LINCOLN LABORATORY
MASSACHUSETTS INSTITUTE OF TECHNOLOGY

Technology in Support of National Security

august**2023**

August Newsletter from the Technology Ventures Office at MIT LL

Latest Tech/Capabilities

A Laboratory project called QuakeCast uses machine learning to monitor the Earth's ionosphere for electron activity that may precede an earthquake. Learn more!

Latest in Issued Patents

- **QUANTUM MEASUREMENT EMULATION ERROR MITIGATION PROTOCOL FOR QUANTUM COMPUTING** *Systems and methods for performing open-loop quantum error mitigation using quantum measurement emulations.*
- **COMPACT COMPUTATIONAL SPECTROMETER USING SOLID WEDGED LOW FINESSE ETALON** *A two-layer hybrid solid wedged etalon was fabricated and combined with a traditional imager to make a compact computational spectrometer.*

CONGRATUATIONS!

MIT Lincoln Laboratory wins five R&D 100 Awards

ANALYTICAL/TEST

- **Noncontact Laser Ultrasound (NCLUS) for Medical Imaging**
  A laser-based ultrasound system provides images of interior body features.
  NCLUS is also a **silver medalist** in a special category recognizing market-disrupting products.

IT/ELECTRICAL

- **Scalable photonic Quantum memory module**
  A memory module that is the first to combine all the capabilities required for networking together quantum systems.
- **Joint Communication Architecture for Unmanned Systems (JCAUS) Security/Cyber Module End Cryptographic Unit**
  A compact device to secure the tactical datalinks of unmanned systems processing sensitive information.

SOFTWARE/SERVICES

- **Puckboard**
  A web-based software application for scheduling pilots and loadmasters to mission and training flights.

Learn more!

Newsletter Highlights

RECENT NEWS

MIT LL and AFRL researchers are recognized for their paper describing a cyber-resilient flight software for space vehicles Read more!

SAVE THE DATE

13–16 November

MIT LL's 5th Annual RAAINS* Workshop: Reflections and Futures

See Page 2 for details!

RAAINS: **Recent **A**dvances in **AI** for **N**ational **S**ecurity*

MIT Lincoln Laboratory turned 72 last month!

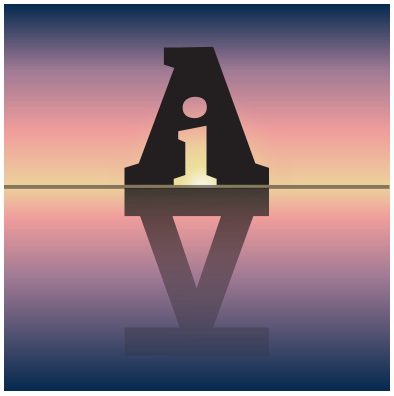
Learn more about our storied history!

IN 1951
Lincoln Laboratory was established as a Federal Contract Research Center of MIT, with a focus on improving the nation's air defense system through advanced electronics.

MIT Lincoln Laboratory
244 Wood Street, Lexington, MA 02421

Interested in Licensing or Partnering with Us? ➲ Contact the Technology Ventures Office, tvo@ll.mit.edu
https://www.ll.mit.edu/partner-us

SAVE THE DATE **13–16 November, 2023** IN PERSON OR VIRTUAL



RECENT ADVANCES IN AI FOR NATIONAL SECURITY

5th Annual RAAINS Workshop: Reflections and Futures

RAAINS Website:
https://llevents.ll.mit.edu/raains/

Username: **RAAINS23!**
Password: **MITLL23!**

Open to U.S. Citizens and Permanent Residents

Questions?
raains@ll.mit.edu

We hope you will be able to join us for MIT Lincoln Laboratory's fifth annual Recent Advances in Artificial Intelligence for National Security (RAAINS) Workshop on 13–16 November 2023. RAAINS is a premier event in applied AI that draws together scientists and practitioners from across academia, industry, and government.

The 2023 conference will be hosted in a hybrid format and feature exciting topics across four days:

Day 1: AI Courses, Laboratory Tours (*concurrent sessions*)

Day 2: AI Transitions and Government Perspectives

Day 3: Next-Generation AI Technologies

Day 4: Vanguard Topics, AI Applications* (*concurrent sessions*)

RAAINS is an excellent opportunity for attendees to gain insight into cutting-edge AI technologies and applications, form strategic partnerships, and interact with top talent. Past workshops have had over 650 attendees from more than 220 organizations.

To enhance connections and collaborations, there will be a poster session and networking reception on Day 2. We invite all attendees to participate and highlight their organizations. Tables will be available to reserve for demonstrations, products, discussions, and collaboration opportunities.

Please visit the RAAINS website for more information about the planned events and registration details. **Registration will open in September.**

** The AI Applications session on 16 November will be restricted and in person only. All other sessions on Days 2–4 will be available in person and via webcast.*

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