# Non-destructive Testing Laboratory (NDT)

## Location

E3 2140

## Management

Director:

* Giovanni Cascante ([gcascante@uwaterloo.ca](mailto: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)