

# INNOVATOR

Redefining possible ▶

Spring 2009

## Information Discovery On Demand

SRC's Advanced Technology Initiative takes data mining to new levels

Enormous amounts of data are being generated everyday in communications, defense, environment, health care, and many other market sectors. Searching, analyzing, and discovering the key entities, relationships, and patterns in these massive amounts of data have proven to be cumbersome and often overwhelming. Researchers in SRC's (formerly Syracuse Research Corporation) Advanced Technology Initiatives Program (ATIP) have been developing new data mining techniques to tackle these problems.

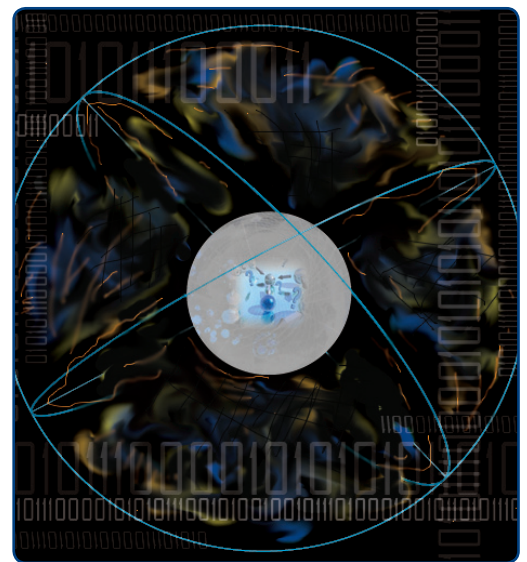
Motivated at first by the need to search for and discover patterns in very large sets of signals intelligence data, the SRC Researchers developed a technique to structure the data in a novel way, based on the types of questions analysts would ask and how they would need to visualize the results. They soon found that the techniques they developed also applied to other domains such as chemical structure and cyber. Experiments with terabytes of real data from interested

Government stakeholders demonstrate that the technology being developed under this ATIP offers a breakthrough in performance time and capability. Complex queries, currently taking several hours to run, can now be performed in minutes. Other queries, that were not possible with conventional means, are now possible.

These new data mining techniques are now enabling patterns to be discovered and are paving the way for classification of complex entities.

The ATIP is SRC's strategic corporate investment in technology targeting some of the most critical and challenging problems facing our customers. The ATIP currently has five technology thrust areas: Audio Exploitation, Bio-Forensics, Bio-Technology, Software Defined Radar, and Urban Operations.

For more information, please contact [inquiries@srcinc.com](mailto:inquiries@srcinc.com), or visit us online at [www.srcinc.com](http://www.srcinc.com).



“...researchers developed a technique to structure the data in a novel way”

## SRC/SRCTec Expands Presence to Support U.S. Army at Aberdeen

SRC/SRCTec has established a new presence in Aberdeen, MD, to support the U.S. Army as it plans to realign its Fort Monmouth, NJ, location to Aberdeen Proving Ground (APG). Tamera Rush has been hired as SRC's Business Development Director, and Daniel Jurchenko has been hired as SRCTec's Radar and Electronic Warfare (EW) Business Development Manager. Ms. Rush and Mr. Jurchenko will set up operations for the company at this new location.

Ms. Rush is responsible for seeking new and existing business opportunities across all lines of business for SRC at APG. She will also assist with the transition of the company's clients

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Tamera Rush



Daniel Jurchenko

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affected by the U.S. Army's Base Realignment And Closure (BRAC) to APG. Ms. Rush comes to SRC with 15 years of experience supporting business with the Department of Defense (DoD), U.S. Army, and other Government agencies.

Mr. Jurchenko is responsible for marketing SRCTec's radar and EW products, in particular the company's Lightweight Counter-Mortar Radar (LCMR™) system. Mr. Jurchenko brings extensive radar and DoD experience to the SRCTec team. He is a retired U.S. Army Lieutenant Colonel and Field Artillery Officer, and attended Command and General Staff College in Fort Leavenworth, KS. He served in the U.S. Army for 22 years, both in the U.S. and overseas.

SRC/SRCTec expects to hire additional staff to support Aberdeen as the U.S. Army transitions its operations there.

**// SRC Announces New Business Area Dedicated to Cyber Capabilities, Names Assistant Vice President**

SRC recently announced the creation of a new business area for Cyber capabilities, based out of Chantilly, VA. Additionally, SRC has named Matthew Pushkin the Assistant Vice President of this new business area. Mr. Pushkin was previously a Federal Account Director for SRC.



Matthew Pushkin

"This is a very exciting time for us – developing the Cyber Business Area will allow us to solve even more problems of national significance," said SRC's President and Chief Executive Officer, Bob Roberts. "Matt [Pushkin] has proven to be a dynamic asset to our team, and ultimately, he will be expanding our current Cyber capabilities and further diversifying our business."

More details about SRC's investment in Cyber capabilities will become available as the company continues to develop the business area.

**// SRC's Postdoctoral Scientist Program Under Way**

SRC has officially launched its new Postdoctoral Scientist Program for toxicology and human health risk assessment with the hire of Dr. Kelly Salinas (Syracuse, NY). Dr. Salinas received her doctorate degree

from State University of New York Upstate Medical University in 2008, and joined the ranks of SRC's Environmental Scientists in January 2009.

This self-initiated program by SRC is open to candidates with a doctorate in chemical or biological sciences and is geared toward providing additional training that will serve not only in the realm of science, but in atmospheres of academia, industry, and Government, as well.

SRC's Postdoctoral Program Fellows will learn to derive quantitative assessments of exposure, pharmacokinetics, and dose-response relationships including predictive structure-activity relationships. In addition, all Postdoctoral Fellows will work closely with Senior Toxicologist mentors to prepare technical documents, including reviews on health hazards from chemicals, manuals, reports, and procedures, both for internal and client use.

The introduction of a Postdoctoral Scientist Program at SRC is beneficial in that the company will be training the next generation of human health risk assessment scientists to work toward innovative solutions for our nation's challenges in environmental health and national security.

**// DCMA Awards SRCTec with Honorary Service Member Award**

The Defense Contract Management Agency (DCMA) has awarded SRCTec with an "Honorary Service Member Award" for delivering exceptional performance to the warfighter. The DCMA provides services to the DoD to ensure quality products and services are delivered to the warfighter, on time and within budget. This honor signifies that SRCTec has displayed values consistent with those of today's service members,



Mary Ann Tyszko accepts the DCMA Award on behalf of SRCTec

and has made substantial contributions to America's effectiveness in war.

The DCMA's "Honorary Service Member Award" recognizes SRCTec's outstanding support and dedication to the U.S. Armed Forces during the Global War on Terrorism, and Operations Enduring Freedom and Iraqi Freedom. Very few contractors receive this award each year.

Since its inception, SRCTec has been awarded multiple contracts from the U.S. Army to provide Counter Remote Controlled Improvised Explosive Device Electronic Warfare (CREW) Duke systems, and the company has continued to provide optimal execution and efficient work flow, despite unprecedented increased production.

**// Sensor Beam Contract Leads to Significant Growth for SRC in San Antonio**

The U.S. Air Force Information Operations Center awarded SRC a \$95M contract to develop and maintain the Sensor Beam Program.



SRC's San Antonio, TX, office has held the prime contract for Sensor Beam for the past 17 years. The databases supported by the Sensor Beam Program contain information on U.S. and foreign, commercial, and military systems.

**// SRC/SRCTec Named 7th Best Company to Work for in NY**

The results are in – SRC/SRCTec has been named the seventh



"Best Company to Work for in New York" for 2009 by the New York State Society for Human Resource Management (NY SHRM) and Best Companies Group.

This awards program was designed to identify, recognize, and honor the best places of employment in New York, benefiting the state's economy, its workforce, and businesses.

**// University Partnerships**

SRC continues to develop and promote relationships with universities and university-led programs. These partnerships and relationships offer the opportunity to collaborate on focused research efforts, close the gap between basic and applied research, and improve communications on

skills needed in undergraduate and graduate programs, all of which mutually benefit the university, SRC, and ultimately its customers. There are several models of partnership that SRC uses, including the Master Collaboration Agreement, Sponsored Research Agreement, and Partnerships. SRC currently has partnerships and collaborative relationships in place with Clarkson University, Syracuse University, the Syracuse Center of Excellence in Energy and Environmental Systems, the University of Virginia, and Virginia Tech.

### // SRC Internship Program

In an effort to maintain a strong internship program, SRC participates in career-related events with academic institutions through information sessions, career fairs, and research and development partnerships.

SRC anticipates continued success as interns start each year especially when most are ultimately transitioned into full-time SRC employees.



SRC hosts an average of 40 interns annually in all areas of the organization. SRC Interns are involved in the same day-to-day projects and activities as full-time employees including research, design and development, customer interaction, and occasional business travel.

SRC targets students that have completed their sophomore year and hold at least a 3.3 cumulative grade point average.

SRC interns have worked on a wide variety of projects such as counter-IED, radar, and ATIs. In addition to their everyday work, interns are offered a number of different technical classes that expose them to

different business areas of the company, and are challenged to present on what they learned. They are also invited to attend planned social events outside of work.

### // SRC Wins IRIS Contract

Under an agreement from the Environmental Protection Agency (EPA), SRC Scientists are being charged with searching current literature and preparing Toxicological Reviews and Integrated Risk Information System (IRIS) summaries of the substances presently selected for assessment by the EPA's annual review process.

Maintained by the EPA's National Center for Environmental Assessment within the Office of Research and Development, IRIS is an electronic database containing information and searchable documents on human health effects that may occur as a result of exposure to various substances in the environment. The IRIS system provides descriptive and quantitative information in the categories of noncancer and cancer effects for an ongoing list of individual substances.

### // SRC Named Chesapeake Regional Tech Company of the Year

SRC was recognized as the "Tech Company of the Year" by the Chesapeake Regional Tech Council in March 2009. The Tech Company of the Year Award is given to a company that has achieved significant milestones in the past year, and demonstrates itself as a recognized force in the local technology community. SRC's staff in Hanover, MD, was in attendance to accept the award.

### // Object Management Group

SRC's Michael Card has been working with the members of the Object Management Group (OMG) to define a next-generation object database standard. This January, Mr. Card authored the OMG's initial draft of a request for proposal for the new object

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## Publications & Presentations

SRC's Scientists have been active in publishing their research, with six articles appearing in prestigious scientific journals during the last quarter.

- "Normal boiling points of haloalkanes from electrotopological state indices," *Toxicological and Environmental Chemistry*, by Gordon G. Cash, Suzanne Hartigan, and Jay Tunkel.
- "A quantitative structure-activity relationship for predicting metabolic biotransformation rates for organic chemicals in fish," *Environmental Toxicology and Chemistry*, by Phil Howard, Bill Meylan, and Jay Tunkel. Other collaborating authors are Jon A. Arnot, Don Mackay, Robert S. Boethling, and Mark Bonnell.
- "Arsenic in seafood: speciation issues for human health risk assessment," *Human and Ecological Risk Assessment*, by Lara Chappell and Joan Colman.
- "Biomimetic transannular oxa-conjugate addition approach to the 2,6-disubstituted dihydropyran of laulimalide yields an unprecedented transannular oxetane," *Journal of Organic Chemistry*, by Stephen Houghton.
- "Dominant membrane uncoupling by mutant adenine nucleotide translocase in mitochondrial diseases," *Human Molecular Genetics*, by SRC's new Postdoctoral Program Fellow, by Kelly Salinas.
- "Adenine nucleotide translocase and human disease: Insight from yeast," *Yeast as a Model for Human Diseases*, by Kelly Salinas.

## SRC/SRCTec Undergoes Rebranding

SRC/SRCTec has introduced a rebranding project to focus on national recruiting and marketing to new customers. The rebranding includes redesigned logos, new Web sites, updated marketing materials, and a change in name from Syracuse Research Corporation to SRC, pronounced "es•are•see." With these dynamic changes, the company remains committed to its tradition of innovation and *redefining possible™*.

...OMG database standard. This contained the requirements for the new standard and specified what areas of object database technology the new standard must address. Mr. Card is also serving on the Steering Committee and the Program Committee for the International Conference On Object Databases and has been peer-reviewing papers for the 2009 conference.

**// SRCTec Promotes Mary Pat Hartnett to Director of EW Programs**

Mary Pat Hartnett has been promoted to Director of EW Programs for SRCTec. In this position, she oversees all EW system development, high-volume production, testing, fielding, and support, as well as subcontract management, program financial performance, and depot management. She also heads-up the company's CREW 2.0 System Program for the U.S. Army, which is a \$1.5B contract that is fulfilling an urgent operational need for Operation Enduring Freedom/Operation Iraqi Freedom.



Mary Pat Hartnett

**// SRC Welcomes Frank Handler, New Chem-Bio Director**

SRC welcomes Francis (Frank) Handler, Ph.D. Physics, as Director of Chemical-Biological (Chem-Bio) Defense Initiatives. In this new position, Mr. Handler will be responsible for increasing the company's core strengths and capabilities in the chem-bio defense discipline. Mr. Handler comes to SRC with almost 30 years of comprehensive experience in the chem-bio arena.



Frank Handler

*Innovator* is a semi-annual technology newsletter from SRC/SRCTec. For more information, please visit us online at [www.srcinc.com](http://www.srcinc.com).

**Employee Awards & Accomplishments**

**Dr. Dan Thomas Awarded Patent in Digital Signal Processing Arena**

SRC's Dan Thomas, Ph.D. Electrical Engineering, Director of Science and Technology for the Systems Technology Business Area, was recently awarded U.S. Patent No. 7,430,258 for his Unified Architecture for Multi-Channel Digital Signal Processing. This effort describes a novel technique that can be used to improve the efficiency of advanced multi-channel radar or communication system processing.



Dan Thomas

This is the second patent Dr. Thomas has been issued since joining SRC. He has worked on a wide variety of programs, including monostatic and bistatic radars; communication system design; and radio frequency tagging. He has penned more than 50 publications, and has given numerous presentations at symposiums and meetings as an expert in his field.

**Dr. Michael Lumpkin Earns DABT Certification**

SRC's Dr. Mike Lumpkin recently received his certification as a Diplomate of the American Board of Toxicology (DABT). The ABT was established in 1979 to encourage the study of the science of toxicology and to stimulate its advancement by establishing standards for professional practice. The Board confers recognition by certification to members of a toxicological profession who demonstrate competence in three key subject areas: toxicity of agents, organ systems and effects, and general principles and applied toxicology.



Michael Lumpkin

Out of only 1,703 DABTs in the world, SRC now employs six of them. Dr. Lumpkin joins SRC colleagues Pat McGinnis, Peter McClure, Lisa Ingerman, Julie Stickney, and Marc Odin in having reached such an impressive and challenging career milestone.

**SRC's Rick Wells Honored by Computerworld as IT Leader**

Rick Wells, Director of Corporate Information Technology at SRC, has been honored as one of the nation's "Premier 100 IT Leaders for 2009" by IDG's *Computerworld* magazine. This national distinction recognizes individuals who display exceptional technology leadership and practice innovative approaches to business problems and creative work environments.



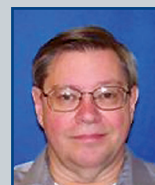
Rick Wells

Mr. Wells has been the driving force behind SRC's ability to keep up technologically with its explosive growth from \$16.8M to \$613M; 180 to 950 employees; 5 to 11 locations; and the formation of multiple companies, all in just the 13 years he has been with the company.

Mr. Wells is a founding member of SRC's Technology Committee, and responsible to notify the executive management team of technology trends and to vet technology investments to recommend independent research and development projects.

**Tom Oliver Receives ASQ Quality Auditor Certification**

SRCTec's Thomas Oliver, Quality Specialist, has achieved Certified Quality Auditor (CQA) status from the American Society for Quality (ASQ). This certification recognizes that Mr. Oliver has reached a significant level of professionalism, displaying a proficiency in, and a comprehension of, quality auditing tools and techniques.



Tom Oliver

As a CQA, Mr. Oliver will analyze all elements of SRCTec's quality system and provide insight on how to adjust and improve the company's adherence to industry regulations. He is also responsible for coordinating quality objectives, internal audits, third party registrar audits, management reviews, corrective and preventive action programs, and metrology.