

# biodesign in review



## 2009 EVENTS

**3.10.09**  
**FROM THE**  
**INNOVATOR'S**  
**WORKBENCH - HIRA**  
**THAPLIYAL**

**4.1.09**  
**FROM THE**  
**INNOVATOR'S**  
**WORKBENCH - FRED**  
**KHOSRAVI**

**5.27.09**  
**FROM THE**  
**INNOVATOR'S**  
**WORKBENCH - DAVID**  
**DVORAK**

**6.8.09**  
**BIODESIGN**  
**GRADUATION**  
 Pictured above.

**9.21.09**  
**BIODESIGN AT TCT**  
 Faculty from Biodesign were asked to create a half-day course in Needs Finding for the Transcatheter Cardiovascular Therapeutics conference held in San Francisco. The event was standing-room only at TCT, where interventional cardiologists go to hear about the latest techniques.

**10.1.09**  
**BOOK LAUNCH**

Helping Define the Process of Innovation

## Textbook Hot Seller

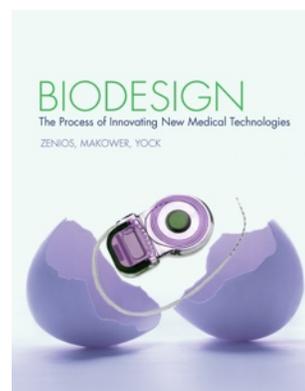
We are excited to announce that the textbook, *Biodesign: The Process of Innovating Medical Technologies*, was published on October 1, 2009 by Cambridge University Press. The book includes 29 chapters of content that describe the Biodesign process from Needs Finding and Screening through Business Modeling and Licensing. A companion website was also launched at that time to accompany the book and host the "Getting Started" section of each chapter of the book with active links as well as video and links to other resources.

A reception was held at Kepler's Books in Menlo Park to launch the book. Over 200 people attended to have their



books signed and meet the authors. The textbook will be used for the Biodesign Innovation class that is taught

each year by Biodesign faculty and guest speakers.



## Exceeds Sales Expectations

We are pleased to report that the new textbook was a record seller for Cambridge in the first quarter of sales. In fact, for the month of October, 2009, Biodesign was its top selling textbook. Now in its second printing, the book has become popular with medtech courses across the U.S. and is already being used at Johns Hopkins, University of Missouri and University of Minnesota among others.

The companion website is also quite active, with more than 75 registered users representing 50+ universities. <http://www.ebiodesign.org/>

## SINGAPORE

### OUR NEXT GLOBAL INITIATIVE

During 2009 the faculty and staff of the Biodesign Program worked diligently with the Government of Singapore to launch a new initiative. Partnering with two agencies: A\*STAR and the Economic Development Board we reached an agreement to launch a fellowship in 2011. Fellows will be selected in Singapore, come to Stanford for six months to learn the Biodesign Process, then return to Singapore to discover needs in the Asian setting.

The official launch of the new program was held on January 29, 2010, and included President Hennessy and Dean Plummer.



### Global Partnerships

#### Stanford-India Biodesign

We completed the second year of the Stanford-India Biodesign Program with several milestones. Devices that were invented in the program continue to move forward with additional funding provided by India's Department of Biotechnology and J&J and Stryker.

We welcomed the 2009 fellows Darshan Nayak, Pulin Raje, Rahul Ribeiro, Asokan Thondiyath to Stanford for their first phase from January to June. During this time they participated in the Biodesign Innovation course, took other Stanford courses, spent several weeks in clinical immersion with the Emergency Department looking for unmet clinical needs and spent time developing concepts and prototyping. In June, they headed back to India.



Paul Yock visits the SIB centre at AIIMS.

During Phase II they once more spent several weeks finding needs in various clinical settings including at AIIMS and in urban and rural clinics in and around Delhi. They continue to work on a particular need they discovered: stabilizing fractures in upper and lower limbs. This need has led them to concept development and prototyping.

In August, we selected four fellows to join in 2010: Dr. Gita Handa, Pushkar Ingale, Ritu Kamal, and Nitin Sisodia. The focus for the 2010 year will be fetal and maternal health.

In December, 2009 we held the 3rd Annual Indian Medtech Summit in New Delhi. Over 100 participants - the highest number for the three years. The AIIMS SIB faculty, fellows and staff facilitate the event and many members of the medtech community attend including AIIMS faculty, industry representatives, government officials, local and US-based entrepreneurs, students and others.

We also host an online community for medtech entrepreneurs, government officials, fellows and friends of the program at <http://www.indiabiodesign.org/>. The community now has over 450 members and features a blog, community forum, membership profiles, medtech news, job postings for medtech positions in India, updates about the SIB program and event postings for the community.



## COMPANY UPDATE

### BIODESIGN SPINOFFS CONTINUE

There are now 12 medical device companies that have been launched by either fellows or students of the Biodesign program as a result of work done in the fellowship or class.

The current list:

Acumen Medical  
 Kerberos Proximal Solutions  
 Innospine  
 NeoGuide  
 Stemcor Systems  
 Simpirica Spine  
 iRhythm Technologies, Inc.  
 InSite Medical Technologies  
 Spiracur  
 Endoluminal Sciences  
 Curant  
 HourGlass Technologies

### Innovation Fellowship Continues 08 and 09 Teams

Our 2008-09 Fellows concluded their fellowship year in 2009 with a graduation at the Cantor Arts Center. Ronald Jou gave remarks on behalf of his graduating class of fellows. He described the fellowship this way: "Only interesting things can happen when you select eight energetic physicians, engineers, and business-people, surround them with talented mentors, split them up into teams, and tell them that they need to work together to find and solve the great unmet clinical needs of our generation."

And it was an interesting year. The teams came up with several new solutions, two of which are moving ahead: HemoRx, a device for hemorrhoids and Miret Surgical, instruments for minimally invasive surgery.

In August we welcomed our new team of fellows for the 2009-10 fellowship year. They include

- Pedram Afshar
- Ellis Garai
- Partha Ray
- Sandra Ruggles
- Akhilesh (Akhi) Sista
- Aravind Swaminathan
- Fletcher Wilson
- Rhunjay (James) Yu

### Banner year for recognition Awards for the year

Biodesign fellows, faculty, staff and students garnered more than 30 awards in 2009, the most ever in a single year since the inception of the program. Awards included:

- CNN - Top 10 Inventions for 2009
- Businessweek - Most Intriguing New Startups for 2009
- Time Magazine - Top 50 Inventions for 2009
- TEDIndia - Fellows for 2009
- Time Magazine - Community Service Honoree
- San Jose Tech Museum - 2009 Tech Awards Laureate
- Intel- India Innovation Pioneers Challenge 2009
- BEST programme - First prize
- Stanford Social Entrepreneurship Competition - First prize
- Boomers Competition (Santa Clara University) - First prize
- BME-Idea Award
- BASES Social EChallenge - First prize
- CS 194 class' Software Faire - VC Award and Best in Show
- E-challenge business plan competition - First prize
- NCIIA - E-Team Grant
- Popular Science - Invention Award
- Coulter Foundation - Coulter Translational Research Grant

### Partnerships continue Thanks to our Sponsors

We are grateful to our many sponsors and supporters who make Biodesign possible. We were happy to announce several additions to our partnership list in 2009 including:

- Dorsey & Whitney
- Ron Dollens
- HLM Venture Partners
- Longitude Capital
- Voyage Medical

This brings the total number of sponsors for Biodesign to over 60 companies, venture firms, law firms and individuals.



## Monitoring our Graduates

### Alumni News

**Bryant Lin**, 05-06 Fellow, has been promoted to Clinical Assistant Professor of Medicine at Stanford University's Medical Center.

**Insite Medical** (from Fellows, year 2006-07) completed their feasibility trial in humans for the Epiphany epidural system. They treated 7 patients with overwhelming success in accessing the epidural space with no major complications. They will be moving onto design modifications for a commercial device, 510(k) submission and further fund raising.

**David Miller**, 01-02 Fellow, moved to Austin Texas, to join Apollo Endosurgery where he is a program manager.

**Spiracur**, developer of a device used to heal small wounds effectively, has brought in \$20.3 million in a second

round of funding from Kleiner Perkins Caufield & Byers, New Leaf Venture Partners and De Novo Ventures. Spiracur has raised \$24.3 million since its inception in 2007.

Sadra Medical, whose CEO is **Ken Martin**, 05 Fellow, announced it has raised \$30 million in new investment capital.

**Steve Eichmann**, 06-07 Fellow, has been promoted to Industrial Design Director, WorldWide R&D for J&J/Ethicon Endo-Surgery, Inc.

**Uday Kumar** and **iRhythm** are featured in an article in the California Healthcare Institute's California Biomedical Industry 2009 Report.

## FACULTY

Paul Yock  
Tom Krummel  
Todd Brinton  
Tom Andriacchi  
Scott Delp  
Mike Gertner  
Geoff Gurtner  
Josh Makower  
Rich Popp  
Paul Wang  
Stefanos Zenios  
Craig Milroy

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## WEBSITE

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