract with Canadian Municipality to investigate occupant injuries of vehicle incident with Government Ambulance. Resolved.
- Jun 25, 2015, Consulting Contract with U.S. Law Firm to perform materials tests and impact tests as it related to injury probability with a rebound device. Resolved.
- May 15, 2015, Consulting Contract with Canadian foot health company to perform mechanical and biomechanical assessments of several internal products and competitors. Complete.
- Apr 17, 2015, Consulting Contract with Canadian Law Firm to perform a forensic biomechanical reconstruction of a construction incident causing death of a worker. Complete.
- Mar 06, 2015, Consulting Contract with U.S. Law Firm to perform a forensic mechanical engineering investigation including materials testing in a product liability case. Resolved.
- Feb 05, 2015, Consulting Contract with U.S. company to perform a mechanical and biomechanical engineering focused presentation of GTD Engineering generated product testing results to potential clients. Complete.
- Jan 28, 2015, Consulting Contract with U.S. Law Firm to perform a forensic biomechanical reconstruction and causation analysis of an exercise equipment failure leading to brain injury. Resolved.
- Oct 30, 2014, Consulting Contract with U.S. company to perform vertical blast wall protection designs. Complete.

- Oct 28, 2014, Consulting Contract with U.S. Law Firm to perform causation analysis involving a foot injury and associated toe fracture. Resolved.
- Aug 20, 2014, Consulting Contract with International Manufacturer in collaboration with large U.S. Municipal Police Department for testing the effectiveness of less-lethal weapons currently carried by officers. Complete.
- Jun 25, 2014, Consulting Contract with U.S. Municipality Law Office to perform a forensic biomechanical assessment of a rear-end vehicle collision resulting in dash impingement and lower back injury. Resolved.
- Jun 11, 2014, Consulting Contract with U.S. Incorporation to experimentally obtain material properties for a newly developed proprietary explosive. Resolved.
- May 5, 2014, Consulting Contract with U.S. self defense corporation for publication of sponsored product development. Complete.
- Apr 16, 2014, Consulting Contract with Canadian Municipality Law Office to perform a forensic biomechanical assessment of a serious slip and fall incident resulting in catastrophic spinal cord injury. Resolved.
- Apr 14, 2014, Consulting Contract with U.S. company to perform blast mitigation testing for the purposes of assessing three undercarriage vehicle blast protection designs and two vertical blast protection designs. Complete.
- Apr 8, 2014, Consulting Contract with U.S. Municipality Law Office to perform forensic biomechanical reconstruction, head injury causation analysis and helmet testing for a bicycle incident. Resolved.
- Feb 7, 2014, Consulting Contract with Canadian Municipality Law Office to perform a forensic biomechanical reconstruction of applied tactics and techniques during a “hands-on” incident involving a Police Officer. Resolved.
- Feb 7, 2014, Consulting Contract with Canadian Municipality Law Office to perform a forensic biomechanical reconstruction of a Police Service Dog bite. Resolved.
- Feb 4, 2014, Consulting Contract with Canadian reality-based training products manufacturer to perform a biomechanical engineering assessment of a product design and summarize it in video format. Complete.
- Oct 24, 2013, Consulting Contract with U.S. Law Firm to perform vehicle-pedestrian forensic biomechanical accident reconstruction of sprint car (racing version) collision resulting in bilateral lower leg amputations. Resolved.
- Oct 9, 2013, Consulting Contract with U.S. Municipality Law Office to perform a forensic biomechanical reconstruction of evolving human movement patterns during an Officer Involved Shooting. Resolved.
- Aug 26, 2013, Consulting Contract with Canadian Medical Device Company to develop an additional product to their existing product line. Complete.
- Aug 2, 2013, Consulting Contract with Canadian Medical Device Company to demonstrate their primary products scientific ability on film. Complete.
- Jul 29, 2013, Consulting Contract with U.S. based Self-Defense Firm to develop a product based on their training methodology. Complete.
- Jul 23, 2013, Consulting Contract with U.S. based Hardware Company to determine blast mitigation effectiveness of primary product. Complete.
- Jun 22, 2013, Consulting Contract for an International Baton Manufacturer on the effectiveness of specific baton designs (hands on course and design consultation). Complete.
- Jun 11, 2013, Consulting Contract with a U.S. Municipality Law Office for injury potential of weapons of opportunity in an Officer Involved Shooting. Resolved.

- Feb 21, 2013, Consulting Contract with Canadian Police Department to perform kinesiology and forensic biomechanical assessment of homicide. Resolved.
- Jan 4, 2013, Consulting Contract with U.S. Law Firm to perform a forensic biomechanical accident reconstruction via mathematical modeling software to determine risk of concussion during zip line incident. Resolved.
- Dec 4, 2012, Case Materials Review request from U.S. Law Firm on an adventure park incident causing closed head injuries. Resolved.
- Dec 3, 2012, Consulting Contract with U.S. Law Firm to perform a vehicle accident reconstruction involving a heavy truck and car resulting in passenger ejection and eventual death. Resolved.
- Nov 26, 2012, Consulting Contract with U.S. Law Firm to perform a forensic biomechanical accident reconstruction involving a recreational sporting event that resulted in spinal fracture. Resolved.
- May 15, 2012, Consulting Contract with U.S. Self-Defense Firm to scientifically validate training methodologies. Firm caters to law enforcement and special warfare operator communities. Complete.
- Apr 5, 2012, Consulting Contract with U.S. Law Firm to perform biomechanical modeling and safety systems assessment of a sports facility accident causing catastrophic injury and eventual death. Resolved.
- Mar 22, 2012, Consulting Contract with International Law Firm to perform a dynamic biomechanical assessment of an event that led to injury. Resolved.
- Jan 25, 2012, Consulting Contract with U.S. Law Firm to perform scientific tests on conducted electrical weapon. Resolved.
- Jul 26, 2011, consulted to Canadian Police Department (Tactical Unit) on use of two-person v. single-person door rams when breaching. Complete.
- Jun 1, 2010, Consulting Contract with U.S. Law Firm to biomechanically investigate a catastrophic neck injury caused by a rebound device. Resolved.
- Dec 23, 2010, consulted to Canadian Police Department regarding forensic biomechanical assessment of a homicide crime scene and related injuries. Resolved.
- Oct 7, 2010, Consulting Contract with Watson St. Pictures to film opinions of self-defense and engineering aspects of knives used as weapons for documentary on Vince Li incident. Documentary entitled “Heart of Ice”. Complete.

Patents and Trademarks

Inventors: **Desmoulin** G. T., and Hunter C. J.; *Title:* Non-Invasive Method of Spinal Intervention and Use of Devices Effective for Spinal Intervention; *International (PCT) Publication #:* WO/2011/145069. Priority Date: 19 May, 2010.

Owner: **Desmoulin** G. T.; *Word Mark:* “GTD” (logo); *Mark Description:* The mark consists of the literal elements “GTD” wherein the letter T is in the shape of Thor’s Hammer as shown in the mark; *Status:* Registered, Date: 7/3/2012 (SN 85230818); *Int’l Class Code:* 042 - Engineering consulting, research and development in the field of biomechanical engineering, injury biomechanics, mechanical engineering, and sports biomechanics.

Owner: **Desmoulin** G. T.; *Word Mark:* “THE SCIENCE OF VIOLENCE”; *Status:* Registered, Date: 02/21/2017 (SN 88885637); *Int’l Class Code(s):* 041 – Educational services and 045 – Litigation support services.

Publications

1. **Desmoulin**, G.T., Nolette, M-A., Milner, T.E. “Image Averaging and Shape Recognition in Forensic Analysis of Video Evidence.” (submitted)
2. **Desmoulin**, G.T., Balazon, L., Cardinal, R., Qian, M., Turko, R., Patel, Y., Milner, T.E. “Two-point Fixation Design for Objective Trajectory Angle Estimation.” (submitted)
3. **Desmoulin**, G.T., Nolette, M-A, Milner, T.E. “SynTissue® as a Surrogate Material for the Human Scalp.” *Forensic Science International: Reports*, 2024, 10, 1-6.
4. **Desmoulin**, G.T., Nolette, M-A, Milner, T.E. “Peak Penetration Force during Stabbing of a Chest Wall with a Ceremonial Sword.” *Current Forensic Science*, DOI: 10.21774/0126664844267345240105094842.
5. **Desmoulin**, G.T., Nolette, M-A, Milner, T.E. “Preventative Measures to Reduce Incidence of Handcuff Neuropathy.” *Journal of Forensic Biomechanics*, 2023, 14 (6), 1-6.
6. **Desmoulin**, G.T., and Milner, T.E. “Workflow for Accurate Injury Reconstruction in Forensic Investigations.” *International Journal of Forensic Engineering and Management*, 2023, 1(3) 304-314.
7. **Desmoulin**, G.T., Hetland, O., Hollins, B.W., Milner, T.E. “Handcuff Pressure and Risk of Superficial Radial Nerve Injury.” *Journal of Forensic Biomechanics*, 2022, 13(6), No: 1000410.
8. Milner, T.E. and **Desmoulin**, G.T. “Modeling Human Movement and Mechanics: Thoracic Cage.” *Canadian Society of Forensic Science*, 2022, 55(2) 1-8.
9. **Desmoulin**, G.T. and Milner, T.E. “Simulated Chainsaw Injury Bone Fracture Data.” *Data in Brief*, 2022, 41, 1-4.
10. **Desmoulin**, G.T., Nolette, M-A., Blake, D. (Entering Publication Schedule) “Multi-Disciplinary Approach to a Use-Of-Force Investigation: Case Study.” *International Journal of Forensic Engineering*.
11. **Desmoulin**, G.T., Nolette, M-A., Bird, K.G. (Entering Publication Schedule) “Puncturing a Castle Defense: Injury Biomechanics Solution to a Homicide Investigation.” *International Journal of Forensic Engineering*.
12. **Desmoulin**, G.T. and Milner, T.E. (Entering Publication Schedule) “Workflow for Accurate Injury Reconstruction in Forensic Investigations.” *International Journal of forensic Engineering*.
13. **Desmoulin**, G.T., Kalkat, M., Milner, T.E. “Forensic Application of inverse and reverse projection photogrammetry to determine subject location and orientation when both camera and subject move relative to the scene.” *Forensic Science International*, 2022, 331, No: 111145.
14. **Desmoulin**, G.T. and Milner, T.E. “Methodology for determining accidental versus intentional injury afflicted by a chainsaw.” *Forensic Science International*, 2021, 328, 110993.

15. **Desmoulin**, G.T., Milner, T.E., Nolette, M-A., Bird, K.G., Cepuš, E. “Injury Biomechanics in Aircraft Crash-Landing Reconstruction.” *International Journal of Forensic Engineering*, 2021, 5(1) 72-86.
16. **Desmoulin** G.T. and Nolette M.A. “Application of Biomechanical Modeling to Police Shooting Reconstruction.” *International Journal of Forensic Engineering*, 2019, 4(3), 169-180.
17. **Desmoulin** G.T. and Nolette M.A. “Body-Worn Cameras: A Useful Tool for Police Incident Reconstruction.” *International Journal of Forensic Engineering*, 2019, 4(3), 226-237.
18. MacIntosh A.R. and **Desmoulin** G.T. “Police Officer Performance and Perception using Light, Medium and Heavy Weight Tactical Batons.” *Applied Ergonomics*, 2019, 75:178-183.
19. **Desmoulin** G.T., Nolette M.A., and Bird K.G. “Contribution of Injury Biomechanics to Traffic Collision Reconstructions: A Case Report.” Accepted 12 Aug, *Forensic Science International: Reports*, 2019. <https://doi.org/10.1016/j.fsir.2019.100022>.
20. **Desmoulin** G.T., Pradham V., Milner T.E. “Mechanical Aspects of Intervertebral Disc Injury and Implications on Biomechanics.” *Spine* 2019, 45(8), E457-E464.
21. **Desmoulin** G.T., Nolette M.A., Bird K.G., Cepus E. “Timing and Mechanism of Seat-Restraint Failure and Anterior Wedge Fracture during an Emergency Landing of a Single Engine General Aviation Aircraft” Submitted, 2019.
22. **Desmoulin** G.T., Nolette M.A., Rabinoff M. “Injury Analysis and Prevention Strategies in Recent Recreational Facilities utilizing Airbags and Foam Pits.” Submitted, 2019.
23. **Desmoulin** G.T. and Nolette M-A. “Novel Tactical Ballistic Shield Technology: A Blast Injury Mitigation Evaluation.” *Advances in Military Technology*, 2018, 13(2): 249-264.
24. **Desmoulin** G.T., Bird K.G., MacIntosh A.R. “The Influence of Energy Attenuating Aircraft Seats on Lumbar Spine Burst Fractures: An Incident Reconstruction.” *International Journal of Forensic Engineering*, 2018, 4(2), 156-168.
25. **Desmoulin** G. T. and Doslikova K. “Event Dynamics and Injury Reconstruction of a Zip-Line Incident using MADYMO Software: a Case Study.” *International Journal of Forensic Engineering*, 2017, 3(3): 181-194.
26. Heaver, L. “Your First Motorcycle: Be Safe, Start Right, and Have Fun.” Forward By Geoffrey Thor **Desmoulin**, PhD. 2017, ISBN 978-1-61961-778-0
27. **Desmoulin** G. T. and Rabinoff M. “Biomechanical Assessment of the Connection between Risk of Galeazzi Fracture and the Dumbbell Chest Press Performed on an Exercise Ball.” *International Journal of Forensic Engineering*, 2015, 2(4): 253-264.
28. **Desmoulin** G. T., Rashid N, Meitz J, Ropchan C, Upadhyaya K, Yan, S.M. “A New Approach to Fracture Simulations: The Electromagnetic Breakable and Reusable Human Lower Limb Model.” *Journal of Forensic Biomechanics*, 2015, 6(2): 1-6.

- 29. Desmoulin G. T., Rabinoff M., Stolz B., Gilbert M.** “A Biomechanical Method for Reconstruction of Tumbling Trampoline- Associated Cervical Spine Injuries using Human and Anthropometric Test Dummy Data.” *Journal of Forensic Biomechanics*, 2014, 5(1): 101-7.
- 30. Desmoulin G. T.** “Elementary Physics for Lawyers: Applications to Complex Injury Litigation.” *Proceedings of Engineering Evidence in Civil Litigation by the Continuing Legal Education Society of British Columbia*, January 2014. Paper 3.1, pp. 3.1.1 to 3.1.11.
- 31. G. T. Desmoulin,** “Tissue Injury and the Effects of Applied Vibration on the Intervertebral Disc.” *Doctor of Philosophy Thesis, Mechanical and Manufacturing Engineering, University of Calgary*, April 2013.
- 32. Desmoulin G. T., Enns-Bray W. S., Hewitt C. R., Hunter C. J.** “Multi-unit sustained vibration loading platform for biological tissues: design, validation, and experimentation.” *Journal of Biomechanics*. 2013, 46(1): 116-21.
- 33. Desmoulin G. T., Larkin T.** “Effectiveness of Slow Rate Practice Techniques.” *White Paper*, 2012.
- 34. Desmoulin G. T., Dionne J. P.** “Blast Mitigation Status of Police Crowd Management Ensembles.” *White Paper*, 2012.
- 35. Desmoulin G. T., Szostek J., Khan A., Hunter C., Bogduk N.** “Spinal Intervention Efficacy on Correcting Cervical Vertebral Axes of Rotation and the Resulting Improvements in Pain, Disability and Psychosocial Measures.” *Journal of Musculoskeletal Pain*. 2012, 20(1): 31-40.
- 36. Lee J. K., Desmoulin G. T., Khan A. H., Park E. J.** “A portable inertial sensing-based spinal motion measurement system for low back pain assessment.” [Research Support, Non-U.S. Gov't]. *Conf Proc IEEE Eng Med Biol Soc*, 2011, 4737-4740.
- 37. Lee J., Desmoulin G. T., Khan A., Park E.** "Comparison of 3D Spinal Motions during Stair-climbing between Individuals With and Without Low Back Pain." *Gait & Posture*. 2011, (34): 222–226.
- 38. Desmoulin G. T., Anderson G. S.** “Method to Investigate Contusion Mechanics in Living Humans.” *Journal of Forensic Biomechanics*. 2011, 2(1): 1-10.
- 39. Desmoulin G. T., Reno C.R., Hunter C.J.** “Disc strain and resulting positive mRNA expression from application of a non-invasive treatment.” *Spine*. 2011, 36(14): E921–E928.
- 40. Desmoulin G. T., Reno C.R., Hunter C.J.** “Free axial vibrations at 0 to 200 Hz positively affect extracellular matrix messenger ribonucleic acid expression in bovine nucleus pulposi.” *Spine*. 2010, 35(15):1437-1444.
- 41. Desmoulin G. T., Dionne J-P.** “Blast-Induced Neurotrauma: Surrogate Use, Loading Mechanisms, and Cellular Responses.” *J Trauma*. 2009, 67(5):1113-1122.
- 42. Hill T.E., Desmoulin G.T., Hunter C.J.** “Is vibration truly an injurious stimulus in the human spine?” *J Biomech*. 2009, 42(16):2631-2635.

43. Hall R. H., **Desmoulin** G. T., Milner T. E. “A Technique for Conditioning and Calibrating Force Sensing Resistors for Repeatable and Reliable Measurement of Compressive Force.” J Biomech. 2008 41:3492-3495.
44. **Desmoulin** G., Khan A. “Spinal mechanisms of chronic pain.” AJPM. 2007 Jan;17(1):27-43.
45. **Desmoulin** G. T., Yasin N. I., Chen D. W. “Spinal mechanisms of pain control.” Clin J Pain. 2007 23(7):576-585.
46. **Desmoulin** G. T., Milner T. E. “Lumbar mechanics from ultrasound imaging.” Can Acoust. 2007 Jun;35(2):61-8.
47. **Desmoulin** G. T., Yasin N. I., Chen D. W. “Initial results using Khan Kinetic Treatment™ as a low back pain treatment option.” J Musculoskel Pain. 2007 15(3):91-102.
48. **Desmoulin** G., Hoffer J. A. “Selective Control of Leg Muscle Activation Patterns and Ankle Forces Using a Multi-Chambered Stimulation Cuff Implanted on the Sciatic Nerve” Int’l Functional Electrical Stimulation Soc., 12th Ann. Conf., Philadelphia, USA, 10-14 Nov 2007. **Vodovnik Student Paper Award Nominee.**
49. G. T. **Desmoulin**, “Lumbar mechanics from ultrasound imaging.” Master of Science Thesis, Simon Fraser University, Fall 2005.
50. Hoffer J. A., Baru M., Bedard S., Calderon E., **Desmoulin** G., Dhawan P., Jenne G., Kerr J., Whittaker M., Zwimpher T. J. “Initial results with fully implanted Neurostep™ FES system for foot drop.” Int’l Functional Electrical Stimulation Soc., 10th Ann. Conf., Montreal, Canada, pp. 53-55, 5-9 July 2005.
51. G. T. **Desmoulin**, “Characterization of Neurocuff™ stimulation using electromyography and 2D forces.” Undergraduate Honors Thesis, Simon Fraser University, October 2002.

Abstracts

- Chao J, Khera R, Kirker J, Langelier K, Nagib H. “Instrumented Drop Tower” 2016-17 Capstone Design Fair, Mechanical Engineering, University of British Columbia, April 18, 2017. Project Sponsor: **GTD Engineering**.
- **Desmoulin** G.T. “Your Life. Our Duty: Assessment of New Blast Eliminating Technology.” Lightweight Tactical Vehicle Summit, Institute for Defense and Government Advancement, Detroit, Michigan, USA, March 16-18, 2015.
- Meitz J, Rashid N, Ropchan C, Upadhyaya K, Yan, S.M. “Breakable and Reusable Human Joint Model and Prototype” 2014 Schulich Capstone Design Fair, Schulich School of Engineering, University of Calgary, April 8, 2014. Project Sponsor: **GTD Engineering**; Sponsor Partner: Target Focus Training Group.
- **Desmoulin** G.T., Hunter J.H., Hewitt R.C., Bogduk N., Al-Ameri O.S. “Novel Intervention Affects Biomechanics and Disc Genes for Long-term Spinal Health.” 8th Interdisciplinary World Congress on Low Back & Pelvic Pain. Dubai, UAE, 27-31 October, 2013.
- Abbasi M.A., **Desmoulin** G.T., Ferrie F.P., Khan A.H. “Semi-automation of mean axis of rotation analysis using computer vision.” Proceedings of the 11th International Symposium,

Computer Methods in Biomechanics and Biomedical Engineering, Salt Lake City, Utah, USA, 3-7 April, 2013.

- **Desmoulin** G.T., Hunter C.J., Hewitt C.R., Bogduk N., Al-Ameri O.S. “Non-invasive Intervention Corrects Biomechanics and Up-Regulates Disc Genes for Long-term Spinal Health.” World Forum on Spine Research – The intervertebral disc, Helsinki, Finland, 18-21 June 2012. *Global Spine J.* 2012; 02 DOI: 10.1055/s-0032-1318607.
- **Desmoulin** G., Yasin N., Chen D. “Initial results using Khan Kinetic Treatment™ as a low back pain treatment option.” The First International Congress of Chinese Orthopaedic Association, (Podium presentation) Beijing, China, 12-15 November 2006.
- **Desmoulin** G., Anderson G. “Contusion mechanics: a minimum tolerance test.” Northwest Biomechanics Symposium, (Abstract) Vancouver, Canada, 12-13 May 2006.
- **Desmoulin** G., Yasin N., Chen D. “Early results using Khan Kinetic Treatment™.” Northwest Biomechanics Symposium, (Poster presentation) Vancouver, Canada, 12-13 May 2006.
- **Desmoulin** G., Lessoway V., Rohling R., Milner T. “Lumbar mechanics from ultrasound imaging.” Northwest Biomechanics Symposium, (Podium presentation) Seattle, U.S.A., 13-14 May 2005.
- **Desmoulin** G., Lessoway V., Rohling R., Milner T. “Lumbar mechanics from ultrasound imaging.” 2005 Injury Biomechanics Symposium, (Poster presentation) Ohio, U.S.A., 20 May 2005.

Acknowledgments

- D. E. Raymond, “Biomechanics of Blunt Ballistic Temporo-Parietal Head Impact.” PhD Thesis, Wayne State University, April 2008.
- R.R. caballes de Guzman, “Nerve regeneration strategies: Delivery of Glial cell-line derived neurotrophic factor from microencapsulated cells and utilization of electrospun basal lamina nanofibers.” PhD Thesis, Wayne State University, April 2008.
- Milner T. E., Dhaliwal S. S. “Activation of intrinsic and extrinsic finger muscles in relation to the fingertip force vector.” *Exp. Brain Res.* 2002 Sep; 146(2): 197-204.
- R. H. Hall, “Design of a Force Sensing Glove for Ergonomic Evaluation.” MSc. Thesis, Simon Fraser University, April 2001.

Invited Speaker

1. Invited Speaker, Government Defence Attorney Working Group, On-line 2024. *Topic: Biomechanics from Video Evidence.*
2. Invited Speaker, SBBL Law, On-line 2023. *Topic: Biomechanical Modeling of Assaults.*
3. Invited Speaker, Daigle Use of Force Summit, Uncastle, CT., 2023. *Topic: Biomechanics from Video Evidence.*
4. Invited Speaker, International Association of Chiefs of Police, Salt Lake City, UT., 2023. *Topic: Biomechanics from Video Evidence.*
5. Invited Speaker, International Law Enforcement Educators & Trainers Association, 2023. *Topic: Biomechanics from Body-Worn Cameras.*
6. Invited Speaker, Forensic Photography Symposium, On-line 2023. *Topic: Image Averaging and Shape Recognition in Forensic Applications.*
7. Invited Speaker, Capilano College Department of Kinesiology, North Vancouver, BC, 2023.

- Topic: Science of Violence®: Biomechanics from Body Worn Cameras.*
8. Invited Speaker, Daigle Use of Force Conference. Uncastle, CT., 2022. *Topic: Science of Violence®: Introduction to Biomechanics.*
 9. Invited Speaker, International Law Enforcement Educators & Trainers Association, 2022. *Topic: Science of Violence®: Handcuff Pressure and Risk of Superficial Radial Nerve Injury.*
 10. Invited Speaker, Romanian Forensic Scientists Association, Bucharest, Romania, 2022. *Topic: Science of Violence®: Modelling Human Motion.*
 11. Invited Speaker, Arizona Homicide Investigators Association, Tuscon, AZ., 2021. *Topic: Science of Violence®: Finding the truth when fingers are pointed.*
 12. Invited Speaker, International Association of Law Enforcement Firearms Instructors, Webinar, 2021. *Topic: Science of Violence®: Using Ballistic Media in Investigations.*
 13. Invited Speaker and Round Table Participant, International Law Enforcement Summit, 2021. *Speaking Topic: Science of Violence®: Using Ballistic Media in Investigations; Round Table Topic: Cross-Disciplinary Thinking for Law Enforcement.*
 14. Invited Speaker, Canadian Forensic Science Society, Webinar, 2021. *Topic: Science of Violence®: Modelling Human Motion.*
 15. Invited Speaker, Association of Force Investigators, Closed Webinar, 2020. *Topic: Science of Violence®: Introduction to Biomechanics.*
 16. Invited Speaker, International Association of Chiefs of Police, Webinar, 2020. *Topic: Science of Violence®: Introduction to Biomechanics.*
 17. Invited Speaker, British Columbia Paralegals Association, Int'l Webinar, 2020. *Topic: Science of Violence®: Technical Aspects of Litigation Involving Acts of Violence.*
 18. Invited Speaker, Maricopa County City Attorney's Office, Webinar, 2020. *Topic: Science of Violence®: Fundamentals of Biomechanics and Injury Causation.*
 19. Invited Speaker, Continuing Legal Education British Columbia Television (CLEBC – TV), Vancouver, BC, 2020. *Topic: Expert Evidence in Accident Cases.*
 20. Invited Speaker, Force Science Institute Pre-Conference Training, Chicago, IL. 2019. *Topic: The Science of Violence®.*
 21. Invited Speaker, Canadian Bar Association, Victoria, BC. 2019. *Topic: Contribution of Injury Biomechanics to Traffic Collision Reconstructions.*
 22. Invited Speaker, Law Firm, Victoria, British Columbia, Canada, 2018. *Topic: Elementary Physics for Lawyers.*
 23. Invited Speaker, United States District Attorney's Office/City Attorney's Office/ Municipal Police Departments Homicide Team, US Municipality, 2017. *Topic: Biomechanical Applications to Complex Injury Litigation and Case Review for Litigation Support.*
 24. Invited Speaker, Military Medicine Summit, Institute for Defence and Government Advancement, Arlington, Virginia, USA, 2015. *Topic: SIM and SAVE – Utilizing MADYMO to Successfully Protect Our Nations Warfighters.*
 25. Invited Speaker, Trial Lawyers Association of British Columbia, Personal Injury Seminar. Prove It!: Building a Credible Argument, Vancouver, British Columbia, Canada, 2015. *Topic: Biomechanical Applications to Complex Injury Litigation.*
 26. Featured Speaker, Lightweight Tactical Vehicle Summit, Institute for Defense and Government Advancement, Detroit, Michigan, USA, 2015. *Topic: Your Life. Our Duty: Assessment of New Blast Eliminating Technology.*
 27. Invited Speaker, Rotary Club of Vancouver, British Columbia, Canada, 2015. *Topic: Forensic Biomechanical Engineering.*
 28. Guest Speaker, 39 Signal Regiment, Canadian Armed Forces, Canadian Forces Base Esquimalt, British Columbia Communicator's Dine In, Union Club of British Columbia 2014. *Topic: Soldier Support – How the Military Shaped my Career.*
 29. Guest Lecturer, Simon Fraser University, School of Engineering Science, Burnaby, Canada,

2014. *Topic: Injury Biomechanics.*
30. Guest Lecturer, Simon Fraser University, Department of Biomedical Physiology and Kinesiology, Burnaby, Canada, 2014. *Topic: Injury Biomechanics.*
 31. Invited Speaker, City of Vancouver Law Department, Vancouver, Canada, 2014. *Topic: Elementary Physics for Lawyers: Application to Complex Injury Litigation.*
 32. Invited Speaker, Continuing Legal Education Society of British Columbia, Vancouver, Canada, 2014. *Topic: Elementary Physics for Lawyers: Applications to Complex Injury Litigation.*
 33. Invited Speaker, Vancouver Police Department, Vancouver, Canada, 2013. *Topic: Applications of Forensic Biomechanical Engineering.*
 34. Invited Speaker, 8th Interdisciplinary World Congress on Low Back & Pelvic Pain. Dubai, UAE, 2013.
 35. Invited Speaker, Kin Week at Simon Fraser University, Burnaby, Canada, 2013. *Topic: Kinesiology then, what now? Role Kinesiology played in my Current Career.*
 36. Invited Speaker, Secret Science Café, Vancouver, Canada, 2013. *Topic: The Science of Violence.*
 37. Invited Speaker, British Columbia Association of Kinesiologists, Annual General Meeting. Vancouver, British Columbia, 2013.
 38. Invited Speaker, American Society of Testing and Materials (ASTM), F24 International Technical Committee on Amusement Rides and Devices. New Orleans, Louisiana, 2013. *Topic: User Centered Design.*
 39. Invited Speaker, American Society of Testing and Materials (ASTM), F24
 40. International Technical Committee on Amusement Rides and Devices. Vancouver, British Columbia, 2012. *Topic: Biomechanics of Spinal Injury.*
 41. Invited Speaker, American Society of Testing and Materials (ASTM), F08 International Technical Committee on Sports Equipment, Playing Surfaces, and Facilities. Atlanta, Georgia, 2012.
 42. Invited Speaker, World Forum on Spine Research – The intervertebral disc, Helsinki, Finland, 2012.
 43. Key Note Speaker, Men’s Expo, Edmonton, Canada, 2012.
 44. Invited Speaker (Lecture Series/Promotional Events), Men’s Expo, Edmonton, Canada, 2012.
 45. Invited Appearance, The Ranch’s Gala Event, Edmonton, Canada, 2012
 46. Invited Speaker, 1922 Royal Westminster Regiment, RCACC, Abbotsford, Canada, 2012.
 47. Invited Charity Appearance, Melrose Gala Event for Calgary Military Family Resource Centre, Calgary, Canada, 2011.
 48. Invited Appearance, Lock and Load Tactical, Las Vegas, USA, 2010.
 49. Invited Charity Appearance, Crown Surplus Stores Inc. for the 4th Annual Seniors and Veterans Food Drive, Calgary, Canada, 2010.
 50. Invited Speaker (Motivation/Information), Simon Fraser University Faculty of Science and School of Engineering, Burnaby, Canada, 2010.
 51. Invited Speaker (Motivation/Career Options), University of British Columbia’s Biomedical Engineering Society, Vancouver, Canada, 2010.
 52. Keynote Speaker, National Instruments (NIweek), Texas, USA, 2009.
 53. Invited Speaker (Lecture Series/Promotional Events), National Instruments (NIweek), Texas, USA, 2009.
 54. Invited Speaker (Lecture Series), Indian Medical Association: Continuing Medical Education for health care professionals specializing in the treatment of the spine, Mumbai, India, 2009.

Invited Scientific Reviewer

- Manuscripts Pending Publication to the *Canadian Society of Forensic Science* Journal.
- Manuscripts Pending Publication to the Journal of *Applied Ergonomics*.
- Manuscripts Pending Publication to the *Journal of Biomechanics*.
- Manuscripts Pending Publication to the *Journal of Biomaterials Applications*.
- Abstracts Pending Publication to the *American Society of Biomechanics*.
- Manuscripts Pending Publication to the *Journal of Musculoskeletal Pain*.
- Manuscripts Pending Publication to the *SPINE Journal*.
- Former Member of Industry *Safety Standards to F08 and F24 ASTM* Committee's.

Awards

- \$145,500 “Industrial Research Assistance Program Award”, National Research Council of Canada.
- \$54,000 in total from “Biotalent” garnered for interns at GTD Scientific Inc.
- \$45,000 “MITACS-Accelerate Program Award”, garnered for interns at Optima Health Solutions Int’nl Corp.
- \$41,973 “Graduate Research Assistant Award”, Wayne State University.
- \$39,000 “Thomas C. Rumble University Graduate Fellowship”, Wayne State University.
- \$22,000 “Worksafe Graduate Research Training Award (MSc.)”, Worker’s Compensation Board of British Columbia.
- \$6,000 “Dean’s Entrance Scholarship”, University of Calgary.
- \$6,000 “School of Kinesiology Graduate Fellowship Award”, Simon Fraser University.
- \$1,100 “Simon Fraser University Open Graduate Scholarship”, Simon Fraser University.
- Canadian Forces Certificate of Appreciation awarded to Geoffrey Thor Desmoulin in recognition of services rendered to the Canadian Cadet Organizations, 19 Jan 2012.
- Donation made in Dr. Geoffrey Thor Desmoulin’s name to the “Fulfilling Our Promise: Eradicate Polio” fund in recognition of services rendered to the Rotary Club of Vancouver, British Columbia, Canada on April 21, 2015.
- “Best Table Topics”, Vancouver Entrepreneurs Toastmasters Club.

Athletic Achievements

- | | |
|------------------------------|--|
| International Athlete | - Represented Canada on the Canadian C.I.S.M. Biathlon Team
- 60th at 1993 Military World Championships
- Gold and Silver Medallist at 1990 Canadian Championships |
| Shodan (Black Belt) | - Awarded rank of Shodan in the art of Isshin Ryu Karate
-Triple Gold Medallist at "Kicks for Kids" Martial Arts Tournament |
| Varsity Rowing | - Represented SFU on the Varsity Rowing Team
- 4 th at 2001 Canadian University Rowing Championships (Men’s Heavy Weight Pair) |
| CrossFit Open | - 2018 Results: Overall Rank of 50 th in Canada West Men (age 45-49) |

Professional Certifications

Injury Biomechanics	<ul style="list-style-type: none"> - Injuries, Anatomy, Biomechanics and Federal Regulation (SAE International) - Short Course: Basics of Blast Physics, Damage and Injury (Dyn-FX Consulting)
Vehicle Collision Investigation	<ul style="list-style-type: none"> - Incident Investigation & Root Cause Analysis Course (System Improvements, Inc.) - Vehicle Accident Reconstruction (Wayne State University)
Occupational Health/Safety	<ul style="list-style-type: none"> - Workplace Hazardous Materials Information System - Construction Occupational Health and Safety - H2S Alive! (Dihydrogen Sulfide Safety Training) - Construction Explosive Actuated Tools - S.F.U. Laboratory Safety Certificate - BCRPA Strength Training Module - Conservation Outdoor Recreation Education (BC Hunter Safety)
Fire & Explosives	<ul style="list-style-type: none"> - Explosives Awareness Course (Bonetti Explosives, Inc.) - Company Officer - Fire Prevention (Fire Protection Systems) - Company Officer - Pre-Emergency Planning - Company Officer - Firefighting Strategy and Tactics - Command - Firefighter - Basic Fire Science
Medical/Rescue	<ul style="list-style-type: none"> - Emergency Medical Response for Trauma Injuries (Spartan Tactical) - Emergency Medical Responder - Occupational First Aid Level III - Basic Trauma Life Support - Semi-automatic External Defibrillator - Cardio-Pulmonary Resuscitation
Vehicle Operation & Design	<ul style="list-style-type: none"> - Class I Drivers License with Airbrake Endorsement - Offering, Handling and Transporting of Dangerous Goods - SAIT/N.A.P.D. Emergency Vehicle Driving - Audi Driving Experience – Vehicle Dynamics - Laminated Glass: Design for Vehicle Door Systems - Class VI (Motorcycle) Driver's License
Regulatory Affairs	<ul style="list-style-type: none"> - Ethics and Ethical Dilemmas (Regulatory Affairs Professionals Society) - Professional Engineering and Geoscience Practice in BC Online Seminar (Engineers & Geoscientists British Columbia)
Firearms & Ballistics	<ul style="list-style-type: none"> - Analysis of Use-of-Force Incidents (Force Science Institute) - Shooting Incident Reconstruction (Wayne State University) - Shooting Incident Reconstruction (Forensic Science Consultants) - Forensics of Firearms, Ballistics, and Explosives (Wayne State University) - Firearms Range Safety Officer

- Canadian Firearms Safety Courses: Non-restricted and restricted (Silvercore Advanced Training Systems)
- Nova/Super Nova Tactical Shotgun Armorer's Course (Benelli, USA)
- Force Options Training (Vancouver Police Department)
- Patrol Based Ballistics Seminar 2014 (Vancouver Police – Force Options Training Unit)
- Long Rifle Course (Adler Tactical)
- Handgun Course (Adler Tactical)
- The Shooter/Fighter Matrix Course (Forward Training Concepts)
- Large Bore Rifle Course (RCACC)
- Basic Military Training Course (The Calgary Highlanders 10th Battalion, C.E.F.)

Leadership

- Leadership Under Fire (Special Operations Training – Group)
- The Challenge (Special Operations Training – Group)
- The Forum (Landmark Worldwide)
- Advanced Course (Landmark Worldwide)
- Communications Course (Landmark Worldwide)
- Coaches Corner: Five Keys to Great Coaching (EGBC)

Defensive Tactics

- Certified Tactical Baton and Restraints Trainer #395 (Armament Systems and Procedures, Inc.)
- SpiderCuff Instructor Certification Course (SpiderCuff, USA)
- The 8 Skills of Defensive Tactics and Awareness in Combat Certification Course (Jeet Kune Do Athletic Assoc.)
- Target Focused Training Seminar (Vancouver Police Dept.)
- StreetSense Inc. – Basic Self Defense Course/Advanced Self Defense Course/Padded Assailant Course (Calgary)
- Israeli Martial Arts – Krav Maga Seminar (Tactix Gym, Vancouver)
- 2yrs Russian Martial Arts – Systema (Calgary RMA School)
- Black Belt: Isshin Ryu Karate (Martin's Isshin Ryu Karate Dojo)

Forensic 3D Visualization

- Cloud Compare Course (ai2-3D)
- Shooting Scene Documentation (ai2-3D)
- Photogrammetry 4 Forensics (ai2-3D)
- Reverse Projection: Camera Match Overlay (iNPUT-ACE)
- Introduction to iNPUT-ACE (iNPUT-ACE)
- Case Management (iNPUT-ACE)
- iA Operator (iNPUT-ACE)
- In-Depth Examination of Video Analysis Processes (LEVA)
- PhotoModeler for Collision Investigation (PhotoModeller Tech.)

Signal Communications

- Basic Amateur Radio Qualification Course (VECTOR)
- Basic Amateur Radio Operator Certificate with Honors (ISDE)
- Call sign: VE7 ZGD

Persons Directed (Alphabetical Order)

<u>Name (Last, First)</u>	<u>Qualifications</u>	<u>Role</u>
Abbasi, Mayar	MSc. – <i>Computer Engineering</i>	R&D Engineer
Alberich, Cathy	BSc. – <i>Communication</i>	Office Manager
Bao, Yinan	MSc. – <i>Mechanical Engineering</i>	3D Visualization
Bird, Kevin	BASc. – <i>Materials Science</i>	R&D Engineer
Cheng, Veronica	LL.B. – <i>Bachelor of Laws</i>	Bus. Development
Clark, Michio	PhD. – <i>Biomechanical Engineering</i>	R&D Engineer
Craig, Andrea	Diploma – <i>Human Resources</i>	Office Manager
Doslikova, Katerina	PhD. – <i>Physiotherapy</i>	R&D Associate
Eslamdoust, Sarah	Diploma – <i>Digital Marketing</i>	Marketing
Enns-Bray, William	PhD. – <i>Mechanical Engineering</i>	R&D Engineer
Fennell, Carly	MSc. – <i>Mechanical Engineering</i>	R&D Engineer
Gilmore, Kevin	MSc. – <i>Biomedical Engineering</i>	3D Visualization
Granados, Karra	Diploma – <i>Paralegal</i>	Paralegal/Manager
Harvey, Dallas	Diploma – <i>Special Effects</i>	Prop Designer
Hernandez, Sebastian	BASc. – <i>Integrated Engineering</i>	R&D Engineer
Hetland, Olivia	BASc. – <i>Coop Student</i>	R&D Assistant
Hollins, Benjamin	Sergeant – <i>Law Enforcement</i>	Law Enfor. Advisor
Holloway, Isemay	Diploma – <i>Office Management</i>	Executive Assistant
Hristov, Petar	BASc. – <i>Integrated Engineering</i>	R&D Engineer
Jiane, Shu	Diploma – <i>Business Management</i>	Course Director
Johnson, Taylor	BSc. – <i>Biology</i>	Internship
Kalkat, Manraj	BASc. – <i>Systems Engineering</i>	R&d Engineer
Kapeliotis, Markos	PhD. – <i>Mechanical Engineering</i>	R&D Engineer
Kassaian, Amir	MSc. – <i>Electrical Engineering</i>	R&D Engineer
Leeck, Leanne	B.Arts. – <i>Sociology</i>	Executive Assistant
Lim, Gerald	PhD. – <i>Physics</i>	Scientist
MacBreheny, Michaila	Diploma – <i>Office Management</i>	Executive Assistant
MacIntosh, Alex	PhD. – <i>Biomechanical Engineering</i>	R&D Engineer
Manousiadis, Alex	BASc. – <i>Biomedical Engineering</i>	R&D Engineer
Meitz, Jason	BASc. – <i>Mechanical Engineering</i>	R&D Engineer
Milner, Theodore	PhD. – <i>Physics</i>	Senior Scientist
Moronell, Mark	BASc/MD – <i>Engineer/Cardiologist</i>	Physician
Nolette, Mark-André	MSc. – <i>Biomedical Engineering</i>	R&D Engineer
O'Brien, David	Diploma – <i>Graphical Simulations</i>	Graphic Artist
Pierce, Hillary	BSc./CPPM. – <i>BioEngineering</i>	Office Manager
Pradhan, Vikram	MSc. – <i>Biomedical Engineering</i>	R&D Engineer
Pratico, Anthony	BASc. – <i>Computer Science</i>	Designer
Prokop, Timothy	BFA – <i>Visual Arts</i>	Executive Producer
Rashid, Nafee	BASc. – <i>Mechanical Engineering</i>	R&D Engineer
Ropchan, Colin	BASc. – <i>Mechanical Engineering</i>	R&D Engineer
Rosen, Jonathan	PhD. – <i>Physics</i>	Scientist
Sagastume, Matt	Diploma – <i>Business and Marketing</i>	Marketing
Salman, Nour	Diploma – <i>Paralegal</i>	Paralegal/Manager
Sisson, Carleigh	Diploma – <i>Digital Marketing</i>	Marketing
Sitoley, Aditi	BASc. – <i>Coop Student</i>	R&D Assistant
Stevens, Christina	Diploma – <i>Mathematics and Design</i>	Operations Lead
Taylor, Catherine	BASc. – <i>Kinesiology</i>	R&D Kinesiologist
Tran, Bao	BASc. – <i>Mechanical Engineering</i>	R&D Engineer

Untaroiu, Costin	PhD. – <i>Mechanical Engineering</i>	Senior Scientist
Upadhyaya, Kunj	BASc. – <i>Mechanical Engineering</i>	R&D Engineer
van Mourik, Stefan	Diploma – <i>Videography and Editing</i>	Editor
Wang, Yi Fan	BASc. – <i>Mechatronic Systems</i>	R&D Engineer
Woering, Michel	PhD. – <i>Biomechanical Modelling</i>	R&D Engineer
Woods, Kathleen	Diploma – <i>Paralegal</i>	Paralegal/Manager
Yan, Sam	BASc. – <i>Mechanical Engineering</i>	R&D Engineer

Continuing Education

Full Courses

<u>Subject</u>	<u>Institute</u>
Vibrations and Machine Dynamics	University of Calgary
Crime Scene Investigation	British Columbia Institute of Technology
Statics and Dynamics	University of the Fraser Valley
Forensic Bioengineering	Wayne State University
Forensic Photography	British Columbia Institute of Technology

Seminars

<u>Subject</u>	<u>Institute</u>
Forensic Engineering	National Academy of Forensic Engineers
Police Use-of-Force	The Force Science Institute (2 nd Annual Conference)
Q&A w/ Hillary Rodham Clinton	The Vancouver Board of Trade (Women's Leadership Circle)
Apollo 13: The Successful Failure	Dr. Jim O'Neal former Flight Dynamics Officer (FIDO) for the Apollo Missions
Center Director Tour	National Aeronautical and Space Administration's Johnson Space Center
Engineering Evidence in Civil Litigation	Continuing Legal Education Society of BC
Automobile Driver Assist Technologies	Society of Automotive Engineers
Documentation Photography	Langara College
Car Crashes and Forensic Engineering	American Society of Mechanical Engineers
Mechanism of Concussion in Sports	American Society of Testing and Materials
Concussion in Youth Sports	Center for Disease Control
Concussion for Physicians	Center for Disease Control
Functional Assessment of the Spine	British Columbia Ass'n of Kinesiologists
Functional Assessment of the Extremities	British Columbia Ass'n of Kinesiologists
Business Communication for Leaders	Vancouver Community College
Landmark Forum in Action Series	Landmark Worldwide
Take the Money and Run: Business Plan	Futurpreneur Canada
Managing Your Focus	MindBridge Partners
Motorcycle Maintenance Course	Essential Motorcycle Services
Introduction to InputACE	InputACE

Professional Memberships

- Order of the Engineer (Ohio)

- Canadian Kinesiologists Alliance
- Lifetime Honorary Member of the Officer's Mess (1922 RWR, RCACC)

Selected News Articles

- The Press (British Columbia Paralegals Association) "1+1>2: Simulating Occupant Dynamics in a Vehicle Crash." Summer 2024.
- Blue Line Magazine (Canada's Law Enforcement Magazine) "Prone Restraint and Positional Asphyxia in Custody Deaths." Summer 2024.
- KHQ Now – "Defense Witness Suggests Suicide in Former ISP Trooper's Wife's Death." Spring 2024.
- Force Science News – "The Dangers of After-Market Police Accessories: How Can You Avoid Them?" Fall 2023.
- Blue Line Magazine (Canada's Law Enforcement Magazine) "The Dangers of After-Market Police Accessories." Summer 2023.
- Calgary Herald Newspaper - "Pork Ribs Used to Simulate Human Chest to Determine Force Needed for Fatal Sword Attack." Spring 2023.
- The Press (British Columbia Paralegals Association) – "Catching Bullets is Easier Than You Think." Winter 2023.
- The Verdict (Trial Lawyers Association of British Columbia) - "The Rapsheet on Restraints." Fall 2022.
- Blue Line Magazine (Canada's Law Enforcement Magazine) – "The Shape of Intention." Fall 2022.
- The Press (British Columbia Paralegals Association) – "Digital Playground for Investigators." Fall 2022.
- The Verdict (Trial Lawyers Association of British Columbia) - "Process for Accurate Injury Reconstruction in Forensic Investigations." Issue 169, summer 2021.
- The Press (British Columbia Paralegals Association) – "One Test is Worth a Thousand Expert Opinions"; Summer 2021.
- Newsletter (International Law Enforcement Educators and Trainers Association) – "Puncturing a Castle Defense: a cold case, a confession and a defense." April 2021.
- The Press (British Columbia Paralegals Association) – "Proving (or Disproving) Use-of-Force Narratives"; spring 2020.
- Force Science News – "Magnitude and Duration: How Science Measures Use of Force from BodyCam Video"; 30 Jan, 2020. Republished by Lexipol.com on 4 March, 2020.
- Force Science News – "Computer Simulations and Use of Force Investigations"; 26 Nov, 2020. Republished by Lexipol.com on 27 Dec, 2020.
- AdvocateDaily.com (Toronto, Ontario) – "GTD Scientific predicts human injury in any environment"; posted, fall 2019.
- The Drs – "GTD Scientific helps the Doctors Investigate: Are You a Dangerous Driver?" Aired Oct 4, 2018.
- Bloomberg.com (North America) – "Wiiivv's Custom 3-D Printed Shoes Rely On Medical-Quality Scans"; posted, spring 2018.
- BC Soldier Magazine (National Defense, Ottawa) – "The Science Behind the Service"; Fall 2017 Edition 18, pp. 8-9.
- The COSTCO Connection Magazine (COSTCO Headquarters, Ottawa) – "The Merits of Mentoring"; Sept/Oct 2017 5(30), pp. 17-18.

- Simon Fraser University (Burnaby) – “Promotional Video for Co-operative Education”; posted, spring 2016.
- GlobeNewsWire.com (North America) – “Wiivv’s Custom 3-D Printed Insoles Now Live On Kickstarter; Body-Perfect Gear for Everyone to Begin Shipping Days After Campaign Closes”; posted, spring 2016.
- E-learners.com a subsidiary of Education Dynamics LLC (New Jersey) “Interview with Geoff Desmoulin, President and Senior Engineer at GTD Engineering:- Forensic Theories and Criminal Cases” Spring, 2015.
- The Leduc Rep (Alberta) – “What are Concussions & What Should You Do If You Get One?” Fall, 2014.
- Natural News – Natural Health News and Scientific Discoveries (New York) – “Vets exposed to bomb blasts may have brain injury and not know it.” March, 2014.
- MODERNMAN.com (California) – “Injury Biomechanics Perspective on the Headbutt Technique”; Aug, 2013.
- MO.com (Missouri) – “GTD Engineering featured on MO.com”; May 15, 2013.
- Scholastic Scope Classroom Magazine (New York) – “Could He Really Survive This Explosion? (No.)”; May 6, 2013.
- Skepticity – blog, website, magazine and podcast (California) – “Examining Extraordinary Claims and Promoting Science”; March 28, 2013.
- Simon Fraser University (Burnaby) – “Promotional Video for Department of Biomedical Physiology and Kinesiology”; posted, early 2013.
- Bruce Hurwitz Presents (New York) – “PhD Forum: How to Cope with Chronic Pain”; Oct. 28, 2012.
- Abbotsford News Paper (Abbotsford) – News Article; Jan. 18, 2012.
- Design News Magazine (Massachusetts) – “Science Grabs Spotlight in Deadliest Warrior”; Aug. 10, 2011.
- Design News Magazine (Massachusetts) – Cover Page Article; Oct. 10, 2010.
- Canadian Occupational Safety Magazine (Ontario) – Ergonomics Article; Sept. 3, 2010.
- ESPN 1050AM Radio (New York) – Geek Stuff Unlimited; July 30, 2010.
- University of Calgary (Calgary)– Research News Article; July 7, 2010.
- CNN.com (U.S.A.) – “Technology meets ultraviolence...” Article; April 27, 2010.
- Toro Magazine (Toronto) – Radar Article; April 28, 2009.
- Metro News (Vancouver) – Feature Article; March 24, 2010.
- ASME Mechanical Engineering Magazine (New York) – Feature Article; March, 2010.