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Masayoshi Tomizuka

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Contents

Part One

xv	<i>Symposium Committee</i>
xvii	<i>Conference Committee</i>
xxiii	<i>Introduction</i>

SESSION 1 KEYNOTE SESSION

6932 02	Decentralized structural health monitoring using smart sensors (Keynote Paper) [6932-159] B. F. Spencer, Jr., Univ. of Illinois at Urbana-Champaign (USA); T. Nagayama, Univ. of Tokyo (Japan); J. A. Rice, Univ. of Illinois at Urbana-Champaign (USA)
---------	---

SESSION 2 SHM/DAMAGE DETECTION SENSORS I

6932 04	Structural health monitoring method for curved concrete bridge box girders [6932-06] B. Glišić, D. Posenato, D. Inaudi, A. Figini, SMARTEC SA (Switzerland)
6932 07	Spatial structural sensing by carbon nanotube-based skins [6932-09] K. J. Loh, T.-C. Hou, J. P. Lynch, N. A. Kotov, Univ. of Michigan (USA)
6932 08	Concrete structure monitoring based on built-in piezoelectric ceramic transducers [6932-10] X. Zhao, H. Li, Dalian Univ. of Technology (China); D. Du, Cheng Du Architecture Middle School (China); J. Wang, Pinggu Construction Quality Supervise Station (China)

SESSION 3 SHM/DAMAGE DETECTION SENSORS II

6932 09	Load monitoring in multiwire strands by interwire ultrasonic measurements [6932-11] I. Bartoli, R. Phillips, F. Lanza di Scalea, S. Salamone, S. Coccia, Univ. of California/San Diego (USA); C. S. Sikorsky, California Department of Transportation (USA)
6932 0B	Miniaturized long period grating sensor interrogator based on a thermally tunable arrayed-waveguide-grating demultiplexer [6932-13] H. Guo, Univ. of Ottawa (Canada); G. Xiao, National Research Council (Canada); N. Mrad, Dept. of National Defence (Canada); J. Yao, Univ. of Ottawa (Canada)
6932 0D	Current development in fiber Bragg grating sensors and their applications [6932-15] V. G. M. Annamdas, Y. Yang, H. Liu, Nanyang Technological Univ. (Singapore)

- 6932 OE **Local strain monitoring study of offshore platform T shaped tubular joint using fiber Bragg grating sensors** [6932-16]
X. Zhao, Dalian Univ. of Technology (China); Z. Duan, Harbin Institute of Technology (China); J. Ou, Dalian Univ. of Technology (China) and Harbin Institute of Technology (China)
- 6932 OF **Study on data acquisition system for living environmental information for biofication of living spaces** [6932-05]
N. Shimoyama, A. Mita, Keio Univ. (Japan)

SESSION 4 PIEZOELECTRIC AND INTEGRATED SENSORS

- 6932 OG **A geometrically nonlinear mixed finite element formulation for the simulation of piezoelectric shell structures** [6932-17]
K. Schulz, S. Klinkel, Institut für Baustatik (Germany)
- 6932 OH **Comparison of shape reconstruction strategies in a complex flexible structure** [6932-18]
Z. Mao, M. Todd, Univ. of California/San Diego (USA)
- 6932 OI **Health monitoring strategy for smart piezoelectric concrete structures** [6932-19]
W. Sun, S. Yan, Shenyang Jianzhu Univ. (China)

SESSION 5 NOVEL SENSORS I

- 6932 OK **Tunable mechanical monolithic sensor with interferometric readout for low frequency seismic noise measurement** [6932-22]
F. Acernese, Univ. degli Studi di Salerno (Italy) and INFN Sezione di Napoli (Italy); R. De Rosa, G. Giordano, Univ. degli Studi di Napoli Federico II (Italy) and INFN Sezione di Napoli (Italy); R. Romano, F. Barone, Univ. degli Studi di Salerno (Italy) and INFN Sezione di Napoli (Italy)
- 6932 OL **Laser interferometric sensor for seismic waves measurement** [6932-23]
F. Acernese, Univ. degli Studi di Salerno (Italy) and INFN Sezione di Napoli (Italy); R. De Rosa, G. Giordano, Univ. degli Studi di Napoli Federico II (Italy) and INFN Sezione di Napoli (Italy); R. Romano, F. Barone, Univ. degli Studi di Salerno (Italy) and INFN Sezione di Napoli (Italy)
- 6932 OM **A new sensor for web flutter measurement** [6932-24]
A. Seshadri, P. R. Pagilla, Oklahoma State Univ. (USA)
- 6932 ON **Investigation of non-linear effects of coupling materials in sonic IR imaging** [6932-25]
X. Han, Y. Song, G. Godfrey, Wayne State Univ. (USA)
- 6932 OP **Characterization of the mechanical properties and sensing behavior of iron-gallium nanowire arrays** [6932-27]
P. R. Downey, A. B. Flatau, Univ. of Maryland/College Park (USA); P. D. McGary, B. J. H. Stadler, Univ. of Minnesota (USA)

SESSION 6 DAMPING I

- 6932 0Q **Crack detection methods for concrete and steel using radio frequency identification and electrically conductive materials and its applications** [6932-29]
K. Morita, Building Research Institute (Japan); K. Noguchi, National Institute for Land and Infrastructure Management (Japan)
- 6932 0R **Smart colloidal dampers with on-demand controllable damping capability** [6932-30]
G. Y. Zhou, Univ. of California, Irvine (USA); B. Johnson, Honda R&D Americas, Inc. (USA); L. Z. Sun, Univ. of California, Irvine (USA)
- 6932 0S **Integrated design method of MR damper and electromagnetic induction system for structural control** [6932-31]
H.-J. Lee, Korea Advanced Institute of Science and Technology (South Korea); S.-J. Moon, Korea Institute of Machinery and Materials (South Korea); H.-J. Jung, Korea Advanced Institute of Science and Technology (South Korea); Y.-C. Huh, Korea Institute of Machinery and Materials (South Korea); D.-D. Jang, Korea Advanced Institute of Science and Technology (South Korea)

SESSION 7 DAMPING II

- 6932 0T **Large-scale smart passive system for civil engineering applications** [6932-32]
H.-J. Jung, Korea Advanced Institute of Science and Technology (South Korea); D.-D. Jang, H.-J. Lee, S.-W. Cho, Samsung SDS (South Korea)
- 6932 0U **Semi-active control of floor isolation system using MR-damper** [6932-33]
P.-Y. Lin, National Ctr. for Research on Earthquake Engineering (Taiwan); C.-H. Loh, National Taiwan Univ. (Taiwan)
- 6932 0V **Decentralized sliding mode control of building using MR-dampers** [6932-34]
K.-C. Lu, C.-H. Loh, National Taiwan Univ. (Taiwan); J. N. Yang, Univ. of California/Irvine (USA); P.-Y. Lin, National Ctr. for Research on Earthquake Engineering (Taiwan)
- 6932 0W **Performance evaluation of semi-active equipment isolation system using MR-dampers** [6932-35]
Y.-C. Fan, C.-H. Loh, National Taiwan Univ. (Taiwan); J. N. Yang, Univ. of California/Irvine (USA); P.-Y. Lin, National Ctr. for Research on Earthquake Engineering (Taiwan)
- 6932 0Z **Verification of real-time hybrid tests of response control of base isolation system by MR damper comparing shaking table tests** [6932-161]
H. Fujitani, H. Sakae, R. Kawasaki, Kobe Univ. (Japan); H. Fujii, Daiwa House Industry Co., LTD (Japan); T. Hiwatashi, Toa Corp. (Japan); T. Saito, Building Research Institute (Japan)

SESSION 8 RECONFIGURABLE SYSTEMS

- 6932 10 **Shape memory polymer composite and its application in deployable hinge for space structure** [6932-37]
Y. Liu, X. Wang, X. Lan, H. Lv, J. Leng, Harbin Institute of Technology (China)

- 6932 11 **Reflexive composites: self-healing composite structures** [6932-39]
T. W. Margraf, Jr., T. J. Barnell, E. Havens, C. D. Hemmelgarn, Cornerstone Research Group, Inc. (USA)
- 6932 12 **Self-repairing composites for airplane components** [6932-40]
C. Dry, Natural Process Design, Inc. (USA)
- 6932 13 **Infrared laser-activated shape memory polymer** [6932-41]
D. Zhang, Harbin Institute of Technology (China) and Northeast Forestry Univ. (China);
Y. Liu, J. Leng, Harbin Institute of Technology (China)

SESSION 9 WIRELESS SENSORS/NETWORKS

- 6932 14 **Improved reading techniques for electronic structural surveillance tags** [6932-42]
P. Pasupathy, D. P. Neikirk, S. L. Wood, The Univ. of Texas at Austin (USA)
- 6932 15 **Development of smart sensor node for hybrid health monitoring on PSC girders** [6932-43]
J.-H. Park, D.-S. Hong, J.-T. Kim, Pukyong National Univ. (South Korea); M. D. Todd,
D. Mascarenas, Univ. of California, San Diego (USA)
- 6932 16 **Wireless inclinometer acquisition system for reducing swing movement control module experiment of hook model** [6932-44]
Y. Yu, Dalian Univ. of Technology (China); J. Ou, Harbin Institute of Technology (China) and
Dalian Univ. of Technology (China); C. Zhang, L. Li, Harbin Institute of Technology (China)
- 6932 17 **An embedded wireless system for remote monitoring of bridges** [6932-45]
T. Harms, F. Bastianini, S. Sedigh Sarvestani, Missouri Univ. of Science and Technology (USA)
- 6932 19 **Full-scale field evaluation of wireless MEMS monitoring system** [6932-47]
H. Kim, W. Kim, B.-Y. Kim, Kyungpook National Univ. (South Korea); B.-H. Cho, RIST (South Korea)
- 6932 1A **Intelligent tires for improved tire safety using wireless strain measurement** [6932-03]
R. Matsuzaki, A. Todoroki, Tokyo Institute of Technology (Japan)

SESSION 10 MONITORING SYSTEMS

- 6932 1B **Numerical and experimental study of a three-axis optical tactile sensing system** [6932-48]
J. Liu, Q. Yang, Chongqing Univ. (China); T. Ma, Univ. of Hawaii at Manoa (USA); Y. Pan,
Chongqing Univ. (China)
- 6932 1D **Sensor fusion for machine condition monitoring** [6932-50]
X. Xue, V. Sundararajan, L. Gonzalez-Argueta, Univ. of California/Riverside (USA)

SESSION 11 ULTRASONICS FOR SHM

- 6932 1E **Surface layer measurements of early age mortar investigated by ultrasonic guided waves and finite element analysis** [6932-51]
J. L. Borgerson, H. Reis, Univ. of Illinois at Urbana-Champaign (USA)

- 6932 1F **Monitoring uniform and localized corrosion in reinforced mortar using high-frequency guided longitudinal waves** [6932-52]
B. L. Ervin, H. Reis, J. T. Bernhard, D. A. Kuchma, Univ. of Illinois at Urbana-Champaign (USA)
- 6932 1G **Impact detection using ultrasonic waves based on case-based reasoning** [6932-53]
T. Otsuka, A. Mita, Keio Univ. (Japan)
- 6932 1H **Crack detection with wireless inductively-coupled transducers** [6932-54]
P. Zheng, D. W. Greve, I. J. Oppenheim, Carnegie Mellon Univ. (USA)
- 6932 1I **Lamb waves and nearly-longitudinal waves in thick plates** [6932-55]
D. W. Greve, I. J. Oppenheim, P. Zheng, Carnegie Mellon Univ. (USA)
- 6932 1J **Non-contact local and global damage detection with integrated ultrasonic transducers** [6932-56]
K.-T. Wu, McGill Univ. (Canada); C.-K. Jen, National Research Council of Canada (Canada); N. Mrad, Defence Research and Development Canada (Canada)

SESSION 12 MODELING AND DESIGN OF SMART SYSTEMS I

- 6932 1M **Extraction of spatiotemporal response information from sorption-based cross-reactive sensor arrays for the identification and quantification of analyte mixtures** [6932-60]
M. D. Woodka, B. S. Brunschwig, N. S. Lewis, California Institute of Technology (USA)
- 6932 1N **A large area flexible expandable network for structural health monitoring** [6932-61]
G. Lanzara, J. Feng, F.-K. Chang, Stanford Univ. (USA)

SESSION 13 NOVEL SENSORS II

- 6932 1O **Design of integrated IPMC/PVDF sensory actuator and its application to feedback control** [6932-04]
Z. Chen, K.-Y. Kwon, X. Tan, Michigan State Univ. (USA)
- 6932 1P **Design and testing of a MEMS acoustic emission sensor system** [6932-63]
D. W. Greve, I. J. Oppenheim, A. P. Wright, W. Wu, Carnegie Mellon Univ. (USA)
- 6932 1Q **Development of an in-fiber whitelight interferometric distance sensor for small distance measurement** [6932-64]
A. Majumdar, H. Huang, The Univ. of Texas at Arlington (USA)
- 6932 1R **Time domain reflectometry as a distributed strain sensor** [6932-65]
M.-K. Yoon, D. F. Dolan, South Dakota School of Mines and Technology (USA); S. Gabriel, Spearfish High School (USA)
- 6932 1S **Modeling and analysis of a tunable piezoelectric structure for transverse shear wave generation** [6932-66]
S. S. Chenagani, D. Roy Mahapatra, Indian Institute of Science, Bangalore (India)

- 6932 1T **Usage of fiber Bragg grating sensors in low earth orbit environment** [6932-68]
S.-O. Park, J.-B. Moon, Y.-G. Lee, C.-G. Kim, KAIST (South Korea); S. Bhowmik, Delft Univ. of Technology (Netherlands)

SESSION 14 DAMAGE ASSESSMENT: WAVE METHODS

- 6932 1U **The effect of through-the-thickness holes on a reference-free damage diagnosis technique** [6932-69]
C. Lee, Korea Advanced Institute of Science and Technology (South Korea); S. Kim, Carnegie Mellon Univ. (USA); H. Sohn, Korea Advanced Institute of Science and Technology (South Korea)
- 6932 1V **Spectral energy transmission method for crack depth estimation under various mix proportions of concrete** [6932-70]
J. Min, J. H. Kim, Korea Advanced Institute of Science and Technology (South Korea); S. W. Shin, Univ. of Illinois at Urbana-Champaign (USA); C.-B. Yun, Korea Advanced Institute of Science and Technology (South Korea)
- 6932 1W **Detection and assessment of wood decay in glulam beams using a through-transmission ultrasonic approach** [6932-71]
A. Sendik, Univ. of Illinois at Urbana-Champaign (USA); F. C. Beall, Univ. of California/Berkeley (USA); K. O'Dell, H. Reis, Univ. of Illinois at Urbana-Champaign (USA)

SESSION 15 MODELING AND MECHANICS

- 6932 1X **Monitoring the bending and twist of morphing structures** [6932-72]
J. Smoker, A. Baz, Univ. of Maryland, College Park (USA)
- 6932 1Y **Optimization of sensor introduction into laminated composite materials** [6932-73]
K. Schaaf, S. Nemat-Nasser, Univ. of California/San Diego (USA)
- 6932 20 **Estimation of deflections of bridge by two-step model updating approach based on ambient acceleration measurements** [6932-75]
S. Cho, Korea Advanced Institute of Science and Technology (South Korea); J.-H. Yi, Korea Ocean Research and Development Institute (South Korea); C.-B. Yun, Korea Advanced Institute of Science and Technology (South Korea)
- 6932 22 **Thermal sensitivity analysis of a luminescent photoelastic coating** [6932-02]
E. Esirgemez, C. Lira, J. P. Hubner, Univ. of Alabama at Tuscaloosa (USA)

SESSION 16 SIGNAL PROCESSING I

- 6932 23 **Input force identification using Kalman filter techniques: application to soil-pile interaction** [6932-77]
C.-H. Loh, A.-L. Wu, National Taiwan Univ. (Taiwan); J. N. Yang, Univ. of California, Irvine (USA); C.-H. Chen, T.-S. Ueng, National Taiwan Univ. (Taiwan)
- 6932 24 **Low-power feedback-enhanced electro-mechanical impedance (FEMI) sensors** [6932-79]
J. E. Jang, C. P. Yue, Univ. of California/Santa Barbara (USA)

- 6932 25 **Comparison of various structural damage tracking techniques based on experimental data** [6932-80]
H. Huang, Tongji Univ. (China); J. N. Yang, Univ. of California, Irvine (USA); L. Zhou, Nanjing Univ. of Aeronautics and Astronautics (China)
- 6932 26 **Structural damage assessment using damage locating vector with limited sensors** [6932-81]
V. A. Tran, W. H. Duan, S. T. Quek, National Univ. of Singapore (Singapore)

Part Two

SESSION 17 SIGNAL PROCESSING II

- 6932 28 **A regularization scheme for displacement reconstruction using acceleration data measured from structures** [6932-83]
Y. H. Hong, Seoul National Univ. (South Korea); H. W. Park, Dong-A Univ. (South Korea); H. S. Lee, Seoul National Univ. (South Korea)
- 6932 29 **Tracking time-varying properties of hysteretic structure by wavelet multi-resolution analysis** [6932-84]
C. C. Chang, Y. F. Shi, Hong Kong Univ. of Science and Technology (Hong Kong China)
- 6932 2A **Filtering techniques in the dynamic deformation estimation using multiple strains measured by FBGs** [6932-85]
J. Treiber, Korea Advanced Institute of Science and Technology (South Korea) and Technical Univ. of Munich (Germany); U. C. Mueller, Technical Univ. of Munich (Germany); J.-H. Han, Korea Advanced Institute of Science and Technology (South Korea); H. Baier, Technical Univ. of Munich (Germany)
- 6932 2B **Sensor-based warranty system for improving seismic performance of building structures** [6932-86]
R. Miyamoto, A. Mita, Keio Univ. (Japan)
- 6932 2C **Vibration-based damage monitoring algorithms for prestress-loss in PSC girder bridges** [6932-87]
J.-T. Kim, W.-B. Na, Y.-S. Ryu, J.-H. Park, J.-M. Lee, S.-Y. Lee, Pukyong National Univ. (South Korea)
- 6932 2D **Robust water leakage detection approach using the sound signals and pattern recognition** [6932-88]
Y. Terao, A. Mita, Keio Univ. (Japan)
- 6932 2E **Demonstration of detectability of SHM system with FBG/PZT hybrid system in composite wing box structure** [6932-01]
H. Soejima, T. Ogisu, H. Yoneda, Fuji Heavy Industries, Ltd. (Japan); Y. Okabe, N. Takeda, Univ. of Tokyo (Japan); Y. Koshioka, R&D Institute of Metal and Composites for Future Industries (Japan)

SESSION 18 DAMAGE DETECTION

- 6932 2F **Development of a high flow-rate/high operating frequency Nitinol MEMS valve** [6932-89]
M. Seong, K. P. Mohanchandra, Univ. of California/Los Angeles (USA); Y. Lin, NASA Dryden
Flight Research Ctr. (USA); G. P. Carman, Univ. of California/Los Angeles (USA)
- 6932 2G **Detection of abnormalities in a human gait using smart shoes** [6932-90]
K. Kong, J. Bae, M. Tomizuka, Univ. of California/Berkeley (USA)
- 6932 2H **A multi-mode sensing system for corrosion detection using piezoelectric wafer active
sensors** [6932-91]
L. Yu, V. Giurgiutiu, P. Pollock, Univ. of South Carolina (USA)

SESSION 19 FIBER OPTIC SENSORS FOR SHM

- 6932 2I **Estimation of flexural properties degradation in composite sandwich structures using fiber
Bragg grating sensors** [6932-92]
B. W. Jang, S. W. Park, C. G. Kim, Korea Advanced Institute of Science and Technology
(South Korea)
- 6932 2J **Fiber optics based ion discriminator** [6932-93]
R. Ostroumov, V. Kochergin, R. Fielder, Luna Innovations, Inc. (USA)
- 6932 2K **Optimal demodulation of wavelength shifts in fiber Bragg grating sensors using an adaptive
two wave mixing photorefractive interferometer** [6932-94]
O. Balogun, G. R. Kirikera, S. Krishnaswamy, Northwestern Univ. (USA)
- 6932 2M **Design and laboratory validation of a structural element instrumented with multiplexed
interferometric fiber optic sensors** [6932-96]
D. Zonta, M. Pozzi, H. Wu, Univ. of Trento (Italy); D. Inaudi, SMARTEC SA (Switzerland)
- 6932 2N **Performance of the fiber Bragg grating sensors at cryogenic temperatures** [6932-97]
Z.-S. Guo, J. Zhang, X. Guo, H. Hu, Shanghai Univ. (China)

SESSION 20 SHM FOR COMPOSITE MATERIALS

- 6932 2O **A parametric study of guided mechanical waves in windshields: a three-layer laminated
structure** [6932-98]
S. Huo, H. Reis, Univ. of Illinois at Urbana-Champaign (USA)
- 6932 2P **Shape identification of variously-deformed composite laminates using Brillouin type
distributed strain sensing system with embedded optical fibers** [6932-99]
M. Nishio, T. Mizutani, N. Takeda, The Univ. of Tokyo (Japan)
- 6932 2Q **Smart composite structure based on integrated passive wireless strain sensors** [6932-100]
Z. J. Wong, C.-G. Kim, Korea Advanced Institute of Science and Technology (South Korea)
- 6932 2R **Concept and model of a piezoelectric structural fiber for multifunctional composites**
[6932-101]
Y. Lin, H. A. Sodano, Arizona State Univ. (USA)

SESSION 21 VIBRATION SHM AND OTHER SENSORS

- 6932 2T **Numerical analysis and control for cantilever flexible beams using PZT patches** [6932-103]
S. Yan, H. Zhang, Shenyang Jianzhu Univ. (China)
- 6932 2U **Vibration control of hysteretic systems via neural network adaptive backstepping**
[6932-104]
M. Zapateiro, N. Luo, Univ. of Girona (Spain)
- 6932 2V **Embeddable sensor mote for structural monitoring** [6932-105]
J. W. Fonda, S. E. Watkins, S. Jagannathan, M. Zawodniok, Missouri Univ. of Science and
Technology (USA)
- 6932 2W **Design of piezoelectric sensors, actuators, and energy harvesting devices using topology
optimization** [6932-106]
P. H. Nakasone, C. Y. Kiyono, E. C. N. Silva, Escola Politécnica da Univ. de São Paulo (Brazil)
- 6932 2X **Solid micro horn array (SMIHA) for acoustic matching** [6932-107]
S. Sherit, X. Bao, Y. Bar-Cohen, Jet Propulsion Lab. (USA)
- 6932 2Y **Biology-inspired acoustic sensors for sound source localization** [6932-108]
H. Liu, Z. Chen, M. Yu, Univ. of Maryland/College Park (USA)
- 6932 2Z **A thermokinetically driven metal-hydride actuator** [6932-109]
K. Jung, K. J. Kim, Univ. of Nevada/Reno (USA)

SESSION 22 ENERGY HARVESTING AND STORAGE

- 6932 30 **Anodized aluminum oxide (AAO) based nanowells for hydrogen detection** [6932-110]
F. Rumiche, Univ. of Illinois at Chicago (USA) and Argonne National Lab. (USA); H.-H. Wang,
Argonne National Lab. (USA); J. E. Indacochea, M. L. Wang, Univ. of Illinois at Chicago
(USA)
- 6932 31 **Multi-objective optimal control of vibratory energy harvesting systems** [6932-111]
J. T. Scruggs, Duke Univ. (USA)
- 6932 32 **Piezoelectric polymeric thin films tuned by carbon nanotube fillers** [6932-112]
J. Kim, K. J. Loh, J. P. Lynch, Univ. of Michigan (USA)

SESSION 23 SHM/DAMAGE DETECTION METHODS I

- 6932 34 **Structural health monitoring sensor development for the Imote2 platform** [6932-114]
J. A. Rice, B. F. Spencer, Jr., Univ. of Illinois at Urbana-Champaign (USA)
- 6932 35 **Development of autonomous triggering instrumentation** [6932-115]
S. E. Watkins, T. M. Swift, J. W. Fonda, Missouri Univ. of Science and Technology (USA)
- 6932 36 **Acoustic emission monitoring of stayed cables based on wavelet analysis** [6932-117]
T. Jin, Z. Sun, L.-M. Sun, Tongji Univ. (China)

SESSION 24 SHM/DAMAGE DETECTION METHODS II

- 6932 37 **A novel fibre optic acoustic emission sensor** [6932-118]
R. Chen, Univ. of Birmingham (United Kingdom); P. Theobald, M. Gower, National Physical Lab. (United Kingdom); S. Malik, J. Burns, Univ. of Birmingham (United Kingdom); E. Fernandes, G. Bryce, Doosan Babcock Energy Ltd. (United Kingdom); G. F. Fernando, Univ. of Birmingham (United Kingdom)
- 6932 38 **A hybrid wireless sensor network for acoustic emission testing in SHM** [6932-137]
C. Grosse, Univ. of Stuttgart (Germany); G. McLaskey, Univ. of California, Berkeley (USA); S. Bachmaier, Univ. of Stuttgart (Germany); S. D. Glaser, Univ. of California, Berkeley (USA); M. Krüger, Univ. of Stuttgart (Germany)
- 6932 39 **Acoustic emission beamforming for enhanced damage detection** [6932-119]
G. C. McLaskey, S. D. Glaser, Univ. of California, Berkeley (USA); C. U. Grosse, Univ. of Stuttgart (Germany)
- 6932 3A **Smart acoustic emission system for wireless monitoring of concrete structures** [6932-120]
D.-J. Yoon, Y.-G. Kim, C.-Y. Kim, D.-C. Seo, Korea Research Institute of Standards and Science (South Korea)
- 6932 3B **Surface wave propagation in concrete structures by using piezoelectric actuators/sensors** [6932-158]
F. Song, G. L. Huang, J. Kim, Univ. of Arkansas at Little Rock (USA); S. Haran, Arkansas State Univ. (USA)

SESSION 25 SIGNAL PROCESSING & DAMAGE DETECTION I

- 6932 3C **Identification of structural damage using wavelet-based data classification** [6932-122]
B.-H. Koh, Dongguk Univ. (South Korea); M.-J. Jeong, Korea Institute of Science and Technology Information (South Korea); U. Jung, Dongguk Univ. (South Korea)

SESSION 26 SIGNAL PROCESSING AND DAMAGE DETECTION II

- 6932 3E **Enhanced statistical damage identification using frequency shift information with tunable piezoelectric circuitry** [6932-124]
J. Zhao, J. Tang, Univ. of Connecticut (USA)
- 6932 3F **Damage identification using piezoelectric impedance and spectral element method** [6932-125]
X. Wang, J. Tang, Univ. of Connecticut (USA)
- 6932 3G **An optical fibre sensor for acoustic wave mode decomposition** [6932-126]
N. Rajic, C. Davis, C. Rosalie, Defence Science and Technology Organisation (Australia)
- 6932 3H **Improved IPMC sensing by use of cation and through induced nano-to-micro scale surface cracks** [6932-127]
R. Tiwari, K. J. Kim, Univ. of Nevada/Reno (USA)

- 6932 3I **Embedded algorithms within an FPGA-based system to process nonlinear time series data** [6932-128]
J. D. Jones, J.-S. Pei, M. P. Tull, Univ. of Oklahoma (USA)

SESSION 27 MODELING AND DESIGN OF SMART SYSTEMS II

- 6932 3K **Structural configuration study for an acoustic wave sensor** [6932-131]
W. S. Shepard, Jr., B. B. B. Zhang, The Univ. of Alabama (USA); C.-C. Chen, Tuskegee Univ. (USA)
- 6932 3L **Static analysis of an artificial muscle system based on PZT strain amplification** [6932-132]
T. W. Secord, Massachusetts Institute of Technology (USA); J. Ueda, Massachusetts Institute of Technology (USA) and NARA Institute of Science and Technology (Japan); H. H. Asada, Massachusetts Institute of Technology (USA)

SESSION 28 WIRELESS FOR SHM

- 6932 3P **Design and implementation of a wireless sensor network for smart living spaces** [6932-138]
J. D. Huang, C. S. Yeh, C. S. Chen, National Taiwan Univ. (Taiwan); C. K. Lee, National Taiwan Univ. (Taiwan) and Industrial Technology Research Institute (Taiwan); W. J. Wu, National Taiwan Univ. (Taiwan)
- 6932 3Q **High efficiency energy harvesting device with magnetic coupling for resonance frequency tuning** [6932-139]
V. R. Challa, M. G. Prasad, F. T. Fisher, Stevens Institute of Technology (USA)

POSTER SESSION

- 6932 3S **A damage classification technique for impedance-based health monitoring of helicopter blades** [6932-129]
J. R. V. Moura, Jr., V. Steffen, Jr., Federal Univ. of Uberlandia (Brazil); D. J. Inman, Virginia Polytechnic Institute and State Univ. (USA)
- 6932 3T **Automatic control of laser beams aberrations in air using an adaptive optics system prototype based on interferometric techniques** [6932-142]
S. Grasso, Univ. degli Studi di Roma Tre (Italy); F. Acernese, R. Romano, F. Barone, Univ. degli Studi di Salerno (Italy) and INFN Sezione di Napoli (Italy)
- 6932 3U **Long period grating-based ocean pH sensor in an SMS fiber** [6932-144]
K. Wang, D. Klimov, Z. Kolber, Monterey Bay Aquarium Research Institute (USA)
- 6932 3W **A sensitivity based method for sensor placement optimization of bridges** [6932-146]
Y. Song, H. Jin, Xiamen Univ. (China)
- 6932 3X **A distributed damage detection strategy employing smart sensor technology** [6932-147]
W. S. Lee, K. T. Park, B. C. Joo, Korea Institute of Construction Technology (South Korea)

- 6932 3Y **Sensing rich drive trains for modern mechatronic systems: second year progress report**
[6932-148]
M. Tomizuka, C.-C. Wang, S. Jeon, H. Cheng, Univ. of California, Berkeley (USA)
- 6932 3Z **Optical fiber grating-based sensing system for use in pavement health monitoring**
[6932-150]
J.-N. Wang, National Yunlin Univ. of Science and Technology (Taiwan); J.-L. Tang, National
Chung-Cheng Univ. (Taiwan)
- 6932 40 **Experimental study on the method of bridge safety evaluation** [6932-151]
B. C. Joo, K. T. Park, W. S. Lee, H. Y. Koog, Korea Institute of Construction Technology (South
Korea)
- 6932 42 **Large deformation polymer optical fiber sensors for civil infrastructure systems** [6932-154]
O. Abdi, M. Kowalsky, T. Hassan, S. Kiesel, K. Peters, North Carolina State Univ. (USA)
- 6932 43 **Error pattern analysis for data transmission of wireless sensors on rotating industrial
structures** [6932-155]
K.-C. Wang, J. Jacob, L. Tang, Y. Huang, Clemson Univ. (USA); F. Gu, General Motors R&D
Ctr. (USA)
- 6932 45 **Granular segregation studies for retroreflector sensor development** [6932-157]
K. M. Hill, Y. Fan, Univ. of Minnesota (USA); J. Zhang, J. T. Bernhard, Univ. of Illinois at Urbana-
Champaign (USA); S. C. Hagness, Univ. of Wisconsin/Madison (USA)
- 6932 47 **Experimental studies on intelligent fault detection and diagnosis using sensor networks on
mechanical pneumatic systems** [6932-164]
K. Zhang, I. Kao, SUNY at Stony Brook (USA); S. Kambli, C. Boehm, Festo Corp. U.S.A. (USA)

Author Index

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Session Chairs

- 1 Keynote Session
Chung-Bang Yun, Korea Advanced Institute of Science and Technology (South Korea)
Victor Giurgiutiu, University of South Carolina (USA)
- 2 SHM/Damage Detection Sensors I
Daniele Inaudi, Smartec SA (Switzerland)
- 3 SHM/Damage Detection Sensors II
Jialai Wang, The University of Alabama at Tuscaloosa (USA)
C.-B. Yun, Korea Advanced Institute of Science and Technology (South Korea)
- 4 Piezoelectric and Integrated Sensors
Gangbing Song, University of Houston (USA)
H. Harry Asada, Massachusetts Institute of Technology (USA)
- 5 Novel Sensors I
Xiaoyan Han, Wayne State University (USA)
Alison B. Flatau, University of Maryland/College Park (USA)
- 6 Damping I
Hyung-Jo Jung, Korea Advanced Institute of Science and Technology (South Korea)
Heon-Jae Lee, Korea Advanced Institute of Science and Technology (South Korea)

- 7 Damping II
Heon-Jae Lee, Korea Advanced Institute of Science and Technology (South Korea)
Hyung-Jo Jung, Korea Advanced Institute of Science and Technology (South Korea)
- 8 Reconfigurable Systems
George Akhras, Royal Military College of Canada (Canada)
- 9 Wireless Sensors/Networks
Carolyn M. Dry, Natural Process Design, Inc. (USA)
Jeong-Tae Kim, Pukyong National University (South Korea)
- 10 Monitoring Systems
V. Sundararajan, University of California/Riverside (USA)
David Ma, University of Hawai'i at Manoa (USA)
- 11 Ultrasonics for SHM
Henrique L. Reis, University of Illinois at Urbana-Champaign (USA)
Irving J. Oppenheim, Carnegie Mellon University (USA)
- 12 Modeling and Design of Smart Systems I
Dryver R. Huston, The University of Vermont (USA)
- 13 Novel Sensors II
Myung-Keun Yoon, South Dakota School of Mines and Technology (USA)
Haiying Huang, The University of Texas at Arlington (USA)
- 14 Damage Assessment: Wave Methods
Chung-Bang Yun, Korea Advanced Institute of Science and Technology (South Korea)
Chih-Chen Chang, Hong Kong University of Science and Technology (Hong Kong China)
- 15 Modeling and Mechanics
Amr M. Baz, University of Maryland/College Park (USA)
Hoon Sohn, Korea Advanced Institute of Science and Technology (South Korea)
- 16 Signal Processing I
Jann N. Yang, University of California/Irvine (USA)
Ser-Tong Quek, National University of Singapore (Singapore)

- 17 Signal Processing II
Michael D. Todd, University of California/San Diego (USA)
Chih-Chen Chang, Hong Kong University of Science and Technology
(Hong Kong China)
- 18 Damage Detection
Lingyu Yu, University of South Carolina (USA)
- 19 Fiber Optic Sensors for SHM
Roman P. Ostroumov, Luna Innovations, Inc. (USA)
Oluwaseyi Balogun, Northwestern University (USA)
- 20 SHM for Composite Materials
Henrique L. Reis, University of Illinois at Urbana-Champaign (USA)
Henry A. Sodano, Arizona State University (USA)
- 21 Vibration SHM and Other Sensors
Shi Yan, Shenyang Architectural and Civil Engineering University
(China)
Stewart Sheritt, Jet Propulsion Laboratory (USA)
- 22 Energy Harvesting and Storage
Jerome P. Lynch, University of Michigan (USA)
Ming L. Wang, University of Illinois at Chicago (USA)
- 23 SHM/Damage Detection Methods I
Steven D. Glaser, University of California/Berkeley (USA)
Akira Mita, Keio University (Japan)
- 24 SHM/Damage Detection Methods II
Dong-Jin Yoon, Korea Research Institute of Standards and Science
(South Korea)
Chung-Bang Yun, Korea Advanced Institute of Science and
Technology (South Korea)
- 25 Signal Processing & Damage Detection I
Bong-Hwan Koh, Dongguk University (South Korea)
Jiong Tang, University of Connecticut (USA)
- 26 Signal Processing and Damage Detection II
Jiong Tang, University of Connecticut (USA)
Jin-Song Pei, University of Oklahoma (USA)
- 27 Modeling and Design of Smart Systems II
H. Harry Asada, Massachusetts Institute of Technology (USA)
W. Steve Shepard, Jr., The University of Alabama at Tuscaloosa (USA)

- 28 Wireless for SHM
 Gyuhae Park, Los Alamos National Laboratory (USA)
 Fuh-Gwo Yuan, North Carolina State University (USA)

Introduction

This volume is a collection of technical papers presented at the 2008 SPIE Conference held in San Diego, California, on Sensors and Smart Structures Technologies for Civil, Mechanical, and Aerospace Systems. This conference is unique in the emerging area of sensors and smart structures technologies because of its multidisciplinary representations from the aerospace, civil, and mechanical engineering communities. Participants were from more than 15 countries and regions over the globe. The conference also served as the *de facto* grantees' conference of the Sensor Innovation and Systems (SIS) program of the Civil, Mechanical and Manufacturing Innovation (CMMI) Division of the National Science Foundation. The participation of the Asian-Pacific Network of Centers for Research in Smart Structure Technology (ANCRiSST) as the conference co-sponsor strengthened international participations. As you find in the roster of the program committee, members of the program committee represented the various fields of engineering. The conference showed approximately 3.62% growth from the previous year in terms of the number of papers accepted. The conference started with a plenary session with two excellent keynote presentations: "Decentralized structural health monitoring using smart sensors" by Professor Bill F. Spencer, Jr., Univ. of Illinois at Urbana-Champaign, and "Foundational advances in RNA engineering for constructing integrated biosensing and bioactuation devices in living Systems" by Professor Christina Smolke, California Institute of Technology. The opening plenary session was followed by 27 topical sessions and one poster session. The papers in these sessions covered a wide range of topics in: fiber optics and other novel sensors, structural health monitoring, signal processing, damage detection and assessment, wireless technologies, and modeling and analysis of smart systems. Research papers supported by the NSF SIS program were presented at both respective topical sessions and the NSF poster session. Lively discussions among Dr. Shih-Chi Liu, CMMI Program Director in charge of SIS, principal investigators of the NSF projects and other participants took place during the poster session.

In conjunction with the broad technical base of the current conference program and its objectives, it is apparent that we must continue to develop and build a large, diverse constituency. In light of the increased number of submissions to this conference that we witnessed in recent years, we are optimistic in this regard. We would like to thank authors and presenters of this year's conference for their contributions. The outstanding conference program was put together by the fine effort of the program committee, and we are thankful to the members of the program committee members for their contributions.

We trust that readers will find this conference volume useful and informative.

**Masayoshi Tomizuka
Chung-Bang Yun
Victor Giurgiutiu**