

**IEEE EMB Society  
Buenaventura Chapter**

Serving the Local Bioengineering Community  
with the Best in Professional Programs

[www.bv-embs-chapter.com](http://www.bv-embs-chapter.com)

**2008 Achievement Report**

*Buenaventura EMBS Chapter*  
Engineering in Medicine and Biology Society  
The Institute of Electrical and Electronics Engineers, Inc.

Steven F. Johnson  
Chapter Chair

**Submitted for Consideration as 2008 EMBS Chapter of the Year**

## **Chapter Overview**

The Buena Ventura IEEE EMBS chapter is one of the most active in the area, with an extensive range of outreach and support activities for practicing engineers and the community. This includes a well-regarded speaker program, an IEEE-sponsored educational program for middle-school students, and mentoring and career transition support.

## **Our Services to the IEEE-EMBS Community**

We currently provide:

- Middle School Outreach program (see below)
- Mentor program for college students who plan to pursue a career in medical engineering and have a pool of 7 professionals who have volunteered their time to coach and mentor young people.
- Help in job transition. Pat Jacobs, our professional development officer, brings 20-30 new job openings in biomed each month and we use the dinner prior to the talks as a networking session to introduce hiring parties with candidates seeking new jobs.
- We are also active in several conferences (line up speakers –chair sessions):
  - California Tissue Engineering conference
  - Los Angeles Tissue Engineering Conference

## **Funding Sources and Community Support**

Our chapter receives funding support from the IEEE, EMBS, and our membership. In addition, local companies and our host university sponsor the chapter or its activities through direct donations or matching grants. These organizations include:

- Alfred Mann Institute
- Microjoining Solutions
- California Lutheran University
- Amgen, Incorporated

## 2008 Officers

First of all, we have a great team of nine officers working diligently to make 2008 a great year. Most of our officers have asked to continue their terms with the chapter and we have one new officer who really wants to part of our adventure. All are well connected in the medical field and adding great value to the chapter.

Officer	Role in the Chapter	Background and Value brought to the Chapter
<p><b>Steve Johnson</b> Senior Manager, Information Systems at Amgen</p> 	<p><b>Chapter Chair</b></p>	<p>Steve, IEEE Sr. Member, is a member of the Applied Mathematics group at Amgen &amp; taps into his IT, business savvy, &amp; knowledge of the regulatory world to develop strategies for pharmaceutical applications.</p> <p>Steve is an active volunteer on many Boards of Directors in the Buena Ventura area and handles marketing and website for these organizations. Steve creates the announcements and flyers &amp; sends the announcements to our audience. Steve also manages the chapter website.</p>
<p><b>Harry Croner</b> President, Corporate Horizons</p> 	<p><b>Vice Chair</b></p>	<p>Harry Croner, IEEE member, is President of Corporate Horizons, a consultancy specializing in corporate growth initiatives and strategic vision. He retired as President and CEO of Electronic Conventions, owner and producer of Wescon, the largest component technology conference in the U.S. His interest in Bio-Tech goes back to his early engineering involvement in heart pump design at Johns Hopkins University.</p> <p>Harry is one of the founders of the EMBS chapter. He is the financial arm of the chapter and is responsible for managing the chapter's budget.</p>
<p><b>Pat Jacobs</b> CEO of Advanced Personnel Services</p> 	<p><b>Treasurer</b></p>	<p>Pat, IEEE associate member, runs on her own business and is a contract recruiter for many local biotech and biomedical companies. She has an impressive Rolodex in the biomedical field and the local community.</p> <p>Pat is an active volunteer on many Boards of Directors in the Buena Ventura area and is connected to local officials and executives. Pat has been instrumental in implementing services for professional development and student development for the chapter. Her connections to the press have helped spread the word about the speaker events.</p>

Officer	Role in the Chapter	Background and Value brought to the Chapter
<p><b>Abigail Corrin</b> 4<sup>th</sup> year undergraduate student at CLU- Bioengineering</p> 	<p><b>Secretary</b></p>	<p>Abigail, IEEE student member, is currently a senior at California Lutheran University. She will graduate, with Highest Honors, with a BS in Bioengineering/ Biochemistry - Molecular Biology. Abigail will begin her graduate school career this fall, pursuing a PhD in Biomedical Engineering.</p>
<p><b>David Steinmeier</b> CEO of Micro-joining Solutions</p> 	<p><b>Program Officer</b></p>	<p>David, IEEE Sr. Member, runs and his own company and is a product development and manufacturing process expert in the field of packaging and assembling miniature and micro-miniature electronic and electro-mechanical products for the aerospace, automotive sensor, commercial electronics, and medical device industries.</p> <p>David has made many contacts in the medical device industry through his consulting practice and been involved with one biotech start up. He understands the challenges and opportunities facing both the pharma and device segments of the biotech industry. David has been a member of the IEEE since his college days.</p>
<p><b>Mike Shaw</b> Director of the Bio-Engineering Department at CLU</p> 	<p><b>Student Development Officer</b></p>	<p>Mike, IEEE Sr. Member, is Director of the Bio-engineering Department at the California Lutheran University, which has an active research center in Tissue Engineering. Mike is also one of the founders of the Los Angeles Tissue Engineering Initiative.</p> <p>Mike is one of the founders of the Chapter. He hosts the speaker events, provides a high-tech auditorium setting, and organizes the dinner events. Mike is well networked into the local colleges and understands how to get students excited about the field of bioengineering</p>
<p><b>Nathalie Gosset</b> Head of Marketing and Business Development at the Alfred Mann Institute at USC</p> 	<p><b>Audience Development Officer</b></p>	<p>Nathalie, IEEE Sr. member, works for the Alfred Mann Institute, which is an incubation and acceleration center for the development of biomedical inventions coming out of University of Southern California.</p> <p>Nathalie has a large Rolodex of contacts in the Medical Centers and is well connected to Biotech and biomedical corporations. She serves on the committee of several biomedical associations. She has also been involved in the creation and growth of several IEEE chapters and knows how to bring an IEEE chapter to full operation.</p>

Officer	Role in the Chapter	Background and Value brought to the Chapter
<p><b>Brian Rasnow</b> Professor of Physics, Cal State Channel Islands</p> 	<p><b>Special Programs Officer</b></p>	<p>Brian, IEEE member, is a Professor of Physics at Cal State Channel Islands, in nearby Camarillo. His group does laboratory automation and technology acquisition, automated high throughput screening, develops novel screening and detection platforms. Prior to Cal State, Brian was a principal scientist at Amgen. He received a Ph.D. in Physics from Caltech in 1994, where he studied electroreception and neuroethology. He is an active member of the IEEE, Association for Laboratory Automation, and Society for Neuroscience.</p>
<p><b>Abe Janis</b></p>	<p><b>Professional Development</b></p>	<p>Abe is Manager of Research at Dermaport, an Alfred Mann company in Santa Clarita, California. Prior to Dermaport, Abe was a research scientist at a number of biomedical engineering and medical instrument companies in California and the Midwest.</p> <p>Abe, IEEE Sr. Member, is very close to the research and applications areas in industry served by the Engineering in Medicine and Biology Society.</p>

## Speaker Program

We have an a well-regarded speaker series, and have lined up high caliber clinicians, researchers, and engineers for 2008.

**We consider your meetings the very best in the Section  
– Jerry Knotts, Chair, Life Member Chapter**

Our speakers have made a significant contribution in the filed of biomed engineering.

- January 30: [Novel Electrochemical Technology for Genetic Testing; Application to Clinical Diagnostics](#) - Dr. William Coty, Osmetech plc, Pasadena
- February 27: [Next Generation of Medical Devices for the Hearing Impaired](#) - Sigfrid D. Soli, Ph.D., Vice President, Technology Transfer Head, Department of Human Communication Sciences and Devices
- March 26: [Development of a Novel Tool to Study Mechanisms of Recording Instability](#) - Daniel R. Merrill, Ph.D., Alfred E. Mann Foundation for Scientific Research
- April 30: [Medical Devices: Trends Ahead, Investor Forecast](#) - David Skibinski, Quantum Methods
- May 28: [The application of Shape Memory Effect Thin Films to Medical Devices](#) - Dr. Peter Jardine, Shape Change Technologies
- June 18: [Application of Semiconductors and Nanowires on Plastic Substrates for Medical Devices and Biosensors](#) - Dr. Michael McAlpine, California Institute of Technology
- July 30: [Patents – What is Hot in the Biomedical Patent Area](#) - Sheldon Mak Rose and Anderson
- September 24: [Engineering Immunity Against HIV and Other Dangerous Pathogens](#) - Dr. Ping Wang, USC
- October 29: [Brain Machine Interfaces and Reliable Control](#) - Stephen Badelt, Badelt Engineering
- November 12: Tissue Engineering Presentations from CLU Students
- December 10: [Development of the MedTone Insulin Inhaler](#) - Darlene Rosario, MannKind

Our speaker events regularly draw attendees from as far away as Pasadena and USC, UC Santa Barbara, and beyond. Senior university investigators and company executives in the speakers' fields attend and enliven the presentations with their perspectives. These provide a unique opportunity for student and community attendees to learn about the topics under discussion.

## **Publicity**

Our chapter makes effective use of a number of techniques to attract attendees and speakers:

- Local Media
- Chapter announcement distribution via IEEE listserv
- Word of Mouth
- Chapter Web Site
- Chapter announcement distribution in Section and Region newsletter
- Advance notice of speaker events at Chapter meetings

We use sign-up sheets at our monthly speaker events to collect information about the attendees, including name, e-mail address, professional affiliation, how the attendee heard of the event, and distance traveled. Of all publicity methods, the e-mail via listserv and word of mouth techniques are by far the most often cited.

## **Local Media**

Our chapter's activities, including the Middle School Outreach program, have received support from the local media:

- Ventura County Star (circulation exceeds 100,000)
- KCLU – National Public Radio affiliate (listenership exceeds 50,000)

In addition to public media, our chapter's activities have been featured on the Amgen corporate intranet, seen by 8,000 scientists, engineers, and professionals locally, and more than 20,000 worldwide.

## **Chapter Announcements via IEEE Listserv**

We use sign-up sheets at our monthly speaker events to collect e-mail addresses of attendees. These are used to distribute speaker event announcements two weeks, one week, and one day prior to the events. We seldom receive requests to be removed from the list; typically these are the result of people moving out of our geographic area. We currently have around 850 e-mail addresses on our list.

## **Word of Mouth**

Many of our meeting attendees hear of the event from colleagues. It is a sign of the value attributed to our meetings that this is as effective as it is.

## **Chapter Web Site**

The Chapter web site is well aligned with our mission and goals. The site is continuously maintained to hold the most current information about our speaker program, printable flyers for speaker events, and information about starting EMBS chapters as well as guidance for students and professionals in transition.



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## Buenaventura IEEE Engineering in Medicine & Biology

### This Month's Speaker Event:

David Skibinski MBA - Medical Devices: Trends Ahead, Investor Forecast

Wednesday, April 30, 2008 7 PM - CLU - Richter Hall, Ahmanson Science Building



#### OUR SPEAKER EVENTS

Our Speaker Events inspire us to make a difference in the world of medicine and invent solutions that will benefit humanity.



#### FOR COLLEGE AND UNIVERSITY STUDENTS

Engineering in Biomedicine is a fantastic career to pursue. Our chapter can help you get involved in the field and learn more about its potential.



#### FOR PROFESSIONALS IN LIFE TRANSITION

We are the right place to help you during your professional life transition if you are in Bioengineering.

[This Month's Event](#)

[Future Events](#)

[Past Events](#)

[Attend our Speaker Events](#)

[Find a Professional Mentor](#)

[Bio-Engineering: A Great Career](#)

[Area Bio Engineering Jobs](#)

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[Networking at the Speaker Events](#)

Want to start your own EMBS chapter? - [go to this link.](#)

Two recent innovations include an RSS feed (compatible with Google News and other newsreaders), and a "blog" version of the Chapter website, which is used as an on-line collaboration system for chapter officers.

### Chapter announcement distribution in Section and Region newsletter

Section and Region newsletters are distributed, both in print and via e-mail, periodically. We take advantage of our year-in-advance speaker scheduling to provide a complete listing of the next 12 months' speaker events.

## Advance notice of speaker events at Chapter meetings

In addition to the officer's announcement of the topics of upcoming events, each speaker event attendee receives two handouts. The first provides a full-page description of the evening's speaker and topic, with as detailed a description for the next two months' events on the back.

**IEEE BUENAVENTURA ENGINEERING IN MEDICINE AND BIOLOGY EMB**

### Engineering a Better Cancer Fighter

**Mark E. Davis**  
Warren and Katharine Schlinger Professor of Chemical Engineering at the California Institute of Technology Member, Experimental Therapeutics Program of the Comprehensive Cancer Center at the City of Hope

**Feb 28, 2007, Wednesday, 7 PM**  
CLU – Richter Hall Ahmanson Science Building



Dr. Davis will discuss his work on therapeutic molecules and drug delivery systems that have the potential to provide much improved treatments for a variety of devastating diseases, particularly cancer.

The engineering behind the enhanced ability to fight cancer is a nano-engineered class of linear cyclodextrin-containing polymers, designed to enable the manipulation of particle size and other characteristics to improve drug properties and performance.

Mark E. Davis has over 325 scientific publications, two textbooks and over 40 patents. Professor Davis is a founding editor of *CellTech* and has been an associate editor of *Chemistry of Materials* and the *AIChE Journal*. He is the recipient of numerous awards including the Colburn and Professional Progress Awards from the AIChE and the Ipatoff, Langmuir and Marple Prizes from the ACS. Professor Davis was the first engineer to win the NSF Alan T. Waterman Award. He was elected in the National Academy of Engineering in 1997 and the National Academy of Sciences in 2006.

Dr. Davis is the founder of Insect Therapeutics Inc., a company based in Pasadena, CA USA, focused on the use of cyclodextrin-containing polymers for drug delivery applications and Calando Pharmaceuticals, Inc., a company based in Duarte, CA that creates: ROAI therapeutics. He is currently or has been a member of the scientific advisory boards of Snyx (Nasdaq: SMMX), Alnylam (Nasdaq: ALNY) and NavoDynamics.

Meeting Site: Cal Lutheran University  
100 Ahmanson Science Building  
60 West Olsen Road,  
Thousand Oaks, CA

Contact: Steve Johnson, [steve@net-link.net](mailto:steve@net-link.net)

Dinner: Available at 6 p.m. in the Atrium



Chapter Sponsors: CUJ Center for Integrated Science and Engineering, Manufacturing Solutions, Kalamco Inc., EAM

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 <b>Stem Cell Treatment of Brain Tumors and Cancers</b> John Yu MD, Cedars-Sinai Medical Center Jan 31st, 2007	 <b>Towards a Wearable Kidney</b> Dr. David B.H. Lee UCLA Veterans Hospital June 27, 2007
 <b>Engineering a Better Cancer Fighter</b> Dr. Mark Davis, CalTech, City of Hope Feb 28, 2007	 <b>Development of the MedTone Insulin Inhaler</b> Darlene Rosario HannKind July 25, 2007
 <b>Epilepsy and Brain Mapping</b> William Sutherland MD, Huntington Institute Mar 28, 2007	 <b>Nanopulse Energy for Skin Cancer Cure</b> Dr. Martin Gundersen USC Department of Physics and Astronomy September 26, 2007
 <b>Planetary Protection of Biological Samples Returning to Earth</b> Jason Kozber, JPL Apr 25, 2007	 <b>Non-invasive Optical Imaging and Spectroscopic Technologies</b> Dr. Vishal Saxena Childrens Hospital LA, Saban Research Institut October 24, 2007
 <b>Strategic Partnering and Startup Funding for Biomedical Industry</b> Stephanie Yanoshinski, Pasadena Entrectec May 30, 2007	 <b>Student Presentation on Tissue Engineering</b> Biomedical Engineering Department, California Lutheran University November 14, 2007

Our speakers are individuals with busy lives that may interfere with this program. Topics and speakers might change on a short notice – we appreciate your understanding. We will do our best to alert you of any changes.

The other provides an overview of the next 12 months' speaker events plus an overview of the Chapter's charter, officer names and contact information, invitation to dinner, and a place for taking notes on the evening's presentation. These are printed in color, with consistent formatting and design to reinforce branding for both IEEE and EMB.

## Middle School Outreach for Biomedical Engineering

This continuing initiative received a \$10,000 grant from the IEEE Foundation during 2006 to create a project that can be duplicated in all the other EMBS chapters worldwide. Chapter funding and individual donations have sustained the outreach program.

Since inception, this program has reached 4,000+ seventh-graders in area schools. We've received great feedback from teachers and administrators, as well as an enthusiastic reception from the middle-school students.

**"Self-sufficient, free-standing program. You've given lots of thought to making it easy for my science teachers!"**  
– middle school principal

**"Well-aligned with our curriculum objectives."**  
– school district curriculum director

This also provides chapter officers a great opportunity to work with our CLU Bioengineering Student colleagues to help foster their career interests in biomedical engineering. Thus far, four teams of three or more bioengineering students have presented the program; participating in it is seen as an honor by the student presenters.

Three local school systems are now engaged with us in presenting this program: Conejo Valley (encompassing Westlake Village, Thousand Oaks, and Newbury Park), Las Virgines (including Calabassas and the City of Westlake), and Arcadia, California.

The curriculum guide, lesson plan, and presentation are up on the chapter website, for use by other chapters interested in implementing similar initiatives. The Chapter also held a review session at the EMBC07.

### March 27<sup>th</sup>, 2007 - 400 Las Virgines School District 7<sup>th</sup> Grade students

