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## Banquet Speaker

**Early Developments in Laser Science**, Orazio Svelto; *Politecnico di Milano, Italy*



**Orazio Svelto** is professor of Physics of Matter at the Polytechnic Institute of Milan. His research has covered a wide range of activity in the field of Laser Physics and Photonics, starting from the early beginning (1962) of these disciplines. This activity includes ultrashort-pulse generation and applications, physics of laser resonators and techniques of mode selection, laser applications in biology and biomedicine, and physics of solid-state lasers. Professor Svelto is the author of more than 200 scientific papers and holds 3 patents; his researches have been the subject of more than 60 invited papers at international conferences. He is also the author of the book *Principles of Lasers* (Springer, 5th Ed., 2009) which has currently been adopted at several universities in Europe and United States and whose previous editions were also translated in Russian, Chinese, Greek, Farsi and

Arabic languages. He served as a Program Chairman, Conference Chairman or Honorary Chairman at several international conferences; in particular, he was program chair of the IX International Quantum Electronics Conference (Amsterdam, 1976), general co-chair of the first CLEO-Europe Conference (Amsterdam, 1994) and program co-chair for 2002 International Quantum Electronics Conference (Moscow). He is the recipient of several awards including the Italgas prize for research and technology innovation, the Quantum Electronics Prize of the European Physical Society, and the Charles H. Townes Award of The Optical Society. He is fellow of The Optical Society and of the Institute of Electrical and Electronics Engineers and he is an elected member of several Italian academies including the National Academy of Sciences and the "Accademia dei Lincei."

## Free Space Lasercom

**LSMA1, Adaptive Optics for Free Space Laser Communications**, Mikhail Vorontsov<sup>1</sup>, Thomas Weyrauch<sup>1</sup>, Gary Carhart<sup>2</sup>, Leonid Beresnev<sup>2</sup>; <sup>1</sup>*School of Engineering, Univ. of Dayton, USA*, <sup>2</sup>*ARL, USA*

**LSMA2, Analysis of Analog RF FSO Links**, Frank Bucholtz, Harris Burris; *NRL, USA*

**LSMA3, Air to Ground Lasercom System Demonstration**, George Nowak; *United States Military Acad., USA*

**LSMA4, Differential Phase-Shift Keying in Multi-Wavelength Spatial Diversity Links**, Todd Ulmer, Scott R. Henion, Frederick G. Walther, Peter A. Schulz; *MIT Lincoln Lab, USA*

**LSMB1, Coherent Free-Space Optical Communication Using Electronic Wavefront Correction**, Guifang Li; *Univ. of Central Florida, USA*

**LSMB2, On the Achievable Performance of Non-Line-of-Sight Ultraviolet Communications**, Qunfeng He<sup>1</sup>, Brian Sadler<sup>2</sup>, Zhengyuan Xu<sup>1</sup>; <sup>1</sup>*Univ. of California, USA*, <sup>2</sup>*US ARL, USA*

**LSMB3, Observations of Power-in-Fiber Statistics in Two Recent Free-Space Communication Link Experiments**, Ron Parenti, Steven Michael, Jeffrey M. Roth, Timothy M. Yarnall; *MIT Lincoln Lab, USA*

**LSMB4, Laser Radar for Channel Profiling for Laser Comm**, Gary G. Gimmestad; *Georgia Tech Res. Inst., USA*

**LSMB5, Measurements of Atmospheric Turbulence Characteristics for Laser Channel Characterization**, Mikhail Belenkii; *Trex Enterprises Corp., USA*

**LSMC1, Title to Be Announced**, Prem Kumar; *Northwestern Univ., USA*

**LSMC2, Application of Adaptive Optics to Lasercom**, Malcolm Northcott; *Aoptix Technologies, USA*

**LSMC3, Free-Space Quantum Key Distribution with Multilevel Encoding via Transverse Field Modulation**, Mark T. Gruneisen; *AFRL, USA*

**LSMC4, Free-Space Analog Optical Links: Systems, Performance and Statistical Properties**, Frank Bucholtz<sup>1</sup>, C. I. Moore<sup>1</sup>, H. R. Burris<sup>1</sup>, C. S. McDermitt<sup>1</sup>, R. Mahon<sup>1</sup>, M. R. Suite<sup>1</sup>, J. V. Michalowicz<sup>2</sup>, G. C. Gilbreath<sup>1</sup>, W. S. Rabinovich<sup>1</sup>; <sup>1</sup>*NRL, USA*, <sup>2</sup>*Global Strategies Group, North America, Inc., USA*

**LSTuA1, Analysis of a Field-Conjugation Adaptive Array for Coherent Free-Space Optical Links**, Aniceto Belmonte<sup>1</sup>, Joseph M. Kahn<sup>2</sup>; <sup>1</sup>*Dept. of Signal Theory and Communications, Technical Univ. of Catalonia, Spain*, <sup>2</sup>*Stanford Univ., USA*

**LSTuA2, A Review of Vertical Cavity Semiconductor Optical Amplifiers and Applications**, Michael Sánchez; *CENTRA Technology, USA*

**LSTuB1, Underwater Optical Modulating Retro-Reflector Links**, William S. Rabinovich<sup>1</sup>, Rita Mahon<sup>1</sup>, Mike Ferraro<sup>1</sup>, James Murphy<sup>1</sup>, Linda Mullen<sup>2</sup>, Brandon Cohenour<sup>2</sup>, John Muth<sup>3</sup>, Leah Ziph-Schatzberg<sup>4</sup>; <sup>1</sup>*NRL, USA*, <sup>2</sup>*Electro-Optics and Special Mission Sensors Div., Naval Air Systems Command, NAVAIR, USA*, <sup>3</sup>*North Carolina State Univ., USA*, <sup>4</sup>*Photonics Ctr., Boston Univ., USA*

**LSTuB2, High Data Rate Underwater Comms**, Phil Lacovara; *Ambalux Corp., USA*

**LSTuB3, Blue Green Laser Communications**, Dennis G. Harris, Frederick Vachss; *Boeing Co., USA*

**LSTuB4, Blue-Green Laser Technology**, Ralph Burnham<sup>1</sup>, Fred Levinton<sup>2</sup>; <sup>1</sup>*Fibertek Inc., USA*, <sup>2</sup>*Nova Photonics, Inc., USA*

**LSTuB5, Optical Filter for Submarine Laser Communications**, Fred Levinton; *NovaPhotonics, USA*

**LSTuB6, A Review of Submarine Laser Communications to Achieve Comms at Speed and Depth**, Greg Mooradian; *QinetiQ, USA*

**LSTuC1, ORCA Link Budget Analysis**, Alan Pike; *Defense Strategies & Systems, Inc., USA*

**LSTuC2, Air to Ground Lasercom**, Frederick Walther, Steven Michael; *MIT Lincoln Labs, USA*

**LSTuC3, Moon to Earth FSO Links**, Don Boroson, Bryan Robinson; *MIT Lincoln Lab, USA*

**LSTuC4, Submarine Laser Communication Uplinks**, Gary M. Lee; *Consultant, USA*

**LSWB1, Combating Atmospheric Scintillation and Dispersion on a Laser Imaging Link Using Multiple Parallel Beams**, Mohsen Kavehrad, Zeinab Hajjarian, Jarir Fadlullah; *Penn State Univ., USA*

## Active Imaging

**LSWA1, Tomographic Lidar**, James T. Murray, Joseph Triscari, Gregory Fetzer, Ryan Epstein, Jeff Plath, William Ryder, Neil Van Lieu; *Areté Associates, USA*

**LSWA3, Multi-Pixel (Matrix) Laser Vibrometer**, James Kilpatrick, Vladimir Markov; *MetroLaser Inc., USA*

**LSWA4, Photon Counting Lidars for Airborne and Spaceborne Topographic Mapping**, John J. Degnan; *Sigma Space Corp., USA*

**LSWB2, 3-D Passive Sensing and Multiview Imaging**, B. Javidi<sup>1</sup>, E. A. Watson<sup>2</sup>, P. F. McManamon<sup>3</sup>; <sup>1</sup>*Univ. of Connecticut, USA*, <sup>2</sup>*US AFRL, Sensors Directorate, USA*, <sup>3</sup>*Exciting Technology LLC, USALSWC3, Phased-Array Laser Radar System Based on Slow Light*, Robert W. Boyd<sup>1</sup>, George M. Gehring<sup>1</sup>, M. A. Martinez Gamez<sup>1</sup>, Aaron

Schweinsberg<sup>1</sup>, Zhimin Shi<sup>1</sup>, Joseph E. Vornehm, Jr.<sup>1</sup>, Edward A. Watson<sup>2</sup>, Lawrence Barnes<sup>2</sup>; <sup>1</sup>*Univ. of Rochester, USA*, <sup>2</sup>*AFRL, USA*

**LSWC1, Arrays of Gieger-Mode Avalanche Photodiodes for Ladar and Laser Communications**, Alex McIntosh; *MIT Lincoln Lab, USA*

**LSWC2, Coherent Imaging**, Joseph Marron; *Lockheed Martin Coherent Technologies, USA*

**LSWC3, Phased-Array Laser Radar System Based on Slow Light**, Robert W. Boyd<sup>1</sup>, George M. Gehring<sup>1</sup>, M. A. Martinez Gamez<sup>1</sup>, Aaron Schweinsberg<sup>1</sup>, Zhimin Shi<sup>1</sup>, Joseph E. Vornehm, Jr.<sup>1</sup>, Edward A. Watson<sup>2</sup>, Lawrence Barnes<sup>2</sup>; <sup>1</sup>*Univ. of Rochester, USA*, <sup>2</sup>*AFRL, USA*

**LSWD1, Higher-Order-Mode Fiber Amplifiers**, Jeff Nicholson; *OFS Labs, USA*

**LSWD2, Photonic Crystal Mirrors for Free-Space Communication and Fiber-Optic Sensors**, S. Hadzialic, I. W. Jung, O. Kilic, S. Kim, J. Provine, R. T. Howe, O. Solgaard; *Edward L. Ginzton Lab, Stanford Univ., USA*

**LSWE2, Controlling Light-Matter Interactions Using Photonic Crystal Fibers**, Philip Russell; *Max Planck Inst. for the Science of Light, Germany*

**LSWE3, Title to Be Announced**, Peter Moulton; *Q-Peak Inc., USA*

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