Below are links to related papers, books and dissertations where you can read more of the details for things that are of interest to you. We’ve included LinkedIn links in each project so you can get a better idea of the career progressions of our students, something that we’re very proud of.

- **Machine learning for cognitive radio and 5G wireless.** (Margaret Rooney)

- **Lamb wave detection of oil under Arctic ice floes.** (Elizabeth S. Simons, Spencer Kirn)
  - Geo-Referencing Identification (GRID) system for the tagging and tracking of assets from storage through deployment for emergency response, (with B. Schreib et al.) final technical report for DOI/BSEE #E14PC00027, 2015.
  - Tagging of Oil under Ice for Future Recovery (with B. Schreib et al.) final technical report for DOI/BSEE #E14PC00028, 2016.
  - Equip GRID and GRIDSAT Tags with Accelerometers to Measure Ocean Waves (with B. Schreib et al.) final technical report for DOI/BSEE #E16PC00015, 2017.

- **Smart container tracking with infrared catadioptric imaging.** (Victor Trujillo II)
- **Tweetstorm tracking using topic modeling and wavelet fingerprints.** *(Spencer Kirn)*

  - Eric Dieckman, Use of pattern classification algorithms to interpret passive and active data streams from a walking-speed robotic sensor platform, William and Mary, Department of Applied Science Doctoral Dissertation, October 2013.
Automated classification of oncoming ground vehicles using acoustic echolocation and supervised machine learning (with Eric Dieckman) ASA Spring Meeting, Providence, 7 May 2014.

**Helical Ultrasound Tomography: HUT.** (Kevin Leonard, Kevin Rudd, Eugene Malyarenko)

- Ultrasonic Lamb Wave Tomography (with K Leonard and E. Malyarenko) Inverse Problems Special NDE Issue, 18, #6, 1795-1808 (2002).
- **High-performance computing for IVHM.** *(Jill Bingham)*

- **Intelligent feature downselection in machine learning for NDE.** *(Corey Miller, Cara C.A. Leckey)*
• Corey Miller, Intelligent Feature Selection Techniques for Pattern Classification of Time-Domain Signals, William and Mary, Department of Applied Science Doctoral Dissertation, Feb 2013.


• Artificial Intelligence in NDT, AWS 9th Shipbuilding Conference, Virginia Beach, 7 April 15.

• **Automatic detection of flaws in digitized recorded music.** (Ryan Laney, Jonathan Stevens)
  

• **UltraSonographic periodontal probe.** (Ted Lynch, Crystal B. Acosta, James Hou)
  


  • James Hou, Ultrasonic Signal Detection and Characterization Using Dynamic Wavelet Fingerprints, William and Mary, Department of Applied Science Doctoral Dissertation, April 2004


- **Sonic Nets: Benign bird deterrence.** (Elizabeth S. Simons)
  - Ghazi Mahjoub, Effectiveness of the "sonic net" at displacing European Starlings from food patches in an outdoor aviary, Department of Biology Masters Thesis, April 2014.

- **Wave characterization module for oil spill recovery.** (Elizabeth S. Simons, Margaret Rooney)
- **Roof fall warning system for coal mines.** (Crystal B. Acosta, Jonathan Stevens)

- **Automatic detection of delaminations in microchips.** (Jonathan Stevens, Eric A. Dieckman)

- **Thermographic evaluation of FeAl green sheet.** (Mike Watkins)

- **Non-linear Acoustic Concealed Weapons Detection.** (Kevin Rudd)

- **Wavelet fingerprint analysis of time-domain reflectometry signals.** (Kevin Leonard)
• **Sphere scattering applied to heart surgery and biofuels.** (Alison Pouch, [Ted Lynch](#), [Cara Leckey](#))

• **Ultrasonic detection of cracks in teeth.** ([Crystal B. Acosta](#))

Feel free to contact me or any of our current and former students with questions about our research projects and/or the PhD program in Applied Science. These conversations are usually the first step in defining programs of study that best suit your professional goals. My contact information is:

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We generally encourage prospective students to visit campus and meet with faculty members and students. For information regarding a campus visit, please [contact our Graduate Program Coordinator](#).