



ENGINEERING IN MEDICINE & BIOLOGY SOCIETY



2012 AWARDS



<http://embs.org/about-embs/awards-a-recognition>

Best New Student Branch Chapter or Club

CICB-Concepcion Student Club



CICB Concepcion is a Biomedical Engineering Club, unique in our country. Since its foundation, its goal has been not only to promote the Biomedical Field, but also, to link different agents who are part of the health environment, such as medicine, kinesiology, informatics, and different students and professionals from the engineering field, in order to create the opportunity to expose different ideas, problems, and try to work together. We feel that the best way to promote the advances, technology, and new techniques in health care, is by working all together.

Our club has the support of advisors and collaborators, who are professors of the University of Concepción, bringing the academic support and experience to undertake different activities.

One of our biggest priorities in 2011 was the diffusion and expansion of our club, creating social networks, such as a facebook page, where we have 232 likes, twitter, with 101 followers, linkedin, with 33 members, and a webpage, where we publish all the new information and activities. Constantly, we are worried to have different news, from diverse topics, in technology, research, academic events, courses, and seminars, and all kind of relevant news from our country, or in different parts of the world. Now, we count with 135 members, including students from different areas, and different levels, undergraduate and graduate students, and also professionals.

Last year, we organized a series of lectures, where professors from different areas, professionals, and students had the opportunity to expose their experiences in diverse topics, such as signal processing, imaging, biological research, clinical engineering, from public and private service. Our mission is to provide the opportunity to see the different areas of the biomedical engineering field, where students can decide which one adjusts better to their preferences.

CICB Concepcion is also concerned on facilitating internship opportunities to students and as a link between professionals and companies, promoting job opportunities through our network. Finally, we hope that our club will continue growing, with more activities, more members, and to offer more opportunities to all the people who are interested in working, collaborating, or learning more about the biomedical field, and its importance.

Outstanding Chapter Award

MALAYSIA CHAPTER



Chapter Officers

Dr Lee Yoot Khuan, Malaysia EMBS Chapter Chair
Datin Dr Wahidah Mansor, Malaysia EMBS Chapter Vice Chair
Chong Yu Zheng, Malaysia EMBS Chapter Secretary
Dr Norliza Mohd. Noor, Malaysia EMBS Chapter Treasurer

The IEEE-EMBS Malaysia Chapter would like to thank the AdCom for the 2012 IEEE-EMBS Outstanding Chapter Award.

It is indeed a Great Honour for the Chapter to receive this Award at a tender age of three. As curious, adventurous, fearless, compassionate as a toddler, the Team worked the Chapter in unison to become Visible, Reachable and Charitable.

Visible: The Chapter has succeeded in bringing 7 Eminent Leaders in the EMB field to Malaysia; The Chapter is honoured to have bridged network with EMB Chapter of Shenzhen, Hong Kong, Macau, New Zealand North and Victorian section; The Chapter flagship biennial conference has garnered technical support from 8 Chapters.

Reachable: The Chapter talks and listens to its members through www.myEMBS.org; The Chapter supports all biomedical related activities at members' organisations; The Chapter has succeeded in securing industrial sponsorship and resources; The Chapter has not forgotten to close rank with student members, by mentoring 2 student branches of IEEE Malaysia section.

Charity: Our *Inspiring Future Engineers* project provides career guidance in addition to donation to orphans and poverty stricken children.

The Chapter received this Award with immense Gratitude. The Chapter would not have achieved this Award without its passionate ExCom, devoted members and student members, friendship with EMB Chapters, supportive distinguished professors in EMB and many others who have played a part in making this Award a *Happening*. With this Award, the Chapter is fuelled to blaze a trail in creating awareness in EMB in Malaysia and to innovate EMB technology for Humanity.

2012 IEEE Fellows

Congratulations to the 2012 Elected EMBS Members

Gerard Côté - Texas A&M University

for development of innovative optical sensors for in vitro and in vivo medical diagnosis and monitoring

Paul Dan Cristea - University “Politehnica” of Bucharest (UPB)

for contributions to modernizing and internationalizing engineering education

Ruediger Dillman - Karlsruhe Institute of Technology (KIT)

for contributions to robot programming and human-centered technologies

Gerard Dreyfus - ESPCI-PARISTECH

for contributions to machine learning and its applications

Emad Ebbini - University of Minnesota

for contributions to ultrasound temperature imaging and dual-mode ultrasound

Gary Fogel - Natural Selection, Inc.

for contributions to computational intelligence and its application to biology, chemistry, and medicine

Monique Frize - Carleton University and University of Ottawa

for contributions to clinical engineering and engineering education

Masakatsu Fujie - Waseda University

for contributions to medical robotics

Rafik Goubran - Carleton University

for contributions to voice quality measurement and its applications to audio improvement

Robert Howe - Harvard University

for contributions to haptic interfaces and robotic manipulation

Mark Humayun - University of Southern California

for contributions to development of an artificial retina

2012 IEEE Fellows

Congratulations to the 2012 Elected EMBS Members

Michael Insana - University of Illinois at Urbana-Champaign
for contributions to ultrasound imaging methods, particularly elastography

Jorgen Jensen - Technical University of Denmark
for contributions to medical ultrasound imaging systems

Nasser Kehtarnavaz - University of Texas at Dallas
for contributions to real-time biomedical image processing

Michael C.K. Khoo - University of Southern California
for contributions to cardiorespiratory control in sleep disorders

Mark Kroll - Mark Kroll & Associates
for contributions to implantable and external defibrillator technology

Hugh McDermott - University of Melbourne
for contributions to improved sound-processing techniques for cochlear implants and hearing aids

Jean-Christophe Olivo-Marin - Institut Pasteur
for contributions to image analysis and its applications in biological imaging

Konstantinos Plataniotis - University of Toronto
for contributions to the theory and application of statistical adaptive learning

Jagath Rajapakse - Nanyang Technological University
for contributions to computational techniques for magnetic resonance imaging

Paul Sajda - Columbia University
for development of brain-machine interfaces for image and media search

Jian Xin Xu - National University of Singapore
for contributions to motion control systems

Early Career Achievement Award

Utkan Demirci, Ph.D.

For your significant contributions to the invention of microfluidic droplets and its impact in low-cost, disposable, point of care diagnostics.



**Nominated by
Ali Khademhosseini**

PRIOR AWARDEES

2011: Jose M. Carmenta
2010: Dario Farina
2009: Silvestro Micera
2008: Ali Khademhosseini
2007: Tejal Desai
2006: Alejandro Frangi
2005: Stephen Boppart
2004: Susan Hagness
2003: Paolo Vicini
2002: Dorin Panescu
2001: David Beebe
2000: James Collins
1999: Zhi-Pei Liang
1997: Metin Akay
1996: Joan E. Sanders
1995: Atam P. Dhawan
1993: Rory A. Cooper
1992: Yitzhak Mendelson
1991: Blake Hannaford
1990: Janie M. Fouke
1988: Yongmin Kim
1986: George V. Kondraske
1985: K. Kirk Shung

Utkan Demirci, Ph.D., is an Assistant Professor of Medicine and Health Sciences and Technology at Harvard University Medical School, Brigham and Women's Hospital (BWH), and MIT (Massachusetts Institute of Technology) since 2007. Dr. Demirci leads a group of 30 researchers focusing on nano and microscale technologies. Dr. Demirci received his B.S. degree in Electrical Engineering in 1999 as a James B. Angell Scholar (Summa Cum Laude) from University of Michigan, Ann Arbor. He received his M.S. degree in 2001 in Electrical Engineering, M.S. degree in Management Science and Engineering in 2005 and Ph.D. in Electrical Engineering in 2005 all from Stanford University.

Dr. Demirci applies nano and microscale technologies to manipulate cells in nanoliter volumes to enable solutions to real world problems in medicine including applications in infectious disease diagnostics and monitoring, cell encapsulation in nanoliter droplets for cryobiology, and bottom-up tissue engineering. His research interests involve applications of microelectromechanical systems (MEMS) and acoustics in medicine, especially: microfluidics for inexpensive CD4 counts for HIV in resource-limited-settings for global health problems; cell-by-cell 3D tissue printing; high-throughput blood biopreservation through vitrification. Dr. Demirci has published 61 peer reviewed journal publications in journals including PNAS, PLoS ONE, and Lab-chip, 84 conference abstracts and proceedings, and 10 book chapters. His work was highlighted in Wired Magazine, MIT Technology Review Magazine, AIP News, BioTechniques, and Biophotonics.

Dr. Demirci's scientific work has been recognized by numerous national and international awards. Dr. Demirci was awarded the NSF Faculty Early Career Development (CAREER) Award (2012). Dr. Demirci received the Chinese International Young Scientist Award by the National Science Foundation of China (2010). Dr. Demirci was recognized by Junior Chamber International (JCI) globally among the ten outstanding young persons of the world (TOYP) in "Medical Innovation" in 2009. In 2008, Dr Demirci was given Department of Medicine, Harvard Medical School-Young Investigator Award. Dr. Demirci received the Coulter Foundation Early Career Award in Biotechnology (Phase I in 2007, and Phase II in 2009); Nano-Biotechnology Award by The National Science Council of Turkey and The Turkish Industrialists' and Businessmen's Association; MIT Deshpande Center Award. In 2006, he was selected to TR-35 as one of the world's top 35 young innovators under the age of 35 by the MIT Technology Review. He is one of the few recipients of the prestigious Full Presidential Fellowship given by the Turkish Ministry of Education. In 2004, he lead a team that won the Stanford University Entrepreneur's Challenge Competition and Global Start-up Competition in Singapore based on his doctoral work. He is a member of Phi Kappa Phi National Honor Society. Dr. Demirci has built international academic relationships between his laboratory around the globe. He has been an Adjunct Professor at the Xi'an Jiatong University since 2009 and recently appointed as a Co-chair at Suzhou Nano Research Center, Suzhou, China.

Technical Achievement Award

Rashid Bashir, Ph.D.

*For significant contributions to the development of
micro and nanoscale biosensors.*

Rashid Bashir, Ph.D. completed his Ph.D. from Purdue University in 1992. From October 1992 to October 1998, he worked at National Semiconductor in the Analog/Mixed Signal Process Technology Development Group where he was promoted to Sr. Engineering Manager. He joined Purdue University in October 1998 as an Assistant Professor and was later promoted to Professor of Electrical and Computer Engineering and a Courtesy Professor of Biomedical Engineering and Mechanical Engineering. Since October 2007, he is the Abel Bliss Professor of Electrical and Computer Engineering & Bioengineering, Director of the Micro and Nanotechnology Laboratory (a campus wide clean room facility) at the University of Illinois, Urbana-Champaign, and Co-Director of the campus-side Center for Nanoscale Science and Technology, a 'collaboratory' aimed to facilitate center grants and large initiatives around campus in the area of nanotechnology. He is also affiliated with the Mechanical Engineering Department, the Beckman Institute, Materials Research Lab, and the Institute of Genomic Biology. He has authored or co-authored over 130 journal papers, over 160 conference papers and conference abstracts, over 90 invited talks, and has been granted 34 patents. He is a Fellow of IEEE, AIMBE, and AAAS.



**Nominated by
Luke P. Lee**

Prof. Bashir's research interests include bionanotechnology, BioMEMS, lab on a chip, interfacing biology and engineering from molecular to tissue scale, and applications of semiconductor fabrication to biomedical engineering, all applied to solve biomedical problems. His key technical contributions and achievements lie in the area of BioMEMS and biomedical nanotechnology and especially in the use of electrically or mechanically based label free methods for detection of biological entities on a chip. He has developed microfluidic biochips for detection of CD4+ cells for global health, detection of bacterial growth in microfluidic devices, cantilever based resonant sensors for cell growth and biological species, and solid state nanopores for detection of DNA molecules. In addition, he has also made key contributions to 3-D fabrication methods that can be used for tissue engineering and development of cellular systems. He has been involved in two startups that have licensed his technologies (BioVitesse, Inc. and Daktari Diagnostics).

In addition to his own research group, he is currently PI on an NSF IGERT on 'Cellular and Molecular Mechanics and Bionanotechnology' and PI on an NIH/NCI Mid-Western Cancer Nanotechnology Training Grant. He is also a project lead on an NSF Science and Technology Center on Emergent Behavior of Integrated Cellular Systems (head quartered at MIT and partners at GT, UIUC, and other institutions) and member of Executive Committee of the NSF NSEC in Nanomanufacturing at OSU. He also serves on external advisory board of the NIH funded P-41 BioMEMS Resource Center at Harvard/MGH and the NIH funded Center for Cancer Nanotechnology Excellence at Stanford University.

In addition to his own research group, he is currently PI on an NSF IGERT on 'Cellular and Molecular Mechanics and Bionanotechnology' and PI on an NIH/NCI Mid-Western Cancer Nanotechnology Training Grant. He is also a project lead on an NSF Science and Technology Center on Emergent Behavior of Integrated Cellular Systems (head quartered at MIT and partners at GT, UIUC, and other institutions) and member of Executive Committee of the NSF NSEC in Nanomanufacturing at OSU. He also serves on external advisory board of the NIH funded P-41 BioMEMS Resource Center at Harvard/MGH and the NIH funded Center for Cancer Nanotechnology Excellence at Stanford University.

Professional Career Achievement Award

Reese S. Terry, Jr.

For the invention of therapeutic implantable devices and procedures for the treatment of epilepsy and drug-resistant chronic depression.



**Nominated by
Dorin Panescu**

PRIOR AWARDEES

2011: *Rahul Mehra*

2010: *Mark Kroll*

2009: *Dorin Panescu*

Reese Terry, Jr., IEEE Life Fellow, PE, received his BSEE and MSEE from the University of Kentucky in 1964 and 1966. He entered the biomedical device field in 1969 with Cordis Corporation. He led the development of the first multi-programmable pacemaker using custom integrated circuits in 1972. This Omnicor pacemaker received a 1973 IR00 Award for Top 100 Inventions. He later designed hybrid circuits for medical devices with CTS, consulted with Purdue on the early development of implantable defibrillators and managed a variety of medical device technologies for Intermedics.

He co-founded Cyberonics in 1987 and led the development of the vagus nerve stimulation system (VNS) platform that has been approved for the treatment of partial seizures and depression for patients which have failed other treatments. This Neuro Cybernetic Prosthesis (NCP) received a 1998 IR100 Award. Over 75,000 patients have been treated with the Cyberonics VNS System. Cyberonics was named the MDDI Medical Device Company of the Year in 2008 and was on the Fortune 100 list of growing companies for 2011. He was the original CEO, served as Interim CEO for two additional periods and retired from its board in 2010.

He has over 25 patents and several publications. The patents include methods of treating neuropsychiatric disorders, eating disorders, dementia, traumatic brain injury, congestive heart failure, and seizure detection based on changes in heart rate.

He has served on the Board of the Texas Epilepsy Foundation, the National Epilepsy Foundation, the University of Kentucky ECE Advisory Board and the UK Gill Heart Foundation. He was inducted into the UK Hall of Distinguished Alumni in 2010.

He lives in Houston with wife Jerrilyn, has three children and four grandchildren.

Academic Career Achievement Award

Peter Hunter, Ph.D.

For your pioneering contributions to multi-scale physical modeling of biological systems, especially the Physiome Project.

Peter Hunter, Ph.D. completed an engineering degree in 1971 in Theoretical and Applied Mechanics (now Engineering Science) at the University of Auckland, New Zealand, a Master of Engineering degree in 1972 (Auckland) on solving the equalities of arterial blood flow and a DPhil (PhD) in Physiology at the University of Oxford in 1975 on finite element modeling of ventricular mechanics. His major research interests since then have been modeling many aspects of the human body using specially developed computational algorithms and an anatomically and biophysically based approach which incorporates detailed anatomical and microstructural measurements and material properties into the continuum models. The interrelated electrical, mechanical and biochemical functions of the heart, for example, have been modeled in the first “physiome” model of an organ. As the recent Co-Chair of the Physiome Committee of the International Union of Physiological Sciences (IUPS) he has been helping to lead the international Physiome Project which aims to develop model and data encoding standards (CellML, FieldML, BiosignalML) and to use computational methods for understanding the integrated physiological function of the body in terms of the structure and function of tissues, cells and proteins.

He is currently a Professor of Engineering Science and Director of the Bioengineering Institute at the University of Auckland, Co-Director of Computational Physiology at Oxford University and holds honorary or visiting professorships at a number of universities around the world. He is on the scientific advisory board of a number of research institutes in Europe, the US, and the Asia-Pacific region. He is an elected Fellow of the royal Society (London and NZ), the World Council for Biomechanics, the American Institute of Medical and Biological Engineering, and the International Academy of Medical & Biological Engineering (IAMBE).

He is currently President of the Physiological Society of New Zealand, Secretary-General of the World Council for Biomechanics, Acting Vice President of IUPS and Chair-Elect of IAMBE. Recent awards are the Rutherford medal and KEA (Kiwi Experts Abroad) “World Class NA” Award in Research, Science, Technology and Academia category.



**Nominated by
Nigel Lovell**

PRIOR AWARDEES

2011: K. Kirk Shung
2010: Robert S. Langer
2009: Sergio Cerutti
2008: Roger Barr
2007: Jose Principe
2006: Jean-Louis Coatrieux
2005: Ewart Carson
2004: Michael R. Neuman
2003: Ante Šantic
2002: Willis J. Tompkins
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

2013 IEEE Biomedical Engineering Award

Robert Plonsey



For developing quantitative methods to characterize the electromagnetic fields in excitable tissue, leading to a better understanding of the electrophysiology of nerve, muscle, and brain.

2012 IEEE Medal for Innovations in Healthcare Technology

Savio L-Y. Woo



***For pivotal contributions to
biomechanics and its application
to orthopedic surgery and sports
medicine.***

IEEE Transactions on Biomedical Engineering

Outstanding Paper Award

***Principal Component Analysis-Enhanced Cosine Radial
Basis Function Neural Network For Robust Epilepsy And
Seizure Detection***

TBME, Vol. 55, No. 2, pp. 512-518, 2008

**Samanwoy Ghosh-Dastidar,
Hojjat Adeli,
Nahid Dadmehr**

The authors' affiliations at time of publication:

S. Ghosh-Dastidar, Department of Biomedical Engineering,
The Ohio State University, Columbus, Ohio

H. Adeli, Department of Biomedical Engineering, Biomedical Informatics,
Civil and Environmental Engineering and Geodetic Science, Electrical and
Computer Engineering, and Neuroscience, The Ohio State University,
Columbus, Ohio

N. Dadmeh, Neurology, Inc. Westerville, Ohio

A monetary award of \$500 USD will be given to each author group and individual certificates of merit will be given to each author.

IEEE Transactions on Information Technology in Biomedicine

Outstanding Paper Award

Gait Analysis Using a Shoe-Integrated Wireless Sensor System

TITB, Vol. 12, No. 4, pp 413-423, 2008

**Stacy J. Morris Bamberg, Ari Y. Benbasat,
Donna Moxley Scarborough, David E. Krebs,
Joseph A. Paradiso**

The authors' affiliation at time of publication:

S.J.M. Bamberg, Department of Mechanical Engineering, University of Utah, Salt Lake City, Utah

A. Y. Benbasat, Massachusetts Institute of Technology (MIT) Media Library, Cambridge, Massachusetts

D. M. Scarborough, Massachusetts General Hospital (MGH) Orthopedic Biomechanics and Biomaterials Laboratory, Boston, Massachusetts

D. E. Krebs, retired, was with Massachusetts General Hospital (MGH) Institute of Health Professions, Boston, Massachusetts

J.A. Paradiso, Massachusetts Institute of Technology (MIT) Media Library, Cambridge, Massachusetts

A monetary award of \$500 USD will be given to each author group and individual certificates of merit will be given to each author.

IEEE Transactions on Neural Systems and Rehabilitation Engineering

Outstanding Paper Award

Asynchronus Decoding of Dexterous Finger Movements Using M1 Neurons

TNSRE, Vol. 16, No. 1, pp. 3-14, 2008

**Vikram Aggarwal, Soumyadipta Acharya,
Francesco Tenore, Hyun-Chool Shin,
Ralph Etienne-Cummings, March H. Schieber,
Nitish V. Thakor**

The authors' affiliations at time of publication:

V. Aggarwal, S. Acharya, and N. V. Thakor, Department of Biomedical Engineering, Johns Hopkins University, Baltimore, Maryland

F. Tenore and R. Etienne-Cummings, Department of Electrical and Computer Engineering, Johns Hopkins University, Baltimore, Maryland

H. C. Shin, School of Electronic Engineering, College of Information Technology, Soongsil University, Seoul, Republic of Korea

M. H. Schieber, Departments of Neurology, Neurobiology and Anatomy, Brain and Cognitive Sciences, and Physical Medicine and Rehabilitation, University of Rochester Medical Center, Rochester, New York

A monetary award of \$500 USD will be given to each author group and individual certificates of merit will be given to each author.

Student Paper Competition

2011 Award Winners

For outstanding student achievement on a level of international competition in the field of Biomedical Engineering. The three most outstanding student competitors at the 2011 Annual International Conference of the EMBS in Boston were recognized based on the quality and presentation of their research. The First, Second and Third Place winners received \$1,000, \$750, and \$500, respectively.

FIRST PLACE

ANTHONY CHRISTODOULOU

University of Illinois at Urbana-Champaign, USA

Four-Dimensional MR Cardiovascular Imaging:
Method and Application

SECOND PLACE

NHAN TRAN

University of Melbourne, Australia

A Prototype 64-Electrode Stimulator in 65 nm CMOS
Process towards a High Density Epi-Retinal Prosthesis

THIRD PLACE

SISSEL JUUL

Aarhus University, Denmark

Microfluidics-Mediated Isothermal Detection of Enzyme
Activity at the Single Molecule Level

2012 Student Paper Competition

Geographic Finalists

Asia & Pacific

Amgad Habib

University of New South Wales

Efficacy of the Hexpolar Configuration in Localizing the Activation of Retinal Ganglion Cells under Electrical Stimulation

European

Juan Sebastian Ordonez

University of Freiburg

A 232-Channel Retinal Vision Prosthesis with a Miniaturized Hermetic Package

Latin America

Andres Marino Alvarez-Meza

Universidad Nacional de Colombia

Biomedical Data Analysis by Supervised Manifold Learning

North America

Yunfeng Lu

University of Minnesota, USA

Dynamic Seizure Imaging in Patients with Extratemporal Lobe Epilepsy

2012 Student Paper Competition

Open Finalists

Abhishek Basak, Case Western Reserve University, USA

Implantable Ultrasonic Dual Functional Assembly for Detection and Treatment of Anomalous Growth

Aaron F. Cipriano, University of California, Riverside, USA

In Vitro Degradation and Cytocompatibility of Magnesium-Zinc-Strontium Alloys with Human Embryonic Stem Cells

Elaine Corbett, Northwestern University, USA

Real-time Fusion of Gaze and EMG for a Reaching Neuroprosthesis

Won Hee Lee, Duke University, USA

Stimulation Strength and Focality of Electroconvulsive Therapy with Individualized Current Amplitude: A Preclinical Study

Alex Hegyi, University of California, Berkeley, USA

Nanodiamond Imaging: A New Molecular Imaging Approach

Kian Jaleleddini, McGill University, Canada

Subspace Identification of Hammerstein Systems Using B-Splines

Kamyar Keikhosravy, University of British Columbia, Canada

On the Use of Smart Stents for Monitoring In-Stent Restenosis

Jaclyn Lock, University of California, Riverside, USA

Antimicrobial Properties of Biodegradable Magnesium for Next Generation Ureteral Stent Applications

Gil Marom, Tel-Aviv University, Israel

Effect of Asymmetry on Hemodynamics in Fluid-Structure Interaction Model of Congenital Bicuspid Aortic Valves

Jlenia Toppi, University of Rome "Sapienza", Italy

Describing Relevant Indices from the Resting State Electrophysiological Networks

Yin Zhang, Carnegie Mellon University, USA

Bayesian Learning in Assisted Brain-Computer Interface Tasks

ACHIEVEMENT AWARD DESCRIPTIONS

Technical Achievement Award

Recognizes outstanding achievements, contributions, or innovations in any area of bioengineering by an individual or group of individuals. Up to five awards will be selected each year. The awards will be presented at the Awards Ceremony held during the Annual Conference of IEEE EMBS. Each winner will receive a plaque, an honorarium of \$1,500 USD and up to \$1,500 USD in travel expenses to attend the EMBC awards dinner.

William J. Morlock Award

Established in 1960 by the family of William J. Morlock to give recognition to a qualified person with an original contribution involving important application of electronics techniques and concepts to the solution of biomedical problems. The award presentation was interrupted between 1980 and 2008, with 2009 marking the first year of new award recipients. The award recipient receives an honorarium of \$3,000 USD and travel reimbursement of up to \$2,000 USD to attend the EMBC awards dinner.

Early Career Achievement Award

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. The award recipient receives an honorarium of \$1,000 USD and travel reimbursement of up to \$1,500 USD to attend the EMBC awards dinner.

Distinguished Service Award

Presented annually 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. The award recipient receives an honorarium of \$1,000 USD and travel reimbursement of up to \$1,500 USD to attend the EMBC awards dinner.

Academic and Professional Career Achievement Awards

Each 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 accomplishments 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. The award recipients each receive an honorarium of \$2,500 USD and travel reimbursement of up to \$1,500 USD to attend the EMBC awards dinner.

CHAPTER AWARD DESCRIPTIONS

Outstanding Chapter Award

Presented annually to an EMBS Chapter who demonstrates achievement in member development and delivering services to members of an EMBS chapter during the previous calendar year. Achievement is based on activities, community outreach and promotion of EMB (website and newsletters). The award recipient receives an honorarium of \$1,000 USD and travel reimbursement of up to \$1,000 USD for a Chapter representative to attend the EMBC awards dinner.

Best New Chapter Award

Presented annually to a new EMBS Chapter (within the first 12 months of Chapter formation) who demonstrates outstanding activities, community outreach and promotion of EMB (website and newsletters). The award recipient receives an honorarium of \$500 USD and travel reimbursement of up to \$1,000 USD for a Chapter representative to attend the EMBC awards dinner.

Outstanding Performance Award for Student Branch Chapter or Club

Presented annually to an EMBS Student Branch Chapter or Club who demonstrates achievement in promoting student interest and involvement in biomedical engineering during the previous calendar year. Achievement is based on activities demonstrating initiative; innovation and creativity; areas of progress and improvement; significant impact in biomedical engineering education; and contributions to the profession. The award recipient receives an honorarium of \$500 USD and travel reimbursement of up to \$1,000 USD for a Chapter/Club representative to attend the EMBC awards dinner.

Best New Student Branch Chapter or Club Award

Presented annually to an presented annually to a new EMBS Student Branch Chapter or Club (within the first 12 months of formation) who demonstrates activities demonstrating initiative, innovation, and creativity; areas of progress and improvement; significant impact in biomedical engineering education; and contributions to the profession. The award recipient receives an honorarium of \$300 USD and travel reimbursement of up to \$1,000 USD for a Chapter/Club representative to attend the EMBC awards dinner.

The IEEE Engineering in Medicine and Biology Society 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.

PUBLICATIONS

IEEE PULSE: A Magazine of the IEEE Engineering in Medicine and Biology Society
Transactions on Biomedical Engineering
Transactions on Information Technology in Biomedicine
Transactions on Neural Systems and Rehabilitation Engineering
Transactions on Medical Imaging
Transactions on NanoBioscience
Transactions on Computational Biology and Bioinformatics
Transactions on Biomedical Circuits and Systems
Reviews on Biomedical Engineering
IEEE Journal on Translational Engineering in Health & Medicine
(To be launched in 2013)

ELECTRONIC PRODUCTS

EMBS Electronic Resource

CONFERENCES

Annual International Conference of the IEEE Engineering in Medicine and Biology Society (EMBC)
IEEE EMBS Special Topic Conference on Neural Engineering (NER)
International Symposium on Biomedical Imaging (ISBI)
International Conference on Biomedical Robotics and Biomechatronics (BIROB)
International Conference on Rehabilitation Robotics (ICORR)
Healthcare Innovation Conference (HIC)
EMBS Micro and Nanotechnology in Medicine (MNM)
Grand Challenges Conference Series (GCBE)
IEEE EMBS International Conference on Biomedical and Health Informatics (BHI)
AMA-IEEE Medical Technology Conference Series (MedTech)
IEEE EMBS Point-Of-Care Healthcare Technologies

SUMMER SCHOOLS sponsored by EMBS

International Summer School on Biomedical Imaging
International Summer School on Biomedical Signal Processing
International Summer School on Biocomplexity
International Summer School on Information Technology in Biomedicine

Engineering in Medicine and Biology Society

445 Hoes Lane, Piscataway, NJ 08854

Telephone: +1 732 981 3433 Fax: +1 732 465 6435

Email: emb-exec@ieee.org www.embs.org