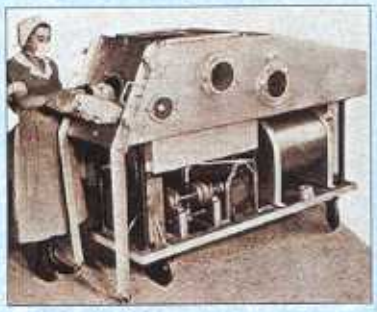
2002 Awards Ceremony



EMB®

24 October 2002 Houston, Texas

50th Anniversary of the IEEE Engineering in Medicine and Biology Society

EMBS Outstanding Chapter Award

There were no nominations this year for the 2002 EMBS Outstanding Chapter Award.

AWARDEES

2001: No Nominations
2000: No Nominations
1999: Twin Cities
1998: Baltimore Chapter
1997: Houston Chapter
1994: Dayton Chapter
1993: Mexico Chapter
1992: Santa Clara Valley (California) Chapter

DESCRIPTION: For achievement in delivering services to members of an EMBS chapter during the previous calendar year.

CRITERIA: A single EMBS Chapter will be selected each year, based on the quality and quantity of the services provided to EMBS members in that Chapter's geographic domain. Among the documentation considered in selecting the winning chapter will be meeting reports and newsletters. The award is presented to the Chapter, whose Executive Committee determines which individual member of the chapter will travel to the Society's Annual International Conference to receive the award on behalf of the chapter.

NOMINATION: The awardee will be selected by the Member and Chapter Activities Committee of the EMB Society. No nomination is needed.

RECOGNITION: Reimbursement of up to $1,500 (intercontinental travel) or $1,000 (intracontinental travel) for transportation and hotel accommodations at the EMBS Annual International Conference. The Chapter will be recognized at the conference's awards presentation ceremony.

EMBS Student Design Competition Award*

There were no awardees for the 2002 EMBS Student Design Competition Award.

EMBS Student Paper Competition Award*

2001 AWARDEES

1st place: ***Adrian Chan*** *Institute of Biomedical Engineering Hidden Markov Model Classification of Myoelectric Signals in Speech*

2nd place: ***Jaime Heiss*** *Universidad de Chile Classification of Sleep Stages in Infants: a Neuro Fuzzy Approach*

3rd place Tie:

Ersin Bayram Wake Forest University School of Medicine *Confidence Based Anisotropic Filtering of Magnetic Resonance Images*

Bram Lohman *Delft University of Technology A Digital Signal Processor for Doppler Radar Sensing of Vital Signs*

Basak Ulker *Middle East Technical University Implementation of a Data Acquisition System for Contactless Conductivity Imaging*

DESCRIPTION: For outstanding student achievement on a level of international competition in the field of Biomedical Engineering.

CRITERIA: The three most outstanding student competitors at the Annual International Conference of the EMBSwill be recognized based on the quality and presentation of their research at that Conference.

NOMINATION: Student EMBS members who have submitted their papers to the student paper competition at the Annual International Conference of the IEEE EMBS, and who have already been recognized as an EMBS Whitaker Foundation Student Open Competition Finalist or as an EMBS Whitaker Foundation Student Region Finalist, are automatically considered for this award.

RECOGNITION: Cash awards of $300, $200, and $100 respectively for 1st, 2nd, and 3rd place winners.

EMBS Student Paper Competition Region Finalists

2002 FINALISTS

Region 1 ***Harold Bien*** SUNY at Stony Brook
Cardiac Cell Networks on Elastic Microgrooved Scaffolds

Region 2 ***Fariyal Ahmed*** University of Pennsylvania
Controlled Release and Stealthy Circulation of Polymersomes

Region 3 ***Mark Wachowiak*** University of Louisville
Generalized Mutual Information Similarity Metrics for Multimodal Biomedical Image Registration

Region 4 ***Zachary Hilt*** Purdue University
A Biomems Sensor Platform Based on a Cantilever with a Precisely Patterned Environmentally Sensitive Hydrogel

Region 5 Kathryn Simpson Rice University
Quantification of S. Aureus Adhesion to Fibronectin Using Optical Tweezers

Region 6 Wojciech K. Timoszyk University of California, Irvine *Second Generation Robotic Systems for Studying Rodent Locomotion Following Spinal Cord Injury*

Region 7 Christina Cately Carleton University
Design of a Health Care Architecture for Medical Data Interoperability and Application Integration

Region 9 Bernd Messnarz Graz University of Technology *A New Spatiotemporal Regularization Method for Estimating the Cardiac Transmembrane Potential*

Region 10 Yan Sun Nanyang Technological University *Cardiac Rhythm Tracking in Electrocardiographic Signals by Morphological Transform-Based Singularity Detector*

EMBS Student Paper Competition Open Finalists

2002 FINALISTS

Jonathan Brown Louisiana Tech University *Nanoengineered Polyelectrolyte Microcapsules as Fluorescent Potassium Ion Sensors*

John L. Tan Johns Hopkins *Feel the Force: Using an Array of Posts to Map Single Cell Generated Traction Forces*

Wei He Rutgers University *Nucleus Shape Recognition for An Automated Hematology Analyzing System*

Daniel Mocanu Boston University *Biventricular Defibrillation with Sequential Shocks Using Patient-Derived Computational Models*

Jan Lammerding Massachusetts Institute of Technology *Quantitative Measurements of Active and Passive Mechanical Properties of Adult Cardiac Myocytes*

Paul Yoo Case Western Reserve University *Selective Stimulation of the Hypoglossal Nerve: A Fine Approach to Treating Obstructive Sleep Apnea*

EMBS Members who have been Selected for the IEEE Fellows Award for 2002

Barry C. Brusso, Chicago, IL
For leadership in industrial applications of environmental, health and life safety systems.

John Anthony D'Andrea, San Antonio, TX
For contributions to human RF safe-exposure standards.

Nico De Rooij, Neuchatel, Switzerland
For contributions to microelectrical/mechanical systems and technology transfer to the marketplace.

Janie McLawhorn Fouke, East Lansing, MI
For contributions to the theories of and instrumentation for obstructive pulmonary disorders.

Henrietta L. Galiana, Montreal, Canada
For leadership in understanding biological control systems and for the development of transient identification methods in the modeling of ocular reflexes.

Allen W. Glisson, University, MS
For contributions to the development of numerical solution methods in electromagnetic scattering by complex surfaces.

Murray Howard Loew, Washington, DC
For contributions to medical image analaysis, pattern recongnition, and digital image processing.

Chi-Sang Poon, Cambridge, MA
For contributions to the application of engineering systems theory to biomedical modeling.

Milan Sonka, Iowa City, IA
For contributions to medical image analysis and computer vision.

Andrew Y.J. Szeto, San Diego, CA
For contributions to rehabilitation engineering.

Masao Washizu, Kyoto, Japan
For contributions to the application of electric fields to the manipulation of molecules and cells for biological research.

George Robert Wodicka, West Lafayette, IN
For contributions to biomedical acoustic research and its application to clinical diagnosis and therapy.

IEEE

EMBS Early Career Achievement Award

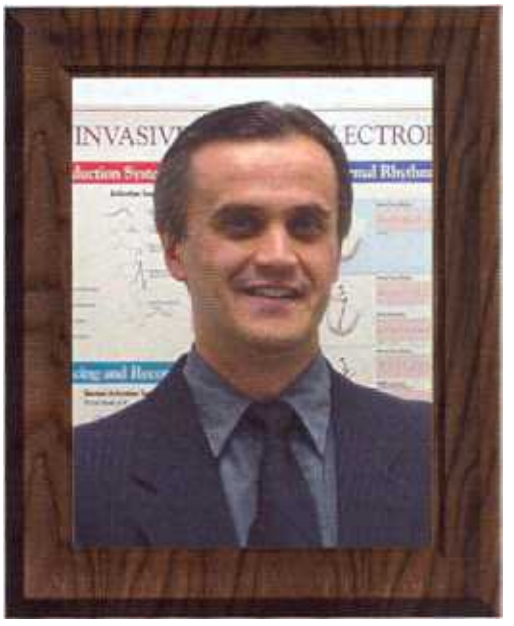
The 2001 EMBS Early Career Achievement Award is presented to Dorin Panescu for:

For groundbreaking research in radio frequency (RF) cardiac catheter ablation, the invention and development of cardiac ablation mapping systems, and systems of multiple electrodes.

Dorin Panescu received the B.S. degree in Electronics and Telecommunications from the Polytechnic Institute, Timisoara, Romania, in 1985, and the M.S. and Ph.D. degrees in Electrical and Computer Engineering from the University of Wisconsin at Madison, in 1991 and 1993, respectively. Dr. Panescu is a Senior Director of Research and Development with the Cardiac Electrophysiology Division of Boston Scientific in San Jose, California, where he is developing devices for radiofrequency ablation, cardiac mapping, 3-D catheter navigation and 2-D and 3-D ultrasound imaging. From 1993 – 1996, he was a Senior Research and Development Engineer with EP Technologies, Sunnyvale, California, where he contributed to the development of cardiac mapping and ablation devices. From 1991 – 1993 he was a Research Assistant with the University of Wisconsin – Madison where he worked on large 3-D finite element models for cardiac pacing and defibrillation, developed electrical models for the skin, and designed CMOS and GaAs VLSI circuits. From 1987 – 1990 he was a Senior Research and Development Engineer with the Institute for Automation, Cluj-Napoca, Romania, where he designed data acquisition systems. From 1985 – 1987 he was a Production Manager with the Electric Instrument Enterprise, Timisoara, Romania, where he supervised the production of temperature regulators and electronic tachometers.

Dr. Panescu is an inventor or co-inventor on over 100 issued US patents related to catheters, hardware and software for medical imaging, diagnosis and therapies. In his career, he had directly contributed to the development and to the successful release for clinical use of several products. These products include long-tip catheters and high-power radiofrequency systems used for the treatment of atrial flutter, multi-electrode multi-channel radiofrequency systems for use during cardiac surgery, multi-electrode catheters and 3-D mapping and navigation systems for the mapping of focal complex tachycardias and systems for intracardiac ultrasound 3-D imaging. For his contributions to cardiac lesion science, Boston Scientific awarded him the John Abele Science and Technology Award in 2001. He is an author or co-author on over 80 publications related to radiofrequency devices, 3-D imaging, 3-D mapping, pacing, defibrillation, analog, digital and VLSI circuit design and digital signal processing.

Dr. Panescu serves on the review board of several journals, including IEEE Transactions in Biomedical Engineering, IEEE Transactions on Information Technology in BioMedicine and Physiological Measurement. He served as a member of the IEEE-EMBS Administrative Committee from 1997 to 1998 and as a Co-Chair of the Cardiovascular Systems Theme at the IEEE–EMBS Conference, Chicago, 1997.



Dorin Panescu

AWARDEES

2001: David Beebe
2000: James Collins
1999: Zhi-Pei Liang
1997: Metin Akay
1996: Joan E. Sanders
1995: Atam Dhawan
1993: Rory A. Cooper
1992: Yitzhak Mendelson
1991: Blake Hannaford
1990: Janie M. Fouke
1988: Yongmin Kim
1986: George V. Kondraske
1985: Kirk Shung

CRITERIA: The award is presented annually to an individual who has made significant contributions technologically or theoretically to the field of Biomedical Engineering within ten years of completion of his or her highest degree. These contributions must represent meritorious achievement, exemplary technical contribution, or educational contribution to the field as evidenced by innovative research, design, product development, patents or publications.attend an awards presentation ceremony. The awardee will be invited to publish a feature article in the EMB Magazine.

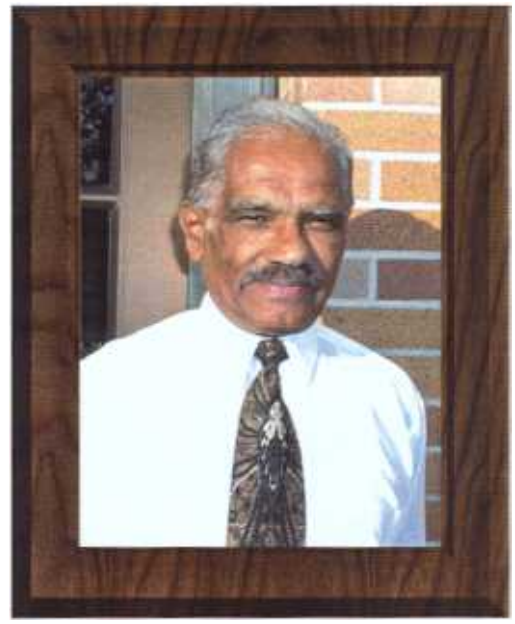
EMBS Service Award

The 2001 EMBS Service Award is presented to Swamy Laxminarayan for:

For outstanding and extraordinary contributions and services in launching the IEEE Transactions on information Technology in Biomedicine as the Founding Editor-in-Chief and broadening the scope of activities in EMBS.

Swamy Laxminarayan has held several senior positions both in industry and academia. These have included serving as the Chief Information Officer at the National Louis University, Director of the Pharmaceutical and Health Care Information Services at NextGen Internet (the premier Internet organization that spun off from the NSF sponsored John von Neuman National Supercomputer Center in Princeton), Program Director of Biomedical Engineering and Research Computing and Program Director of Computational Biology at the University of Medicine and Dentistry in New Jersey, Vice-Chair of Advanced Medical Imaging Center, Director of Clinical Computing at the Montefiore Hospital and Medical Center and the Albert Einstein College of Medicine in New York, Director of the VocalTec High Tech Corporate University in New Jersey, and the Director of the Bay Networks Authorized Center in Princeton. He has also served as an Adjunct Professor of Biomedical Engineering at the New Jersey Institute of Technology, a Clinical Associate Professor of Health Informatics, Visiting Professor at the University of Brno in Czech Republic and an Honorary Professor of Health Sciences at Tsinghua University in China. He is currently a senior faculty member at the Institute of Rural Health in Idaho.

As an educator, researcher and technologist, Prof. Laxminarayan has been involved in biomedical engineering and information technology applications in medicine and health care for over 25 years and has published extensively in international journals, books and conferences. His expertise are in the areas of biomedical information technology, high performance computing, digital signals and image processing, bioinformatics and physiological systems analysis. He is the co-author of the book on *State-of-the-Art PDE and Level Sets Algorithmic Approaches to Static and Motion Imagery Segmentation* which has been recently published by Klouwer Publications. Other upcoming books include *Angiography Imaging: State-of-the-Art Acquisition, Image Processing and Applications Using Magnetic Resonance, Computer Tomography, Ultrasound and X-rays and Emerging Mobile E-Health Systems*. He is the Founding Editor-in-Chief and *Editor Emeritus* of the IEEE Transactions on Information Technology in Biomedicine. His contributions to the field have earned him numerous national and international awards. He is a Fellow of the American Institute of Medical and Biological Engineering, a recipient of the IEEE 3rd Millennium Medal and a recipient of the Purkynje award from the Czech Academy of Medical Societies. He can be reached at s.n.laxminarayan@ieee.org



Swamy Laxminarayan

AWARDEES
2001: Metin Akay
2000: Jack Iverson
1999: Jean Louis Coatrieux
1998: Susan M. Blanchard
1996: Michael R. Neuman
1995: Charles Robinson
1994: Barry Feinberg
1992: Swamy Laxminarayan
1990: Alvin Wald
1983: Eli Fromme

CRITERIA: The award is presented only to individuals who have made significant service contributions to the EMB Society. These contributions must represent uncommon dedication, and a record of exemplary service to the EMB society. The work cited could have appeared in the form of service as an EMBS Officer, AdCom member, editor, associate editor or society member.

EMBS Career Achievement Award

The 2001 EMBS Career Award is presented to Willis J. Tompkins for:

For a meritorious career in biomedical engineering education as exemplified by excellence in classroom teaching, promotion of design and hands-on experience in the learning process, and publication of textbooks.

Willis J. Tompkins received the B.S. and M.S. degrees in electrical engineering from the University of Maine at Orono in 1963 and 1965, respectively, and the Ph.D. degree in biomedical electronic engineering from the University of Pennsylvania in 1973.

He is currently Professor of Biomedical Engineering and Electrical and Computer Engineering at the University of Wisconsin-Madison, where he has been on the faculty since 1974. He previously served for five years as Chair of the Department of Electrical and Computer Engineering. His teaching specialty is on the topic of computers in medicine, an area in which he has developed two courses. One of these two courses, he has evolved and taught for 29 consecutive years. He has received several teaching awards including the University of Wisconsin Chancellor's Award for Excellence in Teaching. His research interests include development of microprocessor-based medical instrumentation, on-line biomedical computing, and real-time computer processing of electrocardiograms.

Dr. Tompkins has published more than 240 journal papers, book chapters, and conference articles. He has served as research advisor for more than 90 M.S. and Ph.D. graduates.

He has published four textbooks: 1) *Biomedical Digital Signal Processing*, Prentice Hall, 1993; 2) *Design of Microcomputer-Based Medical Instrumentation*, Prentice Hall, 1981 (with J. G. Webster); 3) *Interfacing Sensors to the IBM PC*, Prentice Hall, 1988 (with J. G. Webster); and 4) *Electronic Devices for Rehabilitation*, Chapman Hall, 1985 (with J. G. Webster, A. M. Cook, and G. C. Vanderheiden).

Dr. Tompkins is a Fellow of the IEEE and a Founding Fellow of the AIMBE. He is a past President of the IEEE EMBS and is also a member of the IEEE Computer Society, the Association for the Advancement of Medical Instrumentation, the Biomedical Engineering Society, and the American Society for Engineering Education. He is a Registered Professional Engineer in Wisconsin.

Willis J. Tompkins

AWARDEES

2001: John G. Webster
2000: Max Schaldach
1999: Fernand A. Roberge
1997: J. Lawrence Katz
1996: Max E. Valentinuzzi
1995: Floyd Dunn
1994: Wilson Greatbatch
1993: John M. Reid
1992: Edwin L. Carstensen
1991: Walter Welkowitz
1990: Richard J. Johns
1988: R. Stuart Mackay
1987: Otto Schmitt
1986: Leslie A. Geddes
1985: David B. Geselowitz
1979: Robert Plonsey *
1974: Dean L. Franklin*
1973: Donald F. Childers *
1968: Wilson Greatbatch *
1967: Herman Schwan *
1963: Otto Schmitt *
1961: Britton Chance *
1956: Edward F. MacNichol*

*recipient of the *William J. Morlock Memorial Award*

CRITERIA: The award is presented annually to an individual who has made significant contributions through a distinguished career of twenty years or more in the field of Biomedical Engineering, as an educator, researcher, developer or administrator. These contributions must represent meritorious achievement and exemplary technical, educational, or administrative accomplishment in the field. Any past or present member of the IEEE and EMBS who has not been a voting member of AdCom in the past two years is eligible. Before 1980, the award was designated as the William J. Morlock Memorial Award.

The Engineering in Medicine and Biology Society of the IEEE advances the application of engineering sciences and technology to medicine and biology, promotes the profession, and provides global leadership for the benefit of its members and humanity by disseminating knowledge, setting standards, fostering professional development, and recognizing excellence.

The field of interest of the IEEE Engineering in Medicine and Biology Society is the application of the concepts and methods of the physical and engineering sciences in biology and medicine. This covers a very broad spectrum ranging from formalized mathematical theory through experimental science and technological development to practical clinical applications. It includes support of scientific, technological and educational activities.

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International Symposium on Biomedical Imaging
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