Yanko Sheiretov, Ph.D.

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GOALS

To work for an employer who can fully appreciate and benefit from my skills, knowledge, talents, and experience in an environment that requires creative thinking to solve interesting and challenging engineering and scientific problems.

SKILLS AND TALENTS

Problem Solving: One of my strongest skills is my ability to quickly identify what lies at the core of a problem or idea and to find creative, efficient, and elegant ways to address it. I get things right the first time.

Software and Algorithm Development: Experienced in commercial software architecture and development, numerical methods and simulation, algorithm development, data modeling and analysis, GUI. Extensive knowledge of many programming languages, such as C++, MATLAB, Visual Basic, PHP, Shell scripts, Lisp.

Electronics and Applied Physics: Experience in electromagnetic waves and fields; solid state infrared laser design, testing and microfabrication; quantum mechanics and solid state physics; power electronics; wireless telecommunications; analog and digital system design.

Leadership: As a group leader, praised for encouraging creativity and independent thinking, and taking the time to give detailed explanations when necessary and to articulate clear immediate and long-term goals.

Writing: Excellent writing skills, bringing out the most important material and presenting it in the proper larger context. Clear and appropriate for the target audience. Very experienced in writing reports, proposals (SBIR and other), grants, papers, and scientific articles.

Breadth of Knowledge: My knowledge in many fields in addition to my own allows me to see projects and ideas in a wider context and to find creative solutions. I am often the "go-to" person for any question.

Computer Skills: Completely at ease with all computer languages, operating systems, and software applications suites. Capable of very quickly learning a new language or tool. Plenty of system and network administration knowledge and experience, in both UNIX and Windows.

Languages: Proficient in English, German, Russian, and Bulgarian.

Music: I play clarinet and piano and participate in several amateur classical music groups in the Boston area. I am also interested in music theory and composition (http://ropotamo.hopto.org/yanko/music.html).

Citizen of the United States.

EXPERIENCE

JENTEK Sensors, Inc. (13 years) *Vice President, Product Development & Commercialization.* Also serving as Lead Software Architect and Materials Characterization Area Manager. Responsible for the development of JENTEK's hardware and software products. Led the software team in the architecture and implementation of JENTEK's GridStation™ software environment. Made numerous important contributions to the design of the sensors and impedance instrument of JENTEK's nondestructive materials testing system. Wrote the proposals and served as principal investigator for several successful Phase I and Phase II SBIRs.

Aura Communications, Inc. (1 year) *Development Engineer.* Designed the circuits and principle of operation at the core of Aura's wireless headset product.

Diversified Technologies, Inc. (1 year) *Project Engineer.* Lead teams of engineers in many consulting projects.

ACADEMIC DEGREES

Ph.D. in Electrical Engineering, MIT, 2001
M.S. in Electrical Engineering, MIT, 1994
E.E. (Electrical Engineer), MIT, 1998
B.S. in Electrical Engineering, MIT, 1992

Never received a grade lower than an A, at the top of the class in many classes. GPA: 5.0/5.0

PATENTS AND PUBLICATIONS

I hold several patents with others pending for magnetic and electric field sensors and have published a number of scientific articles. Available for viewing at http://ropotamo.hopto.org/yanko/publications.php.

DETAILED VERSION of this resume available at http://ropotamo.hopto.org/yanko/resume.pdf.

Last edited on December 11, 2007.

Yanko Sheiretov, Ph.D., in detail

EXPERIENCE

JENTEK Sensors Inc., Waltham, MA **Consulting since 1994, full time since 1998**

JENTEK Sensors provides sensors and systems for nondestructive testing of materials and components on aircraft and other structures for cracks, corrosion, aging; characterization of coatings, geometric measurement of thin films, two-dimensional property maps, and other measurements. The product consists of a sensor (or array of sensors), an impedance analyzer instrument, and the GridStation software for data acquisition and analysis. The magnetic sensor (MWM) is fundamentally an eddy-current sensor, but stands out compared to other eddy-current technologies in that it is designed in a way that allows for quick and accurate mathematical modeling, which allows it to accurately measure absolute physical properties without the need for calibration standards.

Title: Vice President, Product Development and Commercialization. Also serving as Chief Software Architect, Materials Characterization Group Area Manager

- Responsible for the development of JENTEK's products, including hardware (impedance instrumentation, sensors, and support electronics), and software (the GridStation data acquisition and visualization environment and other support tools, including stand-alone software products).
- Member of the core team of scientists and engineers responsible for the development and analysis of new sensors and measurement procedures and long term strategic planning.
- Technical lead of the software development team. Responsible for the architecture of the software and for the development of new software features, both at the user interface and at the data processing and numerical simulation levels.
- Project management: responsible for a number of government and commercial R&D projects, including writing the proposal and reports and managing the team of engineers working on the projects.
- Area manager for the Materials Characterization group.

Projects and Accomplishments

- Wrote the proposals and served as principal investigator for two Phase II SBIRs with NASA (Giant Magnetoresistive Sensors), $600,000; and with the Air Force (Characterization of Thermal Barrier Coatings), $750,000, now beyond Phase II, and several Phase I SBIRs. Helped write many other winning SBIR proposals.
- Invented and implemented the algorithm used for real-time multidimensional inverse interpolation, which is at the heart of JENTEK's main software product.
- Invented and implemented a proprietary multidimensional database optimized for fast data storage and retrieval.
- Invented the Quadri-Directional Magnetic Strain Gauge (QD-MSG), based on MWM technology, which is one of the most promising new technology developments at JENTEK.
- Invented many refinements of the IDED, the dielectric counterpart of the MWM sensor, to turn it into a commercially viable product.
- Refined and implemented the algorithm for the numerical method used to calculate the sensors' responses from the geometry and the material properties, used to generate JENTEK's trademark measurement grids.
- Designed most of the user interface that implements user-friendly ways of data presentation and visualization.
- Designed, analyzed, and built the first prototype periodic-field magnetoquasistatic sensor that uses GMR (giant magneto resistive) technology.
- Designed custom sensors and experimental procedures.

Aura Communications, Inc., Wilmington, MA 1995 – 1996

Aura Communications' product is a wireless battery-operated headset. The wireless communication link is accomplished via a quasistatic magnetic field, requiring very little power and emitting practically no EM radiation.

Title: Development Engineer

Responsible for system circuit design. Provided the design and built prototype circuits using discrete components and PALs, allowing the circuits to be tested before the ASIC team laid them out in silicon.

Projects and Accomplishments

Successfully resolved the following aspects of the product design:

- Invented a system in the base unit that tracks the orientation of the antenna dipole in the headset and adjusts the direction of its field to match it. This is necessary because with a quasistatic field there is always an orientation where the magnetic coupling has a null, even when two antennas operate in quadrature.
- Invented a unique pulse-width-modulation method that greatly simplified the antenna drivers and reduced power consumption, which is very important for a battery-operated system.
- Developed a method for choosing the transmission and reception frequency bands to minimize cross-talk and pickup from ambient noise sources.

Diversified Technologies, Inc., Bedford, MA 1994 – 1995

DTI is a consulting company, focusing on power electronics and RF systems.

Title: Project Engineer

- Led and managed teams of engineers and technicians in a number of engineering consulting projects.
- Increased the company's visibility via advertising.
- Recruited valuable new employees.
- Partnered with the president (and chief engineer) to visit potential new customers and evaluate the feasibility of taking up a project.

Projects and Accomplishments

- **Advanced degaussing technology**. Sponsored by the NAVY. Invented a method for active magnetic shielding of contactors on board submarines, to avoid detection and triggering of underwater naval mines. Joint effort with Foster-Miller. Designed the high-power operational amplifier used to drive the active cancellation coils.
- **High power operational amplifier**, implemented with IGBT switches and pulse-width modulation. The amplifier could operate in voltage-source (±300V) or current-source (±100A) mode, with a bandwidth of DC to 5 kHz. Designed the product in its entirety: circuit design, circuit board layout, chassis, front panel, etc.
- **Robotic Arm**. Designed a robotic arm used in the automated production of silicon wafers used for solar power generation. The system was driven with pneumatic actuators. Designed, built, and tested the complete system, including the controller software.
- **Plasma Etching**. Designed an electrically insulating gas feeder tube for plasma etching machines, capable of withstanding RF-frequency high voltage without break-through.
- **Mammography X-Ray**. Designed a medical device used to measure exposure in a mammography X-ray machine and another device used to determine the point at which to terminate the X-ray cycle.

Massachusetts Institute of Technology 1990 – 1994, 1996 – 1997

Research Assistant

The various research projects are described under Education (next page).

Teaching Assistant

Worked as a teaching assistant for *Applied Quantum and Statistical Physics*. From student evaluation, 1998:

> "TA **Y. Sheiretov** received nothing but praise from students. His tutorials were key to learning the material and understanding the problem sets. TA Yanko was available, responsible, helpful, useful, dedicated, hard-working, friendly, and caring. Students felt that he went above and beyond the call of duty. One student said that Yanko is the reason he did not drop the course."

MIT High Voltage Research Laboratory

Worked with Dr. C. M. Cooke on measuring and analyzing partial discharges in high voltage insulation. Created a system capable of detecting and measuring extremely weak electrical signals due to partial discharges in high-voltage equipment, by designing appropriate analog filters.

MIT Media Laboratory Music and Cognition Group

Developed software (mostly in Common Lisp) used to analyze data collected from a real-time tracking of musical performance under the supervision of Prof. B. Vercoe. Also investigated human rhythm perception.

EDUCATION

Massachusetts Institute of Technology, Cambridge, MA

2001 **Ph.D.** in Electrical Engineering
Worked with Prof. Markus Zahn at MIT's LEES (Laboratory for Electromagnetic and Electronic Systems) on the development of deep penetration shaped-field Giant Magnetoresistive (GMR) magnetometers. Shaped-field magnetometers operate in the magnetoquasistatic regime and use magnetic fields for nondestructive material testing and flaw detection in as-fabricated and aged metal components. The use of GMR sensors allowed the operating frequency range to be extended to much lower frequencies, allowing for the detection of deeply buried features. The Ph.D. work also included reformulating existing semi-analytical models to make them more suitable for efficient computer simulation and the development of analytical models for shaped-field magnetometers and dielectrometers with cylindrical or nonperiodic geometry. Sponsored by JENTEK Sensors. GPA: (no classes)

1998 **E.E. (Electrical Engineer**)
Worked with Prof. Qing Hu at MIT's RLE (Research Laboratory of Electronics) on the design of far-infrared solid-state lasers. "Far infrared" refers to the segment of the electromagnetic spectrum in the terahertz range, which falls above radio and microwave frequencies, i.e. "electronics", but below infrared light, i.e. "optics/photonics." Took classes in quantum physics and solid-state physics. Sponsored by JENTEK Sensors, on a NASA SBIR project on using periodic-field dielectrometry to characterize porosity and thermal conductivity of ceramic thermal barrier coatings. GPA: 5.0/5.0

1994 **M.S.** in Electrical Engineering
Worked with Prof. Markus Zahn at MIT's LEES (Laboratory for Electromagnetic and Electronic Systems) on investigating the feasibility of using periodic field dielectrometers to monitor moisture transfer dynamics in liquid (oil) and solid (pressboard) insulation in high power transformers. Highest Score on the 1993 Preliminary Written Exam in the E.E./C.S. Department. GPA: 5.0/5.0

1992 **B.S.** in Electrical Engineering

Received Special letters of commendation in the following subjects: Structure and Interpretation of Computer Programs (6.001), Circuits and Electronics (6.002), Electronic Devices and Circuits (6.012), Signals and Systems (6.003), Introductory Digital Systems Laboratory (6.111), Solid-State Circuits (6.301), Electromagnetic Fields and Energy (6.013), Feedback Systems (6.302), Electrodynamics (6.014). Recipient of the 1992 **Henry Ford II Scholar Award** for academic excellence. GPA: 5.0/5.0

United World College of the American West, Montezuma, NM

1988 **I.B. (International Baccalaureate)**
The United World Colleges recruit an international student body and emphasize academics, community service, and international understanding. High level classes: Physics, Chemistry, Mathematics, and Music. Extended essay project: developed new musical temperament (tuning) system. GPA: 57/59

OTHER INTERESTS

Music theory and composition (http://ropotamo.hopto.org/yanko/music.html), chamber and orchestral music, the outdoors, traveling, theater, linguistics.

PATENTS AND PUBLICATIONS

Please note that between 2001 and 2005 my name was **Ian Shay**. During that period of time most of the publications and patents were issued under this name.

Patents:

Shay, I., Goldfine, N., Washabaugh, A., Schlicker, D., "*Magnetic Field Sensor Having a Switchable Drive Current Spatial Distribution,*" U.S. Patent Number 6,992,482 B2, January 31, 2006.

Schlicker, D., Goldfine, N., Washabaugh, A., Walrath, K., **Shay, I.**, Grundy, D., Windoloski, M., "*Test circuit Having Parallel Drive Segments and a Plurality of Sense Elements,*" U.S. Patent Number 7,049,811 B2, May 23, 2006.

Goldfine, N., Zilberstein, V., Schlicker, D., Grundy, D., **Shay, I.**, Washabaugh, A.,, "*High Resolution Inductive Sensor Arrays for Material and Defect Characterization of Welds,*" U.S. Patent Number 6,995,557 B2, February 7, 2006.

Schlicker, D., Goldfine, N., Washabaugh, A., Walrath, K., **Shay, I.**, Grundy, D., Windoloski, M., "*Eddy Current Sensor Arrays Having Drive Windings with Extended Portions,*" U.S. Patent Number 6,784,662 B2, August 31, 2004.

Goldfine, N., Schlicker, D., Zahn, M., Ryan, W., **Shay, I.**, Washabaugh, A., "*Inspection Method Using Penetrant and Dielectrometer,*" U.S. Patent Number 6,781,387 B2, August 24, 2004.

Goldfine, N., Zilberstein, V., Schlicker, D., Grundy, D., **Shay, I.**, Washabaugh, A., "*High Resolution Inductive Sensor Arrays for Material and Defect Characterization of Welds,*" U.S. Patent Number 6,727,691 B2, April 27, 2004.

Goldfine, N., Schlicker, D., Zahn, M., Ryan, W., **Sheiretov, Y.**, Washabaugh, A., "*Segmented Field Dielectrometer,*" U.S. Patent Number 6,486,673 B1, November 26, 2002.

Pending Patents:

Shay, I., Goldfine, N., Washabaugh, A., Schlicker, D., "*Deep Penetration Magnetoquasistatic Arrays,*" Application No. 20020158626, Application Date: November 8, 2001.

Schlicker, D., Goldfine, N., Washabaugh, A., **Sheiretov, Y.**, Windoloski, M., "*Local feature characterization using quasistatic electromagnetic sensors,*" Application No. 20060097718, Application Date: October 11, 2005.

Goldfine, N., Schlicker, D., Grundy, D., Windoloski, M., **Shay, I.**, Washabaugh, A., "*Segmented field sensors,*" Application No. 20060076952, Application Date: February 11, 2005.

Goldfine, N., Zilberstein, V., **Shay, I.**, Craven, C., Grundy, D., Weiss, V., Washabaugh, A., "*Internal material condition monitoring for control,*" Application No. 20060009865, Application Date: March 14, 2005.

Goldfine, N., Schlicker, D., Grundy, D., Windoloski, M., **Shay, I.**, Washabaugh, A., "*Segmented field sensors,*" Application No. 20050248339, Application Date: February 11, 2005.

Goldfine, N., Schlicker, D., Zilberstein, V., Washabaugh, A., Weiss, V., Craven, C., **Shay, I.**, Grundy, D., Walrath, K., Lyons, R., "*Material condition monitoring with multiple sensing modes,*" Application No. 20050171703, Application Date: January 14, 2005.

Schlicker, D., Goldfine, N., Grundy, D., Lyons, R., Zilberstein, V., Washabaugh, A., Tsukernik, V., Windoloski, M., **Shay, I.**, "*Absolute property measurements using electromagnetic sensors,*" Application No. 20050127908, Application Date: October 12, 2004.

Goldfine, N., Zilberstein, V., Schlicker, D., Grundy, D., **Shay, I.**, Lyons, R., Washabaugh, A., "*Hidden feature characterization using eddy current sensors and arrays,*" Application No. 20050088172, Application Date: September 3, 2004.

Goldfine, N., Zilberstein, V., Grundy, D., Washabaugh, A., Schlicker, D., **Shay, I.**, Lyons, R., Craven, C., Root, C., Weiss, V., Windoloski, M., "*Self-monitoring metals, alloys and materials,*" Application No. 20050083032, Application Date: September 8, 2004.

Goldfine, N., Schlicker, D., Washabaugh, A., **Shay, I.**, Windoloski, M., Root, C., Zilberstein, V., Grundy, D., Tsukernik, V., "*Hybrid wound/etched winding constructs for scanning and monitoring,*" Application No. 20050007106, Application Date: May 24, 2004.

Goldfine, N., Zilberstein, V., Schlicker, D., Grundy, D., **Shay, I.**, Washabaugh, A., "*High resolution inductive sensor arrays for material and defect characterization of welds,*" Application No. 20040239317, Application Date: February 27, 2004.

Schlicker, D., Goldfine, N., Washabaugh, A., Walrath, K., **Shay, I.**, Grundy, D., Windoloski, M., "*Eddy current sensor arrays having drive windings with extended portions,*" Application No. 20040232911, Application Date: June 23, 2004.

Goldfine, N., Schlicker, D., Tsukernik, V., **Shay, I.**, Grundy, D., Washabaugh, A., "*Life extending probe and method,*" Application No. 20040124834, Application Date: August 28, 2003.

Goldfine, N., **Shay, I.**, Schlicker, D., Washabaugh, A., Grundy, D., Lyons, R., Zilberstein, V., Tsukernik, V., "*Magnetic field characterization of stresses and properties in materials,*" Application No. 20040056654, Application Date: May 20, 2003.

Goldfine, N., Schlicker, D., **Shay, I.**, Washabaugh, A., "*High resolution inductive sensor arrays for UXO,*" Application No. 20040021461, Application Date: June 3, 2003.

Goldfine, N., Zilberstein, V., Cargill, J., Schlicker, D., **Shay, I.**, Washabaugh, A., Tsukernik, V., Grundy, D., Windoloski, M., "*High throughput absolute flaw imaging,*" Application No. 20040004475, Application Date: April 18, 2003.

Goldfine, N., Zilberstein, V., Fisher, J., Grundy, D., Schlicker, D., Tsukernik, V., Lyons, R., **Shay, I.**, Washabaugh, A., "*Applied and residual stress measurements using magnetic field sensors,*" Application No. 20030173958, Application Date: January 24, 2003.

Goldfine, N., Schlicker, D., Washabaugh, A., Windoloski, M., Grundy, D., **Shay, I.**, "*High resolution hidden damage imaging,*" Application No. 20030164700, Application Date: January 15, 2003.

Goldfine, N., Schlicker, D., Zahn, M., Ryan, W., **Shay, I.**, Washabaugh, A., "*Segmented field dielectrometer,*" Application No. 20030080744, Application Date: August 20, 2002.

Schlicker, D., Goldfine, N., Washabaugh, A., Walrath, K., **Shay, I.**, Grundy, D., Windoloski, M., "*Eddy current sensor arrays,*" Application No. 20030071615, Application Date: March 19, 2002.

Goldfine, N., Zilberstein, V., Schlicker, D., Grundy, D., **Shay, I.**, Washabaugh, A., "*High resolution inductive sensor arrays for material and defect characterization of welds,*" Application No. 20020105325, Application Date: January 15, 2002.

Publications (first author)

Sheiretov, Y., Zahn, M., "*Design and modeling of shaped-field magnetoquasistatic sensors*," IEEE Transactions on Magnetics, Vol. 42, No. 3, pp. 411–421, March 2006.

Sheiretov, Y., Zilberstein, V., Schlicker, D., and Goldfine, N., Sikorski, R., "*TBC Characterization Using Capacitive and Inductive Sensors with Multivariate Inversion Methods*," ASM International Thermal Spray Conference, Seattle, WA, May 15–17, 2006.

Sheiretov, Y., Zahn, M., "*Modeling of spatially periodic dielectric sensors in the presence of a top ground plane bounding the test dielectric*", IEEE Transactions on Dielectrics and Electrical Insulation, Vol. 12, No. 5, pp. 993–1004, October 2005.

Shay, I. (Sheiretov, Y.) and Zahn, M., "*Cylindrical Geometry Electroquasistatic Dielectrometry Sensors*," IEEE Transactions on Dielectrics and Electrical Insulation, Vol. 12, No. 1, pp. 41–49, February 2005.

Shay, I., Zilberstein, V., Washabaugh, A., Goldfine N., "*Remote Temperature and Stress Monitoring Using Low Frequency Inductive Sensing*," SPIE NDE/Health Monitoring of Aerospace Materials and Proceedings of the ASME/IGTI Turbo conference, Atlanta, GA, June 2003.

Sheiretov, Y., Zahn, M., "*Dielectrometry Measurements of Moisture Dynamics in Oil-Impregnated Pressboard*," IEEE Transactions on Dielectrics and Electrical Insulation, Vol. 2, No. 3, pp. 329–351, June 1995.

Sheiretov, Y., Zahn, M., "*Dielectrometry Measurements of Moisture Dynamics in Oil-Impregnated Pressboard*," 1994 IEEE International Symposium on Electrical Insulation, Pittsburgh, PA, June 5–8, 1994.

Sheiretov, Y., Zahn, M., "*Dielectrometry Measurements of Spatial Moisture Profiles in Oil-Impregnated Pressboard*," 4th International Conference on Properties and Applications of Dielectric Materials, The University of Queensland, Brisbane, Australia, July 3–6, 1994.

Sheiretov, Y., Zahn, M., "*A Study of the Temperature and Moisture Dependent Dielectric Properties of Oil-Impregnated Pressboard*", 1993 Conference on Electrical Insulation and Dielectric Phenomena, Pocono Manor, PA, October 17–20, 1993.

Publications (other)

Goldfine, N., Grundy, D., Washabaugh, A., Schlicker, D., **Sheiretov, Y.**, Hugeunin, C., Lovett, T., Roach, D., "*Corrosion and Fatigue Monitoring Sensor Networks*," Structural Health Monitoring Workshop, Palo Alto, CA, September 2005.

Grundy, D., Washabaugh, A., Schlicker, D., **Sheiretov, Y.**, Goldfine, N., "*Health Monitoring Using MWM®-Array and IDED®-Array Sensor Networks*" SPIE Smart Structures/NDE, San Diego, CA, March 2005.

Schlicker D., Washabaugh A., **Shay I.**, Goldfine N., "*Inductive and Capacitive Array Imaging of Buried Objects*," 16th World Conference on Nondestructive Testing, Montreal, Canada, August-September 2004.

Goldfine, N., Zilberstein, V., Schlicker, D., Grundy, D., **Shay**, I., Lyons, R., Lovett, T., "*Enhancements in MWM-Array Hidden Corrosion Imaging*," TriService Corrosion Conference, Las Vegas, Nevada, November 17–21, 2003.

Goldfine, N., Washabaugh, A., Schlicker, D., **Shay, I.**, "*High-Resolution Inductive Sensor Arrays for UXO Detection, Identification, and Clutter Suppression*," SPIE AeroSense: Detection and Remediation Technologies for Mines and Minelike Targets VIII, Proceedings of SPIE Vol. 5089, Orlando, FL, April 21–25, 2003.

Goldfine, N., Zilberstein, V., A. Washabaugh, D. Schlicker, **Shay, I.**, Grundy, D., "*Eddy Current Sensor Networks for Aircraft Fatigue Monitoring*," Materials Evaluation, Vo. 61, No. 7, July 2003, pp. 852–859., **Winner, ASNT Best Paper Award, 2004.**

Zilberstein, V., **Shay, I.**, Lyons, R., Goldfine, N., Malow, T., Reiche, R., "*Validation of Multi-Frequency Eddy Current MWM Sensors and MWM-Arrays for Coating Production Quality and Refurbishment Assessment*," ASME/IGTI Turbo conference, Atlanta, GA, June 2003.

Goldfine, N., Grundy, D., Zilberstein, V., Schlicker, D., **Shay, I.**, Washabaugh, A., Windoloski, M., Fisher, M., LaCivita, K., Champagne, V., "*Corrosion Detection and Prioritization Using Scanning and Permanently Mounted MWM Eddy-Current Arrays*," TriService Corrosion Conference, San Antonio, TX, January 2002.

Goldfine, N., Schlicker, D., **Sheiretov, Y.**, Washabaugh, A., Zilberstein, V., Grundy, D., "*Surface Mounted and Scanning Periodic Field Eddy-Current Sensors for Structural Health Monitoring*," IEEE Aerospace Conference: Prognostics & Health Management for Aging Aircraft, March 2002.

Goldfine, N., Washabaugh, A., Zilberstein, V., Schlicker, D., **Shay, I.**, Grundy, D., Windoloski, M. "*Absolute Electrical Property Imaging using High Resolution Inductive, Magnetoresistive and Capacitive Sensor Arrays for Materials Characterization,*" 11th International Symposium on Nondestructive Characterization of Materials, Berlin, Germany, June 24–28, 2002.

Goldfine, N., Zilberstein, V., Cargill, S., Schlicker, D., **Shay, I.**, Washabaugh, A., Tsukernik, V., Grundy, D., Windoloski, M., "*MWM-Array Eddy Current Sensors for Detection of Cracks in Regions with Fretting Damage*," ASNT *Materials Evaluation*, Vol. 60, No. 7, pp. 870–877, July 2002.

Goldfine, N., Schlicker, D., **Sheiretov, Y.**, Washabaugh, A., Zilberstein, V., "*Conformable Eddy-Current Sensors and Arrays for Fleet-wide Gas Turbine Component Quality Assessment*," ASME Journal of Engineering for Gas Turbines and Power, Vol. 124, No. 4, pp. 904–909, October 2002.

Malow, T., Beck, R. Wilkenhöner, Goldfine, N., Zilberstein, V., I. **Shay, I.**, "*Application of MWM Eddy-Current Technology during Production of Coated Gas Turbine Components,*" 11th International Symposium on Nondestructive Characterization of Materials, Berlin, Germany, June 24–28, 2002.

Schlicker, D., **Sheiretov, Y.**, Washabaugh, A., Goldfine, J., Givot, B., "*Capacitive Sensing Dielectrometers for Noncontact Characterization of Adhesives and Epoxies*," Society Mechanical Engineers (SME) ANTEC conference, May 2002.

Lovett, T.J., Zilberstein, V., Grundy, David, **Sheiretov, Y.**, Goldfine, N.J., "*Flexible Eddy Current Sensors and Scanning Arrays for Inspection of Steel and Alloy Components,*" 7th EPRI Steam Turbine/Generator Workshop and Vendor Exposition, Baltimore, MD, August 20–23, 2001.

Goldfine, N.J., Zilberstein, V., Schlicker, D., **Sheiretov, Y.**, Walrath, K., Washabaugh, A., Van Otterloo, D., *"Surface Mounted Periodic Field Current Sensors for Structural Health Monitoring,"* SPIE Conference: Smart Structures and Materials NDE for Health Monitoring and Diagnostics, Newport Beach, California, March 4–8, 2001.

Yentzer, T., Kramer, S., Goldfine, N.J., Fisher, J.M., Zilberstein, V., Schlicker, D., Windoloski, M., Lovett, J.T., Grundy, D., **Sheiretov, Y.**, *"High-Resolution Eddy Current Sensor Arrays for Detection of Hidden Damage including Corrosion and Fatigue Cracks,"* NASA/FAA/DoD Conference on Aging Aircraft, Kissimmee, Florida, September 10–13, 2001.

Zilberstein, V., **Sheiretov, Y.**, Washabaugh, A., Chen, Y., Goldfine, N., *"Applications of Spatially Periodic Field Eddy Current Sensors for Surface Layer Characterization in Metallic Alloys,"* 27th Annual Review of Progress in QNDE, Iowa State University, Ames, Iowa, July 2000.

Goldfine, N., **Sheiretov, Y.**, Washabaugh, A., Zilberstein, V., Kenny, S., Crowther, P., "*Materials Characterization and Flaw Detection for Metallic Coating Repairs*," BiNDT Journal Insight, Vol. 42, No. 12, December 2000.

Goldfine, N., Lovett, T., **Sheiretov, Y.**, Zombo, P.J., *"Dielectrometers and magnetometers, suitable for in-situ inspection of ceramic and metallic coated components,"* SPIE Nondestructive Evaluation of Aging Infrastructure Conference, Oakland, CA, Vol. 2459, pp. 164–174, June 1995.