ISR AT A GLANCE

ISR’s research program provides associate partners with cross-disciplinary solutions to complex problems.

38 joint appointment faculty, 27 affiliate faculty, and 6 research scientists from 4 colleges and 14 units across the University of Maryland:

A. James Clark School of Engineering
   Aerospace Engineering
   Chemical and Biomolecular Engineering
   Civil and Environmental Engineering
   Electrical and Computer Engineering
   Fischell Department of Bioengineering
   Materials Science and Engineering
   Mechanical Engineering

College of Behavioral and Social Sciences
   Neuroscience and Cognitive Science Program

College of Computer, Mathematical and Natural Sciences
   Biology
   Computer Science
   UMIACS (Institute for Advanced Computer Studies)
   Mathematics

Robert H. Smith School of Business
   Decision, Operations and Information Technologies
   Logistics, Business and Public Policy

8 major research areas

- Communication systems and networks; including green communications
- Control systems and methodologies
- Neuroscience and biology-based technology
- Micro and nano devices and systems
- Robotics
- Design, operations and supply chain management
- Systems engineering methodologies
- Computing, speech, artificial intelligence

Annual research expenditures $19 million.

PROGRAM DUES

Dues to become an Associate Partner are $10,000 per year. A portion of the dues may be tax deductible.

FOR MORE INFORMATION

To learn more, contact:
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ASSOCIATE PARTNERS PROGRAM

THE INSTITUTE FOR SYSTEMS RESEARCH

ISR is a permanent, interdisciplinary research unit of the A. James Clark School of Engineering at the University of Maryland.
THE ASSOCIATE PARTNERS PROGRAM

The Institute for Systems Research’s Associate Partners Program grants a level of preferred access to our faculty and students. Associate partners receive priority for research and recruiting opportunities.

ISR provides our associate partners with up-to-date information on our activities, and actively facilitates direct relationships among associate partners, faculty and students. ISR also seeks out and guides associate partners toward mutually beneficial opportunities for research collaborations with our faculty.

BENEFITS

The benefits in the Associate Partners Program:

- Priority access to the services of our external relations director, who:
  - Provides one-stop access to the ISR research community
  - Establishes ISR knowledge of the partner’s organization and research interests
  - Rapidly identifies collaboration and teaming opportunities
  - Quickly facilitates connections with best-match ISR faculty and catalyzes discussions to provide assessments of opportunities
  - Arranges in-person and virtual collaboration development meetings
  - Guides the associate partner through University of Maryland processes and procedures
- Organization name included in Associate Partners list in ISR’s print and electronic literature
- Partners receive faculty’s priority consideration for research teaming opportunities
- Bidirectional, short-term researcher exchanges
- Priority and timely access to students for internships and permanent hiring
- Annual ISR-sponsored associate and strategic partners-only workshop
- Distribution of pre-publication research results
- Associate and strategic partners-only website
- Networking opportunities among associate partners

A PATH TO RESEARCH COLLABORATIONS

While valuable in themselves, Associate Partner benefits also provide a natural path to specific collaborations in ISR. These are made possible through additional partnership opportunities, including:

- Membership in ISR’s Strategic Partners Program (www.isr.umd.edu/industry/strategic_partners_program.htm) Benefits include:
  - A specific percentage of dues is allocated to ISR research and education programs of high interest to the partner.
  - The “Visiting Scientist” benefit allows strategic partner employees to work on campus, conducting research with ISR faculty for extended periods of time.
- Any of the following partnership vehicles:
  - Research collaborations, including industry-sponsored research
  - Teaming to win agency-sponsored programs including Maryland Industrial Partnerships for local, small, and start-up companies
  - Intellectual property licensing
  - Systems engineering courses, workshops and events
  - International research agreements
  - Sponsorship of graduate student fellowships and postdoctoral researchers
  - Gifts to ISR, including chair endowments, scholarships, gifts of cash, hardware and software, and lab sponsorships

COLLABORATION EXAMPLES

ISR researchers collaborate with both large and smaller companies. Here are a few examples of what can be accomplished when you team with us.

- Hughes Network Systems DirecPC and DirecWay fast broadband internet over satellite protocols
- Toshiba Data mining algorithms improve manufacturing process performance and efficiency; supply chain management algorithms reduce inventory costs and due date violations.
- Northrop Grumman GaN process sensing, simulation, optimization produce advantage in high-power, high-frequency electronic materials.
- Resensys Wireless sensors monitor bridge structural integrity.
- SmartMoney.com Treemaps—compact graphical displays show hierarchical data at a glance.
- Pharmaceutical industry Spotfire multidimensional data visualization displays for drug discovery.
- U.S. Centers for Disease Control; Montgomery County Md. government Clinic Planning Model Generator helps public health officials design more efficient emergency dispensing clinics.
- OnmiSpeech Speech extraction technology improves cellular and other communications.
- AEM Design Licenser of CONSOL & FSQP, source code tools for feasible sequential quadratic programming of constrained nonlinear optimization.
- United Technologies Aircraft engine nonlinear active stall control improved safety and enlarged operating envelope.
- Intelligent Automation, Inc. Uses MDLe robotic motion control language in products, services.
- Qualcomm/Flarion Signal processing algorithms led to advances in modern technology, wireless networks, mobile devices.