

Non-destructive Testing Laboratory (NDT)

Location

E3 2140

Management

Director:

- Giovanni Cascante (gcascante@uwaterloo.ca; x32098)

Tour operator:

- Giovanni Cascante; his students

Users

- PHD
- Graduate students in NDT or NDT related course (engineering)
- Industry Contracts
 - Hydro One
 - Ministry of Transportation (MTO)
 - Golder Associates
 - Thurber Engineering Ltd
 - GeostudiAstier S.R.L
 - Ontario Concrete Pipe Association
 - University Network of Excellence in Nuclear Engineering (UNENE)

Research

- Dynamic characterization of soil for in-situ measurement of damping using surface waves
- A novel non-destructive method, based on ultrasonic waves, for condition assessment of utility wood poles
- The effect of frequency loading on Dynamic property of geo materials
- NDT applications in Condition Assessment of Concrete Elements Using Ultrasonic Surface Waves
- NDT for condition assessment of joints, steel thickness evaluation, and void detection in grouts
- Applications of NDT in Civil Engineering
- NDT evaluation of asphalt pavement joint using LWD and MASW tests

Selected Projects

- Study of the effect of lateral inhomogeneities on the propagation of Rayleigh waves in an elastic medium
- Condition assessment of construction joints in asphalt pavements and for the void detection in grout

Equipment

- Laser Vibrometer
- Binder Element
- Resonant Column
- Ultrasonic Transducer

- Tomographic Imaging
- Advance Finite Element and Finite Difference Computer Software

Supporting Partners

- University of Waterloo
- WISE
- NSERC - Discovery
- NSERC - Collaborative Research & Development
- NSERC - Research Tools & Instruments Grants Program
- OCE
- CFI
- Industry Contracts

Access Rights

- Open to NDT members and Graduate students in the related studies
 - Free
- Open to industry for a fee
 - Usually perform service for them
 - Hourly fee + 20% of the hourly fee for the use of the lab + technician wage
- Training for Students
 - Equipment is easy to use
- Process
 - Contact lab director about project details (at least 2 months before hand)