

**Synthetic Biology and Biomedicine: Progress, Outlook, and Challenges**  
**Doubletree Hotel, Bethesda, Maryland**  
**February 11-12, 2010**  
*(Draft – 12/14/2009)*

**Workshop Co-Chairs:**

**Drew Endy, Ph.D.**  
Assistant Professor  
Department of Bioengineering  
Stanford University

**Aristides Patrinos, Ph.D.**  
President  
Synthetic Genomics Inc.

**Workshop Objectives:**

1. Communicate progress in the emerging field of synthetic biology.
2. Discuss potential applications of synthetic biology in cancer research.
3. Discuss bioethical implications and risk management.
4. Discuss opportunities for fundamental impact on biomedicine.
5. Identify challenges and needs for future development.

**Agenda**

**February 11, 2010**

7:15am Registration

8:00am – 8:15am Opening Remarks

**Session I: Current State-of-the-Art in Synthetic Biology**  
**Chair: Ari Patrinos**

8:15am – 8:35am	<b>Drew Endy</b>	Overview
8:35am – 9:05am	<b>George Church</b>	synthetic genetics
9:05am – 9:35am	<b>Daniel Gibson</b>	synthetic genomics
9:35am – 10:05am	<b>Jeff Hasty</b>	synthetic networks

10:05am – 10:20am	Break	
10:20am – 10:50am	<b>Steve Benner</b>	bio synthesis
10:50am – 11:20am	Panel Discussion	

**Session II: Bioethics in Synthetic Biology**  
**Chair: Drew Endy**

11:20pm – 11:50pm	<b>Robert Friedman</b>	
11:50pm – 12:20pm		
12:30pm – 1:30pm	Lunch	

**Session III: Applications of Synthetic Biology in Cancer Research**  
**Chair: Jay Keasling**

1:30am – 2:00	<b>Robert Gatenby</b>	
2:00pm – 2:30pm	<b>Jay Keasling</b>	
2:30pm – 3:00pm	<b>Christina Smolke</b>	
3:00pm – 3:30pm	<b>Chris Anderson</b>	
3:30pm – 3:45pm	Break	
3:45pm – 4:15pm	<b>Pam Silver</b>	
4:15pm – 4:45pm	Adam Arkin (pending confirmation)	
4:45pm – 5:15pm	<b>Lynne Regan</b>	
5:15pm – 5:45pm	Panel Discussion	
6:00pm – 7:30pm	Reception	

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**Session IV: Opportunities for Fundamental Impact on Biomedicine**

**Chair: Ari Patrinos**

8:00am – 8:30am	<b>Wendell Lim</b>
8:30am – 9:00am	<b>Ron Weiss</b>
9:00am – 9:30am	<b>Jef Boeke</b>
9:30am – 10:00am	Panel Discussion
10:00am – 10:15am	Break

**Session V: Breakout Discussions on Challenges and Needs**

**Chair: Karin Remington**

10:15am – 10:20am	Instruction of the Session
10:20am – 11:30am	Breakout Sessions <ol style="list-style-type: none"><li>1. Challenges and Needs in Scientific Advance Lead Discussant: Eric Jakobsson</li><li>2. Challenges and Needs in Technology Development Lead Discussant: Jay Keasling</li><li>3. Challenges and Needs in Clinical and Translational Research Lead Discussant: Robert Gatenby</li><li>4. Challenges and Needs in Education Lead Discussant: Wendell Lim</li></ol>
11:30am – 12:30am	Reports from Breakout Session Lead Discussants
12:30am – 12:50pm	Summary from the Co-Chairs
1:00pm	Workshop Adjourns