STANFORD biodesign for Mobile Health

BioE 273, MED 273
Biodesign for Mobile Health
Fall Quarter – Academic Year 2015/2016

This seminar examines the emerging mobile health field. In this context, mobile health (mHealth) refers broadly to health care delivered outside traditional venues, such as the hospital or clinic, with the goal of meeting the needs to maximize wellness, optimize health, help detect and manage both acute and chronic diseases, streamline traditional health care paradigms and processes, enable new delivery models, and/or create continuity of care everywhere. Opportunities exist across the entire cycle of care. In many cases, this is accomplished through the provision of health services and information via mobile technologies including mobile phones and wearable sensors.

Innovations in this area seek to improve access to affordable, high-quality care often by enabling consumers to take greater control of their health, creating new ways to manage aging and chronic conditions, moving care from the hospital into the home, improving treatment options by providing measurable clinical outcomes for individuals and populations, or shifting the focus from "sick care" to "health improvement" and prevention.

Throughout the course, faculty from Stanford University and other academic institutions, as well as numerous expert guests from the mobile health industry will examine the forces that are driving needs in the space, discuss the opportunities and challenges that characterize the mobile health innovation landscape, and highlight the technologies, initiatives, and companies that are already enabling new health paradigms.

Mobile health topics covered include: Applications, Enabling Technology, Design, Policy, Global Initiatives, Financing, Business Models, Corporate Strategies and Entrepreneurship.

Course Directors: Marta Gaia Zanchi, Ph.D.
Paul Yock, M.D.
Michael V. McConnell, M.D., MSEE
Paul Wang, M.D.

Units: 1 unit (BioE273-01 only) or
3 units total (BioE273-01 *plus* BioE273-02)

BioE 273/Med 273

Day/Time: Mandated Section BioE273-01:
                  Lecture/Panel Component
                  1 unit
                  Attendance Only
                  Wednesdays 4:30 – 6:20 pm (Lecture/Panel)
              Optional Section BiOE273-02:
                  Project/Lab Component
                  2 additional units
                  Attendance plus Class Project
                  Wednesdays 3:30 – 4:20 pm (Project/Lab)

Note: students cannot register for BioE273-02 without also register for BioE273-01.
Note: participation to each component is capped. Register early to ensure your spot in the class!

Location: Shriram Center, Room 104
              443 Via Ortega, Stanford University

Course Reader: No textbook required. Online resources to be provided via Coursework.

Dates:
The seminar will be held each Wednesday of the quarter (except during holidays) starting on September 23rd, 2015 and ending on December 2nd, 2015. Following regular class hours on December 2nd, 2015, a ceremony will be held awarding the top students' projects.
All students are expected to attend a minimum of 8 class meetings and the awarding ceremony.

Note: On September 23rd, 2015 class starts at 4.30 pm for all students (Section 273-02 begins on September 30th, 2015).

Goals for the Course

- Understand the forces driving the need for mobile health

- Provide an overview of the emerging mobile health industry

- Explore selected applications and technologies

- Learn about the biodesign innovation process in the context of mobile health

- Highlight interdependencies and synergies between disciplines

- Provide exposure to industry experts who can help clarify career paths

- Inspire and foster entrepreneurship opportunities in mobile health

Topics Covered

- Needs

- Enabling Technologies

- Designing for Health

- Policy

- Global Initiatives

- Business Models

- Financing

- Entrepreneurship

- Corporate Strategies

Student Responsibilities

The Biodesign for Mobile Health course is taught by a combination of Faculty from Stanford University and other Academic Institutions as well as expert guests from the Mobile Health industry and entrepreneurial community.

As such, the course provides a unique opportunity to gain real-world insights and learn about opportunities for research and the creation of innovative solutions in the space.

Grading will be based on:
- Students registered for BioE273-01 only:
  - Attendance (Weds 4.30 pm - 6.20 pm);
  - Submission of one question for the guest speakers prior to each class session.
- Students registered for both BioE273-01 and BiOE273-02:
  - All requirements above, plus
  - Attendance (Weds 3.30 pm - 4.20 pm);
  - Completion of a team-based class project.
- Readings are expected to be completed by all students prior to attending class
  - One mandatory reading each week;
  - Other readings are provided and recommended, yet remain optional.

Absences
No more than two unexcused absences are permitted.
More than two unexcused absences will lead to a No CR grade.

Grading and Deliverables

1 Unit – CR/No CR only
Grading will be based on your attendance and submission of at least one question for the guest speakers each week. You must attend 8 of 10 classes to receive credit. Questions should be submitted no later than 24 hours prior to the guest speaker's lecture. Students use the Dropbox in Coursework for submitting these questions. Please title the document with the Speaker's name and make sure it includes your name.

2 Units – CR/No CR only
Students taking the class for 3 units total (BioE273-01 *plus* -02) are required to form teams and to complete a class project exploring a need in the Mobile Health field. The goal is to develop a strategy for solving a clinical need. These projects may be chosen from a list of faculty-recommended needs, or students are welcome to suggest needs of their choice (with instructor pre-approval).

Information for Students Registered for 3 Units

Requirements:
- Registered students should form team of 3-5 students to work on their project.
  - An exception may be granted to accommodate a 2-student project. This exception may only be granted for specific, justifiable reasons.
- A short, 150-words paragraph describing the central project idea / challenge tackled by the team should be first sent by email to the Course Faculty by 11 pm on *Wednesday, October 7* (project ideas need to be reviewed and approved by Course Faculty).
  - A list of possible project ideas / challenges is provided during class.
  - Students will have the opportunity to network, meet and mingle during the class to explore affinities of interests.
- A brief, 2-3 slides "micro-pitch" of your project to the class. All team members must give a presentation on *Wednesday, November 4* or on *Wednesday, November 11* to other students in the class and to a panel of investors or entrepreneurs.
  - The goal is to allow students to receive feedback on their initial process and findings.

Grading will be based on:
- A 2-3 page paper (single-spaced, 11 pt font) on the project idea. The paper should look at the potential project with an entrepreneurial perspective. The short paper is due at noon on *Sunday, November 22*.
- A full, 10-15 slides presentation of your topic to the class. All team members must present on *Wednesday, December 2.* The slide deck (powerpoint) must be submitted no later than noon on *Sunday, November 29.*

The key criteria we are looking for in the projects deliverables are (1) **understanding of the clinical need and (2) representation of the biodesign innovation process**. The first is paramount and involves a clearly formulated and well researched mobile health need. The second involves a strong process towards concept solution generation and selection (**originality** and **potential for impact** will be praised), with attention to opportunities for development (**feasibility**) and delivering strategies (**sustainability**, as can be achieved via appropriate regulatory, marketing and business strategies). By focusing on the need and how students have applied the innovation process to address it, teams will demonstrate that their solution has a reasonable likelihood of being accepted by all stakeholders. In evaluating the projects, we will place greater emphasis on evaluating the caliber of the research performed and what students have learned rather than the actual solutions and strategies they have devised. High quality of content and deliverables is most important, and is always preferred over quantity with limited insight.

Additional information on the final presentations and past examples of project papers and slides will be distributed in November.

All deliverables should be submitted on Coursework for review by the lead Course Director, Marta Gaia Zanchi. Coursework website: http://coursework.stanford.edu.

Teams who present their ideas in class on December 2 and are awarded best in class by a judging panel will be eligible to register for additional credit during the Winter quarter, to continue exploring their ideas with the help of mentors including Faculty and experts from the Mobile Health industry.

Course Materials

All course materials are found on the Coursework website: http://coursework.stanford.edu. Guest lecturer biographies and presentation slides from the speakers who give consent will also be posted on Coursework.

Contact Information

Course Directors

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Biodesign Program

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Website**:** http://biodesign.stanford.edu

Advisory Board Members

Yogen Dalal, Ph.D.	Partner Emeritus, Mayfield. Chairman and co-founder, Glooko
Mark Zdeblick, Ph.D.	Co-Founder, Chief Technology Officer, Proteus Digital Health
Cheryl Cheng	Partner, BlueRun Ventures. Co-Founder, BrandGarage
Asha Nayak	Global Medical Director, Intel Corporation
Paul Wang, M.D.	Professor of Medicine and of Bioengineering, Stanford University

Guest Speakers / Contributors

Full List Past Speakers / Contributors (years 2012-13, '13-14, '14-15, '15-16)

- Abby C. King, Professor of Health Research & Policy and Medicine, Director, Healthy Aging Research & Technology Solutions laboratory, SPRC, Stanford University
- Adam Schlifke, Health & Technology Innovator, Entrepreneur, Angel Investor, & Anesthesiologist
- Adrian Aguilera, Assistant Professor, University of California Berkeley
- Alex de Winter, Director, GE Ventures, Healthcare
- Alison Bloch, Health & Technology Strategy Independent Consultant, formerly led mHealth Programme, GSM Association's Development Fund
- Amar Kendale, Vice President of Strategy and Market Development, mc10 Inc.
- Amy Tenderich, Founder & Editor, DiabetesMine
- Andrew Atwell, Principal, Open Innovation Center, Samsung
- Andrew Broderick, Research Program Director, Public Health Institute
- Andrew Lee, Co-Founder, StartX MED
- Anna de Paula Hanika, Open mHealth
- Anil Sethi, Serial Entrepreneur, Founder & CEO, Gliimpse
- Anurag Mairal, Director, Global Exchange Programs, Stanford University
- Asha Nayak, Global Medical Director, Intel Corporation
- Ben Wilson, Director, Intel Global Healthcare Strategy
- Bassam Kadry, MedicineX Director of Technology Discovery, Stanford University School of Medicine
- Cecilia Corral, Chief Design Officer, CareMessage
- Chris Furmanski, Director of Innovation, Stanford Health Care
- Christina Claire Lane, Visiting Associate Professor, Orthopaedics, Stanford University
- Christine Nguyen, Founder, Footsteps
- Dan Weberg, PhD, MHI, RN, Director, Nursing Innovation, Kaiser Permanente (KP) Information Technology's Innovation & Advanced Technology Group (IAT)
- David Haddad, Executive Director, Open mHealth
- David Myung, Resident Physician, Byers Eye Institute, Stanford University and Co-Founder & Chief Scientific Officer, Biomimedica, Inc.
- David Sayen, Region IX, CDR U.S. Public Health Service, Centers for Medicare Medicaid Services
- David Zapol, Social Entrepreneur
- Deborah Dean, MD, Founder and Executive Director, Children's Global Health Initiative
- Deborah Kilpatrick, Chief Executive Officer at Evidation Health
- Dennis Boyle, Partner & Founding Member, IDEO, IDEO's Health & Wellness Business
- Dianna Kane, Senior Designer, Medic Mobile
- Divya Nag, Founder, StartX Med
- Elli Kaplan, CEO, Neurotrack
- Euan Ashley, Associate Professor of Medicine, Stanford University Medical Center

- Geetha Rao, PhD, Vice President Strategy & Risk Management, Triple Ring Technologies, Inc
- Geoffrey Clapp, Co-Founder, Better and Mentor/Advisor, many Healthcare and Technology Startups
- Grace Bartoo, President, CEO, Decus Biomedical
- Greg Sommer, Co-Founder and CEO at Sandstone Diagnostics, Inc
- Ida Sim, Professor, Division of General Internal Medicine, UCSF; Co-Director of Biomedical Informatics, UCSF Clinical and Translational Sciences Institute
- Jay Watkins, Managing Director, De Novo Ventures
- Josh Nesbit, Chief Executive Officer, Medic Mobile
- Juan-Pablo Mas, Partner, Action Potential Venture Capital
- Jules Sherman, Designer, Entrepreneur & Lecturer, JS Design Group
- Julia Hu, Founder, CEO, Lark
- Kyra Bobinet, MD/MPH, CEO, engagedIN, Health Engagement Instructor, Stanford AIM Lab
- Kunal Sethy, Director of Operations, Zephyr Health
- Larry Chu
- Lucy Kalanithi, Postdoctoral Fellow, Clinical Excellence Research Center, Stanford University
- Manu Prakash, Assistant Professor, Bioengineering, Stanford University
- Matthew Smuck , Associate Professor of Orthopaedics, Stanford University
- Mary Rosenberger, Postdoctoral Fellow, Psychology, Stanford University
- Mike O'Reilly, MD, Vice President, Special Projects Group, Apple
- Mark Zdeblick, Chief Technology Officer, Proteus Digital Health
- Missy Krasner, Managing Director, Healthcare & Life Sciences, Box, & Special Advisor, Canvas Venture Fund
- Mitchell Mom, Venture Associate, Rock Health
- Mohammed Bailony
- Mohit Kaushal MD, MBA, Partner, Aberdare Ventures, Advisor to the National Committee on Vital and Health Statistics, US Department of Health and Human Services
- Monique Lambert, Medical Ethnographer, Investigator, Palo Alto Medical Foundation
- Nina Kjellson, General Partner, Interwest
- Oliver Aalami, Vascular and Endovascular Surgeon, Stanford University
- Partha Ray, Managing Director, Kalyan Medical & Board Member, Life Science Angels
- Philip Sager, Consulting Professor, Stanford Cardiovascular Institute (CVI)
- Phillip Olla, CEO, Mobile Diagnostics Services
- Piya Sorcar, Teach Aids
- Rebecca Lynn, Partner, Morgenthaler Ventures, Information Technology Team
- Rick Altinger, CEO, Glooko
- Rick Valencia, Vice President, Qualcomm & Founder / General Manager, Qualcomm Life
- Roger Chen, Associate, O'Reilly AlphaTech Ventures
- Ryan Bloom, Founder, Factor 14
- Ryan Van Wert, Founder, Vynca

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- Rush Bartlett, Founder, Vynca
- Sami Hamade, Partner, Aberdare Ventures
- Sanjay Shah, Senior Program Officer, California HealthCare Foundation
- Sean Nola, formerly Distinguished Engineer & Chief Architect, Microsoft Health Solutions Group
- Sonny Vu, CEO & Founder, Misfit Wearables
- Stephanie Habif, Healthcare Design Strategist. Stanford Calming & Persuasive Labs, Habif Health
- Sumbul Desai, MD, Clinical Assistant Professor, Associate Chief Medical Officer, Strategy and Innovation, Stanford Hospital and Clinic
- Susan Dybbs, Managing Director & Interaction Design Practice Lead, Cooper
- S. V. Mahadevan, MD, FACEP, FAAEM, Associate Professor of Surgery/Emergency Medicine Director, Stanford Emergency Medicine International, Stanford University School of Medicine
- Thomas Goetz, co-founder, Iodine & author, "The Decision Tree: Taking Control of Your Health in the New Era of Personalized Medicine"
- Uday N. Kumar, MD, Fellowship Director, Global Biodesign Programs, Consulting Associate Professor, Bioengineering, Stanford University
- Yogen Dalal, Partner Emeritus, Mayfield Fund & Co-founder & Chairman, Glooko, Inc.
- Waimei (Amy) Tai, MD, Clinical Assistant Professor, Neurology & Neurological Sciences, Clinical Excellence Research Center, Stanford University

Presenting Startups

Full List Past Guest Startups (years 2012-13, '13-14, '14-15, '15-16)

- **Factor14**
- **Footsteps**
- **Vynca**
- **CareMessage**
- **Glooko**
- **Caydian**
- **Lark**
- **Lumo Back**
- **Sano Intelligence**
- **Nephosity**
- **Nurep**
- **Ginger-io**

Guest Alums

- Tyler and Mersina, 2014 Alums

Class Content

Class 1 **Introduction to Course; Overview of Mobile Health**
September 23

NO DISCUSSION SECTION TODAY – CLASS STARTS AT 4.30PM

4.30PM-4.45PM **INITIAL REMARKS, COURSE INTRODUCTION:**
Marta Gaia Zanchi, Stanford School of Medicine (Course Overview)
Paul Yock, Stanford Biodesign (Biodesign Program Overview)

4.45PM-5.30PM **GUEST LECTURER:**
Mohit Kaushal MD, MBA, Partner, Aberdare Ventures, Advisor to the National Committee on Vital and Health Statistics, US Department of Health and Human Services

5.30PM-6.20PM **SPECIAL GUESTS / DEMOS:**
Mobile Health startup founders will give a brief presentation of their companies and solutions and network with the students.
Alumni Guests: (8min+3min Q&A)
- Tyler Haydell, Mersina Simanski, presenting on: Formative
Additional Guests: (5min+2min Q&A)
- Sarah Mummah, presenting on: Vegethon
- Andy McGibbon, Pablo Abad-Manterola, presenting on: Muvr
- Vineet Singal, presenting on: Caremessage
- Samir Medjebar, presenting on: Adscientiam

 Readings
Available on Coursework

Class 2   **Needs**
September 30

3.30PM-4.20PM   DISCUSSION SECTION:
Marta Gaia Zanchi, Stanford School of Medicine
Presenting on: Project Requirements, Milestones and Deliverables (30min)
Followed by: Team Members Speed Meeting (part #1 of a two-part exercise; 20min)

4.30PM-4.40PM   INITIAL REMARKS:
Marta Gaia Zanchi, Stanford School of Medicine

4.40PM-5.40PM   GUEST PANEL:

MODERATOR:
Paul Yock, Martha Meier Weiland Professor of Medicine, Director, Biodesign, Stanford University

GUEST PANELISTS:
Adrian Aguilera, Assistant Professor, University of California Berkeley
Abby C. King, Professor of Health Research & Policy and Medicine, Director, Healthy Aging Research
        & Technology Solutions laboratory, SPRC, Stanford University
Alexander A. Morgan, Scientist in Residence, Khosla Ventures
Eric Leroux, Emergency Medicine Chief Resident Physician, Stanford School of Medicine

5.40PM-5.50PM   ANNOUNCEMENT: DIABETESMINE SCHOLARSHIP
Amy Tenderich, Founder, DiabetesMine

5.50PM-6.20PM   PROJECT NETWORKING SESSION:
After the panel discussion, students are required to attend a "Team Members Speed Meeting"
exercise (part #2 of a two-part exercise), designed for all students to have the opportunity to
briefly meet each other. This is also a time for everyone to network with participating guest
speakers, as a way to explore interests in particular application areas and possible projects in
Mobile Health.

Readings
Available on Coursework

Class 3   **Enabling Technologies**
October 7

NOTE: *Today, 11PM is the deadline for interested students to submit project ideas.*

3.30PM-4.20PM   DISCUSSION SECTION:
Marta Gaia Zanchi, Stanford School of Medicine
Presenting on: Biodesign Innovation Process: Needs Finding

4.30PM-4.40PM   COURSE INTRODUCTION:
Marta Gaia Zanchi, Stanford School of Medicine

4.40PM-5.00PM   GUEST LECTURER:
Michael V. McConnell, MD, MSEE, Director, Preventive Cardiology Clinic, Co-Director, Noninvasive Imaging, Div. of Cardiovascular Medicine, Stanford University School of Medicine.
Presenting on: MyHeartCounts

5.00PM-6.20PM   GUEST PANEL:

MODERATOR:
Michael V. McConnell, MD, MSEE, Director, Preventive Cardiology Clinic, Co-Director, Noninvasive Imaging, Div. of Cardiovascular Medicine, Stanford University School of Medicine

GUEST PANELISTS:
Rick Altinger, CEO, Glooko
Julia Hu, Founder, CEO, Lark
Mark Zdeblick, Chief Technology Officer, Proteus Digital Health
Robert Chang, MD, Assistant Professor of Ophthalmology, Glaucoma and Cataract Surgery
     Specialist, Stanford University Medical Center

Readings
Available on Coursework

Class 4   **Designing for Health**
October 14

3.30PM-4.20PM   DISCUSSION SECTION:
Lyn Denend, Associate Director, Curriculum, Biodesign, Stanford University
Presenting on: Biodesign Innovation Process: Needs Screening and Criteria Selection

4.30PM-4.40PM   COURSE INTRODUCTION:
Marta Gaia Zanchi, Stanford School of Medicine

4.40PM-5.00PM   GUEST LECTURER:
Dennis Boyle, Partner & Founding Member, IDEO, IDEO's Health & Wellness Business

5.00PM-6.20PM   GUEST PANEL:

MODERATOR:
Marta Gaia Zanchi, Stanford School of Medicine

GUEST PANELISTS:
Dennis Boyle, Partner & Founding Member, IDEO, IDEO's Health & Wellness Business
Kyra Bobinet, MD/MPH, CEO, engagedIN, Health Engagement Instructor, Stanford AIM Lab
Sumbul Desai, MD, Clinical Assistant Professor, Associate Chief Medical Officer, Strategy and
        Innovation, Stanford Hospital and Clinic
Bryant Lin, Clinical Assistant Professor of Medicine and Medical Director, Consultative Medicine
        Clinic, Stanford University
Christy Tomkins-Lane, Visiting Associate Professor, Department of Orthopaedic Surgery, Wearable
        Health Lab, Stanford University

Readings
Available on Coursework

Class 5   **Policy**
October 21

3.30PM-4.20PM   DISCUSSION SECTION:
Varun Boriah, Founder, CEO, Lully Sleep
Presenting on: Biodesign Innovation Process: Concept Generation and Screening

4.30PM-4.40PM   COURSE INTRODUCTION:
Marta Gaia Zanchi, Stanford School of Medicine

4.40PM-5.00PM   GUEST LECTURER:
Geetha Rao, CEO, Springborne Life Sciences
Presenting on: FDA Regulation of Mobile Health

5.00PM-6.20PM   GUEST PANEL:

MODERATOR:
Geetha Rao, CEO, Springborne Life Sciences

GUEST PANELISTS:
Marco Smit, Managing Director & Founder, Next Innovation Health Partners
Arnold Milstein, MD, Professor of Medicine, Stanford University, Director, Stanford's Clinical
        Excellence Research Center (CERC)
Invited Mildred Cho, Associate Director, Center for Biomedical Ethics, Professor of Pediatrics,
        Stanford University
Invited Jamie Ferguson, Vice President, Health IT Strategy & Policy, Kaiser Permanente

Readings
Available on Coursework

Class 6   Beyond US: Global Mobile Health
October 28

3.30PM-4.20PM   DISCUSSION SECTION:
Karen Drexler, founder, advisor, board member, investor
Presenting on: The Art of Telling your Mobile Health Story

4.30PM-4.45PM   COURSE INTRODUCTION:
Marta Gaia Zanchi, Stanford School of Medicine

4.45PM-5.45PM   GUEST PANEL:

MODERATOR:
Anurag Mairal, Director, Global Exchange Programs, Stanford University

GUEST PANELISTS:
Jaspal S. Sandhu PhD, Lecturer, Design & Innovation, Berkeley School of Public Health, Founding
        Partner, Gobee
Amish Parashar, Director of Innovation, Triple Ring Technologies
George Savage, Co-Founder & Chief Medical Officer, Proteus Digital Health
Dianna Kane, Senior Designer, Medic Mobile
(*Invited*) Fay Xing, MD, Partner, Wuxi Healthcare Ventures

5.45PM-6.20PM   HAPPY HOUR:
All students are invited to mingle after class with fellow students and guest speakers.

Readings
Available on Coursework

Class 7   **Money: Business Models and Financing**
November 4

3.30PM-4.20PM   DISCUSSION SECTION:
Jenna Tregarthen, Co-Founder and CEO, Recovery Record
Presenting on: Business Models for Mobile Health

4.30PM-4.40PM   COURSE INTRODUCTION:
Marta Gaia Zanchi, Stanford School of Medicine

4.40PM-5.40PM   GUEST PANEL:

MODERATOR:
Sami Hamade, Partner, Partner, AppleTree Partners

GUEST PANELISTS:
Alex de Winter, Director, GE Ventures, Healthcare
Juan-Pablo Mas, Partner, Action Potential Venture Capital
Missy Krasner, Managing Director, Healthcare & Life Sciences, Box
Josh Makower, MD, Venture Partner, New Enterprise Associates
Cheryl Cheng, MBA, Partner, BlueRun Ventures. Co-Founder, BrandGarage

5.40PM-6.20PM   MICRO-PITCH:
Half of the teams working on a project idea for extra credit present to other students in the class
and to guest panelists. The goal is to allow students to receive feedback on their initial thought
process and findings.

Readings
Available on Coursework
Biodesign Chapter 4.4, Business Models: "A Note on Mobile Health" and "Cardiocom" Case Study,
pages 395-399.

Class 8   **Entrepreneurship**
November 11

3.30PM-4.20PM   **DISCUSSION SECTION**
Jagjot (JJ) Singh, CEO, Service Associates, Lead Mentor, StartX, Angel Investor.
Presenting on: Evaluating a Business for Success

4.30PM-4.40PM   **COURSE INTRODUCTION**
Marta Gaia Zanchi, Stanford School of Medicine

4.40PM-5.40PM   **GUEST PANEL:**

MODERATOR:
Paul Yock, Martha Meier Weiland Professor of Medicine, Director, Biodesign, Stanford University

GUEST PANELISTS:
Deborah Kilpatrick, Chief Executive Officer at Evidation Health
Adam Schlifke, Health & Technology Innovator, Entrepreneur, Angel Investor, & Anesthesiologist
Greg Sommer, Co-Founder and CEO at Sandstone Diagnostics, Inc
Uday N. Kumar, MD, Fellowship Director, Global Biodesign Programs, Consulting Associate
       Professor, Bioengineering, Stanford University

5.40PM-6.20PM   **MICRO-PITCH:**
Half of the teams working on a project idea for extra credit present to other students in the class and to guest panelists. The goal is to allow students to receive feedback on their initial thought process and findings.

Readings
Available on Coursework

Class 9   **The Corporate Perspective**
November 18

NOTE: *November 22 at noon is the deadline for teams to submit a short paper on their project ideas.*
NOTE: *November 29 at noon is the deadline for teams to submit the slide deck on their project ideas.*

3.30PM-4.20PM   DISCUSSION SECTION
Mark Zdeblick, Founder, CTO, Proteus Digital Health
Presenting on: Career opportunities in Mobile Health

4.30PM-4.40PM   COURSE INTRODUCTION
Paul Yock, Martha Meier Weiland Professor of Medicine, Director, Biodesign, Stanford University

4.40PM-5.50PM   GUEST PANEL:

MODERATOR:
Jay Watkins, Managing Director, De Novo Ventures

GUESTS
Oliver Aalami, Vascular and Endovascular Surgeon, Stanford University
Asha Nayak, Global Medical Director, Intel Corporation
David Goodman, Chief Medical Officer, FirstVitals Health and Wellness Inc, General Medicine
        Practice Physician, Board Member
Renee Ryan, Vice President, Investor, JJDC at Johnson & Johnson
Invited Ibrahim Sezan, Senior Director of Technology, Qualcomm

5.50PM-6.20PM   HAPPY HOUR:
Students are invited to mingle after class with fellow students and the guest speakers.

Readings
Available on Coursework

Class 10   **Final Presentations & Awarding Ceremony**
December 2

ALL Faculty   Attendance is mandatory for all students

TEAM PRESENTATIONS: **3.30PM-6.00PM**
Teams present a full, 10-15 slides presentation of their project idea to the class. All team members must present. The presentation (powerpoint) must be submitted in advance, no later than noon on Sunday, November 29.

AWARDING CEREMONY   **6.30PM-8.00PM**
Winning teams are announced and awarded. Food and drinks are served in a casual atmosphere encouraging networking among students and faculty.

Judging Panel
Judges will be announced in November.

Biodesign for Mobile Health, Fall 2015

Abbreviated Calendar - BioE273-01: Lecture/Panel Component

September 23 – Introduction

September 30 – Needs

October 7 – Enabling Technologies

October 14 – Designing for Mobile Health

October 21 – Policy & Innovation for the Enterprise

October 28 – Beyond US: Global Mobile Health

November 4 – Money: Business Models and Financing + Student Micro Pitches

November 11 – Entrepreneurship + Student Micro Pitches

November 18 – Corporate Perspectives

December 2 – Presentations & Awarding Ceremony

Abbreviated Calendar - BioE273-02: Project/Lab Component

September 30 – Project Requirements, Milestones and Deliverables

October 7 – Biodesign Innovation Process: Needs Finding

October 14 – Biodesign Innovation Process: Needs Screening and Criteria Selection

October 21 – Biodesign Innovation Process: Concept Generation and Screening

October 28 – The Art of Telling your Mobile Health Story

November 4 – Business Models for Mobile Health

November 11 – Evaluating a Business for Success

November 18 – Career opportunities in Mobile Health

Information for Students with Disabilities

Students with Documented Disabilities: Students who may need an academic accommodation based on the impact of a disability must initiate the request with the Office of Accessible Education (OAE). Professional staff will evaluate the request with required documentation, recommend reasonable accommodations, and prepare an Accommodation Letter for faculty dated in the current quarter in which the request is made.

Students should contact the OAE as soon as possible since timely notice is needed to coordinate accommodations. The OAE is located at 563 Salvatierra Walk (phone: 723-1066, URL: http://studentaffairs.stanford.edu/oae).