

LUIS HENRY GONZALEZ TORRES

Full proficiency in **English, French, and Spanish**, both written and spoken.

EDUCATION AND HONOURS

- Doctor of Medicine, M.D., C.M., Montreal** **2021 – Present**
McGill University, Faculty of Medicine and Health Sciences
- Nominations for Outstanding professionalism and Empathy during Clerkship
- Honours Bachelor of Health Science, B. Sc., Ottawa** **2018 – 2021**
University of Ottawa, Faculty of Health Sciences
- GPA 9.72/10
 - SUMMA CUM LAUDE & Dean's Honour List

SCHOLARSHIPS AND GRANTS

- NIIC Scholarship Program (SIIM and RSNA)** **2024**
- Awarded to attend the National Imaging Informatics Course (NIIC), a full-time week-long course on the fundamentals of medical imaging informatics.
- Clarke McLeod Scholarship - Anatomy Prosection Award (McGill)** **2023**
- Recognized for excellence in anatomy courses, selected to dissect and prepare specimens to expand and improve McGill's Strathcona Human Anatomy Laboratory collection.
- Undergraduate Student Research Awards (NSERC)** **2020**
- Awarded funding to conduct research at uOttawa in robotics, computer science, and medicine, developing a mathematical kinematic model of a C-Arm and operating table.
- Merit Scholarship (uOttawa)** **2018 – 2021**
- Recognized for academic excellence and outstanding GPA.
- College Research Award (Fonds de recherche du Québec - Nature et technologies)** **2020**
- Awarded to develop innovative technologies for decontaminating wastewater and conduct analysis on the impact of mining effluents on the boreal forest.

RESEARCH ACTIVITY

Research Projects

- First author, Interventional Radiology Research** **09/2024 – Present**
Supervisor: Dr. Louis Martin Boucher, Department of Radiology, McGill University, Montreal, QC
- Conducting a systematic review to evaluate the outcomes of transarterial chemoembolization (TACE) and radioembolization (TARE) in the treatment of colorectal cancer metastases to the liver. [Literature Screening Phase]
- Co-author, Educational Quality Improvement** **07/2024 – Present**
Supervisor: Dr. Joseph Rudy Dadour, Département de radiologie, Université de Montréal, QC
- Conducted a literature review and co-authored a scientific article on developing and implementing educational modules for teaching protocoling in the radiology residency program of Université de Montréal [Manuscript currently under review at *Academic Radiology*]
- Co-author/intern, AI Driven Vascular Imaging Reconstruction, SONARO AI** **10/2023 – Present**
Supervisor: Dr. Kashif Khan, Faculty of Medicine, McGill University, Montreal, QC
- Building a U-Net artificial intelligence model for 3D reconstructions of carotid vascular structures from 2D ultrasound images to better predict the risk of thromboembolic events. [Manuscript Writing Phase]

Research assistant, Centre for Respiratory Research

03/2023 – Present

Supervisor: Dr. Ronald Dandurand, Division of Respiriology, McGill University, Montreal, QC

- Contribute to the literature review, data collection and analysis for several ongoing research projects, including: “*Transforming asthma management: Advancing towards precision care with spectral and intra-breath oscillometry*”, “*Automated measurement of the 3D main pulmonary artery to ascending aorta (PA:A) ratio and its association with COPD exacerbation: A real-world study*”, “*Characterizing COPD using genotyping, spirometry, respiratory oscillometry, quantitative computed tomography, and patient-reported outcomes*”.
- Performed computational analysis of various radiomics for thoracic CT scans acquired in the community setting. [Ongoing work on new radiomics]
- Utilized TotalSegmentator, 3D Slicer.org, Python, R, OsiriX MD, and MATLAB; gained proficiency in handling DICOM/NIfTI files and programming for medical image analysis.

First author, NSERC and Honours thesis Research in computational medicine

03/2020 – 05/2021

Supervisor: Dr. Pascal Fallavollita, Faculty of Health Sciences, University of Ottawa, ON

- Applied machine learning to operating room data (patient demographic, anesthesia used, etc..) to optimize and enhance orthopedic surgery efficiency, using TensorFlow and Scikit-Learn in Python.
- Developed a mathematical model for a 6 degrees of freedom (DOF) mobile C-arm and a 4-DOF operating table as an integrated kinematic chain to support research in computer-assisted interventions. Code available at DOI: [10.5281/zenodo.13293120](https://doi.org/10.5281/zenodo.13293120)

Publications/ Posters / Conference

1. Boustros, P., **Gonzalez Torres, L.H.**, Fortin, F., Trop, I., Dadour, J.R. (2024). **Teaching CT Protocol to the PGY-2 Radiology Resident: the Development, Implementation, and Evaluation of a Four-Activity Learning Program.** *Academic Radiology* [Submitted, pending review]
2. Todorova, Z., Savadjev, P., **Gonzalez Torres, L. H.**, & Dandurand, R. J. (2025, April) **CT scan-derived mean curvature of isophotes (MCI) for the detection of alpha-1 antitrypsin deficiency (AATD)-related emphysema.** 17th Canadian Respiratory Conference, Quebec City [Submitted, pending review]
3. Gasbarrino, K., [...], **Gonzalez Torres, L. H.**, Levasseur, S., [...] & Khan, K. (2024, June) **A novel approach in vascular imaging: 3D reconstruction from 2D ultrasound via advanced deep learning techniques.** [Oral presentation] INOVAIT Image-Guided Therapy Symposium 2024, Montreal, QC
4. **Gonzalez Torres, L. H.**, Biem, H. J., McInnis, M., Aris, F., [...], San Jose Estepar, R., & Dandurand, R. J. (2024) **Reproducibility of automated and manual determination of the pulmonary artery to aorta ratio (PA:A) of ‘real-world’ CT scans.** *European Respiratory Journal*. 64 (68), PA1657. <https://doi.org/10.1183/13993003.congress-2024.PA1657>
5. **Gonzalez Torres, L. H.**, Biem, H. J., McInnis, M., Aris, F., [...], San Jose Estepar, R., & Dandurand, R. J. (2024, September) **Reproducibility of automated and manual determination of the pulmonary artery to aorta ratio (PA:A) of ‘real-world’ CT scans.** [Poster presentation]. 2024 European Respiratory Society Congress, Vienna, Austria.
6. Pang, R., **Gonzalez Torres, L. H.**, [...], & Dandurand, R. J. (2024) **Characterizing chronic obstructive pulmonary disease using alpha-1 antitrypsin genotype, spirometry, and respiratory oscillometry.** *American Journal of Respiratory and Critical Care Medicine*. (209), A:4531. https://doi.org/10.1164/ajrccm-conference.2024.209.1_meetingabstracts.a4531
7. Fotovati, M., Medina, P. F., Pang, R., **Gonzalez Torres, L. H.**, [...], & Dandurand, R. J. (2024). **Transforming asthma management: Advancing towards precision care with spectral and intra-breath oscillometry.** *American Journal of Respiratory and Critical Care Medicine*. (209), A:2773. https://doi.org/10.1164/ajrccm-conference.2024.209.1_meetingabstracts.a2773
8. **Gonzalez Torres, L. H.**, Al Zoubi, F., & Pascal, F. (2021, March) **Machine learning-derived guidelines for operating room efficiency** [Poster presentation] 2021 Research Day, University of Ottawa, ON

LEADERSHIP & TEACHING EXPERIENCE

- Tutorial Creator, Educational Medical Data Processing** **2024 – Present**
Medical Image Computing and Computer Assisted Intervention Society (MICCAI)
 - Wrote tutorials available on GitHub, introducing coding and medical image processing in Python code through easy-to-follow notebooks.
- Undergraduate Anatomy Teaching Assistant** **2023 – Present**
Anatomy and Cell Biology Department, McGill University, Montreal, QC
 - Taught in Anatomy Laboratories for pre-clerkship medical student and nursing student courses (NUR 235, 338 & 534), 5 sessions/year, 30-40 students.
- Class Representative, McGill Radiology Interest Group (MRIG)** **2023 – Present**
McGill Medical Student Association, McGill University, Montreal, QC
 - Created a workshop titled “*Build Your Own Pneumonia Chest X-ray Detection AI,*” introducing 10 medical students to core concepts of artificial intelligence and machine learning in medical imaging during a hands-on project & pizza social event.
 - Facilitate communication for various events within our cohort and with interprovincial university radiology interest groups, promoting radiology among medical students through a series of educational events.
- Vice-President, McGill Ultrasound Interest Group (MUSIG)** **2023 – Present**
McGill Medical Student Association, McGill University, Montreal, QC
 - Organize the *Sono Cup*, an inter-university "Ultrasound Olympics" with diverse games and challenges designed to enhance medical students' ultrasound skills and foster collegiality through friendly competition.
- CV Reviewer & Interviewer, Medicine Admission Committee** **2023 – Present**
Faculty of Medicine and Health Sciences, McGill University, Montreal, QC
 - Review medical school applicants' CVs and conduct candidate interviews, evaluating academic potential, personal qualities, and alignment with our program's values.
- Co-Organizer, Montreal Oscillometry Summer Seminar** **2023 – 2024**
McGill University Health Center, Montreal, QC
 - Organized the 7th and 8th Montreal Oscillometry Seminars, coordinating venue logistics, audiovisual setup, and catering to create a seamless experience for > 100 attendees.

MENTORING & COMMUNITY ENGAGEMENT

- Coordinator, Academic Immersion in Healthcare (AIH)** **2022 – Present**
McGill University, Montreal, QC
 - Organize and lead suturing and ultrasound workshops for high school students, 4x/year with 30 students per class, to foster early interest in healthcare careers.
- Medical Student Mentor** **2022 – Present**
Ambassadors for Comprehensive Education (ACE) Program, McGill University, Montreal, QC
 - Through the ACE buddy program, mentored 1st & 2nd-year medical students, hosted review sessions and exam preparation, provided study strategies, advised on work-life balance, offering guidance and emotional support through medical school.

Pre-Med Student Mentor **2022 – 2024**

McGill Mentorships in Healthcare, McGill University, Montreal, QC

- Provided guidance to BIPOC and underrepresented MD applicants interested in healthcare, guiding them on post-secondary pathways, careers in medicine, & shadowing opportunities.

Assistant Technical Director & Soccer Coach **2016 – 2022**

Club de soccer Boréal de Rouyn-Noranda, QC

- Managed scheduling logistics for training grounds and supervise sessions for youth players aged 8 to 16, focusing on skill development, enjoyment, and safety.
- Head and Assistant Coach for U8 to U16 competitive teams, led practices and strength training 3x/week. Built on tactical skills, teamwork, and strong community belonging through volunteering with the local food bank and thrift store.

WORK EXPERIENCE

Watercourse and Land Use Planning Technician **2019**

City of Rouyn-Noranda, QC

- Oversaw the Quebec Lake Monitoring Program, conducted field surveys, enforced municipal bylaws on wetlands and water bodies, and contributed to updating the municipal watercourse management regulations.
- Managed inspection and maintenance logistics for the La Route Verte bike pathway within the municipality's territory.

Environmental Technician **2018**

Quebec Ministry of the Environment, Wildlife and Parks

- Led the summer pesticide control program, ensuring compliance with the Quebec Pesticides Act in the Abitibi-Témiscamingue region, drafting reports and noncompliance statements, and oversaw proper pesticide storage and handling.

CERTIFICATIONS & PROFESSIONAL DEVELOPMENT

Trainee: Independent Practitioner (IP) PoCUS , Canadian Point of Care Ultrasound Society	In Progress
Trainee: CS50x - Introduction to Computer Science , Harvard University	2024
Trainee: Imaging AI Certificate Program , Radiological Society of North America (RSNA)	2024
Trainee: National Imaging Informatics Course , Society for Imaging Informatics in Medicine & RSNA	2024
Certificate: Basic Life Support , Heart and Stroke Foundation	2024
Certificate: Standard First Aid Level-C CPR & AED (Intermediate) , St. John Ambulance	2023
Certificate: TCPS 2, CORE-2019 (Course on Research Ethics) , Canada Panel on Research Ethics	2019
Attendee: 2024 Virtual Radiology Radiopaedia Conference	2024
Attendee: CAR 2023 & 2024 Conferences , Montreal, QC	2023, 2024
Member: Medical Image Computing and Computer-assisted Intervention Society	2024 – Present
Member: Canadian Association for Interventional Radiology	2023 – Present
Member: Radiological Society of North America	2023 – Present
Member: Canadian Association of Radiologists	2022 – Present