

# Jay D Keasling

## Office Address

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## Education

*Postdoctorate*, Biochemistry, 1991-1992, Stanford University  
*Ph.D.*, Chemical Engineering, 1991, University of Michigan  
*M.S.*, Chemical Engineering, 1988, University of Michigan  
*B.S.*, Chemistry and Biology, 1986, University of Nebraska, Lincoln

## Positions

### Current positions

2004-Present **Professor**, Department of Bioengineering, University of California, Berkeley, Berkeley, CA  
2001-Present **Professor**, Department of Chemical & Biomolecular Engineering, University of California, Berkeley, Berkeley, CA  
2006-Present **Senior Faculty Scientist**, Biological Sciences & Engineering Division, Lawrence Berkeley National Laboratory, Berkeley, CA  
2007-Present **Chief Executive Officer**, Joint BioEnergy Institute (JBEI), Emeryville, CA  
2013-Present **Investigator**, Novo Nordisk Foundation Center for Biosustainability, Technical University of Denmark  
2017-Present **Distinguished Visiting Professor**, Shenzhen Institutes for Advanced Technologies, Shenzhen, China  
2018-Present Director, **Center for Synthetic Biochemistry**, Institute for Synthetic Biology, Shenzhen Institutes for Advanced Technologies, Shenzhen, China

### Previous positions

2012-2020 **Sydney Brenner Visiting Professor**, National University of Singapore, Singapore  
2017-2019 **Chief Science and Technology Officer for Biosciences**, Lawrence Berkeley National Laboratory, Berkeley, CA  
2010-2017 **Associate Laboratory Director for Biosciences**, Lawrence Berkeley National Laboratory, Berkeley, CA  
2006-2016 **Director**, Synthetic Biology Engineering Research Center (Synberc), University of California, Berkeley, CA  
2010-2012 **Nanyang Professor**, Nanyang Technological University, Singapore  
2009-2010 **Acting Deputy Laboratory Director**, Lawrence Berkeley National Laboratory, Berkeley, CA  
2005-2009 **Division Director**, Physical Biosciences Division, Lawrence Berkeley National Laboratory, Berkeley, CA  
1992-2006 **Faculty Scientist**, Physical Biosciences Division, Lawrence Berkeley National Laboratory, Berkeley, CA  
1998-2001 **Associate Professor**, Department of Chemical Engineering, University of California, Berkeley, Berkeley, CA  
1992-1998 **Assistant Professor**, Department of Chemical Engineering, University of California, Berkeley, Berkeley, CA

1991-1992 **Post doctoral fellow**, Department of Biochemistry, Stanford University, Stanford, CA  
1986-1991 **PhD student**, Department of Chemical Engineering, University of Michigan, Ann Arbor, MI

## Other Appointments

2020-Present Advisor, Praj  
2020-Present Advisor, IFF  
2020-Present Advisor, Orbillion  
2018-Present Advisor, Ansa Biosciences  
2018-Present Member, Scientific Advisory Board, Apertor Pharma  
2017-Present Member, Scientific Advisory Board, Kalion  
2016-Present Member, Board of Directors, Demetrix  
2013-Present Member, Scientific Advisory Board, Lygos  
2018-2020 Member, Board of Directors, Lygos  
2017-2021 Member, Board of Directors, Maple  
2016-2021 Advisor, Biological Engineering  
2019-2021 Advisory Board Member, Department of Chemical & Biomolecular Engineering, University of Nebraska-Lincoln  
2010-2018 Consultant, Malaysia Life Science Capital Fund, Malaysia  
2012-2017 Member, Scientific Advisory Board, Evolva, Denmark  
2008-2012 Member, Scientific Advisory Board, Genomatica, USA  
2003-2009 Member, Scientific Advisory Board, Amyris, USA

## Member of Scientific Academies and Societies

### Scientific Academies

2016-Present American Academy of Arts and Sciences  
2010-Present Member of the National Academy of Engineering  
2014-Present Fellow of the National Academy of Inventors  
2007-Present Fellow of the American Academy of Microbiology  
2000-Present Fellow of the American Institute of Medical and Biological Engineering

### Other Memberships

American Chemical Society  
American Institute of Chemical Engineers  
American Society for Microbiology  
Phi Beta Kappa  
Society for Industrial Microbiology and Biotechnology

## Service to Scientific Organizations

2016-Present International Metabolic Engineering Society (IMES) - Board Representative  
2016-Present The Engineering Biology Research Consortium (EBRC) - Board of Directors  
2021-Present Bioindustrial Manufacturing and Design Ecosystem (BioMADE) - Board of Directors

## Founder

2003 Amyris (NASDAQ: AMRS)  
2003 Codon Devices  
2004 LS9 (Now part of Genomatica)  
2011 Lygos  
2015 Napigen  
2016 Engineering Biology Research Consortium  
2016 Demetrix  
2017 Maple Bio

2018 Apertor Pharma  
2020 Zero Acre Farms  
2021 ResVita Bio

## Editorships and Editorial Advisory Boards

2019-Present Co-Editor-in-Chief, *Metabolic Engineering*  
2004-Present Editorial Board Member, *Metabolic Engineering*  
2018-Present International Advisory Board Member, *Biotechnology and Bioprocess Engineering (BBE)*  
2016-Present Editorial Board Member, *Synthetic and Systems Biotechnology Journal*  
2014-Present Editorial Board Member, *Metabolic Engineering Communications*  
2009-Present Editorial Board Member, *Biotechnology Journal*  
2000-2004 Associate Editor, *Biotechnology and Bioengineering*

## Awards

2021 Distinguished Scientists Fellow, Office of Science, U.S. Department of Energy  
2021 Bakar Fellow, University of California, Berkeley  
2021 Robert L. Pigford Memorial Lecture, University of Delaware, Newark, DE  
2020 Inducted as a Fellow of the American Institute of Chemical Engineers  
2019 Doing a World of Good, American Institute of Chemical Engineers (AIChE)  
2019 DICP Zhang Dayu Lectureship, Dalian Institute of Chemical Physics, Chinese Academy of Sciences  
2018 Research Award 2018, The Leibniz Research Alliance Bioactive Compounds and Biotechnology  
2017 Honorary Professor, Tianjin Institute for Industrial Biotechnology, Chinese Academy of Sciences, Tianjin, China  
2017 Distinguished Visiting Professor, Shenzhen Institutes for Advanced Technologies, Chinese Academy of Sciences, Shenzhen, China  
2017 Distinguished Lecturer, Department of Chemical Engineering, Penn State University, University Park, PA  
2017 Amgen Award, Biochemical Engineering Meeting  
2016 Election as a Member, American Academy of Arts and Sciences  
2016 N. Ronald Morris Lecture, Rutgers University, New Brunswick, NJ  
2016 The Stanley Katz Memorial Lecture, The City College of New York, New York, New York  
2015 Eric and Shiela Samson Prime Minister's Prize in Innovation in Alternative Fuels for Transportation. Tel Aviv, Israel  
2015 Honorary Doctorate, Chalmers University of Technology, Gothenburg, Sweden  
2015 Michael M. Abbot Lecture, Department of Chemical & Biological Engineering, Rensselaer Polytechnic Institute  
2015 National Academy of Inventors  
2015 Earl Bakken Lecture, American Institute for Medical and Biological Engineering  
2014 Innovator Award – Biosciences, Economist Magazine  
2014 Eni Renewable Energy Prize, Eni S.p.A.  
2014 Devon Walter Meek Award Lectures, Department of Chemistry, Ohio State University  
2014 Arun Guthikonda Memorial Award Lectureship, Department of Chemistry, Columbia University  
2014 Herman S. Block Award Lectureship, Department of Chemistry, University of Chicago  
2013 Food, Pharmaceutical and Bioengineering Division Award, Food, Pharmaceutical and Bioengineering Division, American Institute of Chemical Engineers  
2013 George Washington Carver Award for Innovation in Industrial Biotechnology, Biotechnology Industry Organization  
2013 Promega Biotechnology Research Award, American Society for Microbiology  
2013 Marvin Johnson Award in Microbial and Biochemical Technology, Division of Biochemical Technology, American Chemical Society  
2012 Heinz Award for Technology, the Economy and Employment, Heinz Family Foundation

2012 International Metabolic Engineering Award, Metabolic Engineering Society  
 2012 Heuermann Lecture, Institute of Agriculture and Natural Resources, University of Nebraska-Lincoln  
 2012 Katz Lectureship, Department of Chemical Engineering, University of Michigan  
 2012 Henry McGee Lecturer, Virginia Commonwealth University, School of Engineering  
 2012 Tetelman Fellowship Lectureship, Jonathan Edwards College, Yale University  
 2011 Kewaunee Lectureship, Pratt School of Engineering, Duke University  
 2010 Presidential Green Chemistry Challenge Award, United States Environmental Protection Agency (to LS9 and Founders)  
 2010 Division O (Fermentation and Biotechnology) Lectureship, American Society for Microbiology  
 2010 Treat B Johnson Lecture, Department of Chemistry, Yale University  
 2010 Eyring Lectures in Chemistry and Biochemistry, Arizona State University  
 2010 National Academy of Engineering  
 2010 GLBT Engineer of the Year, National Organization of Gay and Lesbian Scientists and Technical Professionals  
 2009 Cox Distinguished Lectureship, Washington University, 2009. Ashland Lectureship, University of Kentucky  
 2009 Danckwerts Lectureship, World Congress on Chemical Engineering  
 2009 Inaugural Biotech Humanitarian Award, Biotechnology Industry Organization (BIO)  
 2009 2009 University Lectures in Chemistry, Department of Chemistry, Boston College  
 2009 The Sixteenth F. A. Bourke Distinguished Lecture in Biotechnology, Center for Advanced Biotechnology and Department of Biomedical Engineering, Boston University  
 2009 Chancellor's Award for Public Service for Research in the Public Interest, University of California, Berkeley  
 2008 2008 Britton Chance Distinguished Lecturer, Department of Chemical and Biomolecular Engineering and Institute Medicine and Engineering, University of Pennsylvania  
 2008 Patten Distinguished Seminar, Department of Chemical Engineering, University of Colorado  
 2008 Sierra Section Recognition for Leadership in the Chemical Engineering Profession, American Institute of Chemical Engineers – Northern California Section  
 2007 Visionary Award, Bay Bio  
 2007 Truman Lecturer, Sandia National Laboratories  
 2007 Professional Progress Award, American Institute for Chemical Engineers  
 2007 Elected Fellow of the American Academy for Microbiology  
 2007 Research Project of the Year, Northern California Section of the American Institute for Chemical Engineers  
 2007 Eastman Lectureship, Department of Chemical Engineering, Georgia Tech University  
 2006 Scientist of the Year, Discover Magazine  
 2005 Technology Pioneer, World Economic Forum  
 2005 Seventh Annual Frontiers of Biotechnology Lecture, Department of Chemical Engineering, Massachusetts Institute of Technology  
 2005 Blue-Green Lecturer, Department of Chemical Engineering, University of Michigan & Department of Chemical Engineering and Materials Sciences, Michigan State University  
 2003 Inaugural Schwartz Lecturer, Department of Chemical Engineering, Johns Hopkins University  
 2002 Allan P. Colburn Memorial Lecturer, Department of Chemical Engineering, University of Delaware  
 2000 Elected Fellow of the American Institute of Medical and Biological Engineering  
 1999 AIChE Award for Chemical Engineering Excellence in Academic Teaching, Northern California Section of the American Institute for Chemical Engineers  
 1995 Chevron Young Faculty Fellowship, Chevron  
 1995 CAREER Award, National Science Foundation  
 1992 Zeneca Young Faculty Fellowship, Zeneca Ltd.  
 1991 NIH Postdoctoral Fellowship, Stanford University  
 1982 Regents Scholarship, The University of Nebraska  
 1986 Graduation with High Distinction, The University of Nebraska

## Mentoring

Supervisor of graduated PhD/MS students  
Former/current affiliated post docs

61/11  
71/11

## Publications, Patents, Presentations, Citations

H-index of 101 and >39,000 citations (Research Gate) and of 116 and >53,000 citations (Google Scholar)

501 Peer Reviewed Papers  
11 Conference Proceedings  
15 Book Chapters  
66 Issued US Patents  
529 Invited oral presentations at international conferences and seminars

### Refereed Journal Publications

#### 1989

1. J. D. Keasling and B. O. Palsson. 1989. "On the kinetics of plasmid replication." *J. Theor. Biol.* **136**:487-492.
2. J. D. Keasling and B. O. Palsson. 1989. "ColE1 plasmid replication: a simple kinetic description from a structured model." *J. Theor. Biol.* **141**:447-461.

#### 1990

3. B. O. Palsson, J. D. Keasling, and S. G. Emerson. 1990. "The regulatory mechanisms of human immunodeficiency virus replication predict multiple expression rates." *Proc. Natl. Acad. Sci. USA.* **87**:772-776.

#### 1991

4. J. D. Keasling, B. O. Palsson, and S. Cooper. 1991. "Cell-cycle-specific F'lac plasmid replication: regulation by cell size control of initiation." *J. Bacteriol.* **173**:2673-2680.

#### 1992

5. J. D. Keasling, B. O. Palsson, and S. Cooper. 1992. "Replication of the R6K plasmid during the *Escherichia coli* cell cycle." *J. Bacteriol.* **174**:1060-1062.
6. J. D. Keasling, B. O. Palsson, and S. Cooper. 1992. "Replication of prophage P1 is cell-cycle specific." *J. Bacteriol.* **174**:4457-4462.
7. J. D. Keasling, B. O. Palsson, and S. Cooper. 1992. "Replication of mini-F plasmids during the bacterial division cycle." *Res. Microbiol.* **143**:541-548.

#### 1993

8. J. D. Keasling, L. Bertsch, and A. Kornberg. 1993. "Guanosine pentaphosphate phosphohydrolase of *Escherichia coli* is a long-chain polyphosphatase." *Proc. Natl. Acad. Sci. USA* **90**:7029-7033.

#### 1994

9. J. D. Keasling and S. Cooper. 1994. "Analysis of plasmid replication during the bacterial division cycle." *Methods in Molecular Genetics* **3**:380-388.
10. T. R. Hupp, J. D. Keasling, S. Cooper, and J. M. Kaguni. 1994. "Synthesis of DnaK protein during the division cycle of *Escherichia coli*." *Res. Microbiol.* **145**:99-109.

#### 1995

11. J. D. Keasling, H. Kuo, and G. Vahanian. 1995. "A Monte Carlo simulation of the *Escherichia coli* cell cycle." *J. Theor. Biol.* **176**:411-430.

### 1996

12. J. D. Keasling and G. A. Hupf. 1996. "Genetic manipulation of polyphosphate metabolism affects cadmium tolerance in *Escherichia coli*." *Appl. Environ. Microbiol.* **62**:743-746.
13. S. T. Sharfstein, S. J. Van Dien, and J. D. Keasling. 1996. "Modulation of the phosphate-starvation response in *Escherichia coli* by genetic manipulation of the polyphosphate pathways." *Biotechnol. Bioeng.* **51**:434-438.
14. N. Shapiro and J. D. Keasling. 1996. "The recA gene and cadmium toxicity in *Escherichia coli* K-12." *Microbios* **86**:23-26.
15. H. Kuo and J. D. Keasling. 1996. "A Monte Carlo simulation of plasmid replication during the bacterial division cycle." *Biotechnol. Bioeng.* **52**:633-647.
16. S. Keyhani, J. L. Lopez, D. S. Clark, and J. D. Keasling. 1996. "Intracellular polyphosphate content and cadmium tolerance in *Anacystis nidulans* R2." *Microbios* **88**:105-114.
17. P. Wong, S. Gladney, and J. D. Keasling. 1996. "A mathematical model of the lac operon: inducer exclusion, catabolite repression, and diauxic growth on glucose and lactose." *Biotechnol. Prog.* **13**:132-143.

### 1997

18. S. J. Van Dien, S. Keyhani, C. Yang, and J. D. Keasling. 1997. "Manipulation of independent synthesis and degradation of polyphosphate in *Escherichia coli* for investigation of phosphate secretion from the cell." *Appl. Environ. Microbiol.* **63**:1689-1695.
19. J. Elmen, W. Pan, S. Y. Leung, A. Magyarosy, and J. D. Keasling. 1997. "Kinetics of toluene degradation by a nitrate-reducing bacterium isolated from a groundwater aquifer." *Biotechnol. Bioeng.* **55**:82-90.
20. T. A. Carrier and J. D. Keasling. 1997. "Engineering mRNA stability in *E. coli* by the addition of synthetic hairpins using a 5' cassette system." *Biotechnol. Bioeng.* **55**:577-580.
21. C. L. Wang, P. C. Michels, S. Dawson, S. Kitisakkul, J. A. Baross, J. D. Keasling, and D. S. Clark. 1997. "Cadmium removal by a new strain of *Pseudomonas aeruginosa* in aerobic culture." *Appl. Environ. Microbiol.* **63**:4075-4078.
22. J. Pramanik and J. D. Keasling. 1997. "A stoichiometric model of *Escherichia coli* metabolism: incorporation of growth-rate dependent biomass composition and mechanistic energy requirements." *Biotechnol. Bioeng.* **56**:398-421.
23. T. A. Carrier and J. D. Keasling. 1997. "Controlling messenger RNA stability in bacteria: strategies for engineering gene expression." *Biotechnol. Prog.* **13**:699-708.
24. T. A. Carrier and J. D. Keasling. 1997. "Mechanistic modelling of mRNA decay." *J. Theor. Biol.* **189**:195-209.

### 1998

25. J. D. Keasling, S. J. Van Dien, and J. Pramanik. 1998. "Engineering polyphosphate metabolism in *Escherichia coli*: implications for bioremediation of inorganic contaminants." *Biotechnol. Bioeng.* **58**:231-239.
26. S. J. Van Dien and J. D. Keasling. 1998. "A dynamic model of the *Escherichia coli* phosphate-starvation response." *J. Theor. Biol.* **190**:37-49.
27. J. D. Keasling and S.-W. Bang. 1998. "Recombinant DNA techniques for bioremediation and environmentally-friendly synthesis." *Curr. Opin. Biotechnol.* **9**:135-140.
28. S. Cooper and J. D. Keasling. 1998. "Cycle-specific replication of chromosomal and F-plasmid origins." *FEMS Microbiol. Lett.* **163**:217-222.
29. K. L. Jones and J. D. Keasling. 1998. "Construction and characterization of F plasmid-based expression vectors." *Biotechnol. Bioeng.* **59**:659-665.

30. T. A. Carrier, K. L. Jones, and J. D. Keasling. 1998. "mRNA stability and plasmid copy number effects on gene expression from an inducible promoter system." *Biotechnol. Bioeng.* **59**:666-672.
31. S. J. Van Dien and J. D. Keasling. 1998. "Optimization of polyphosphate degradation and phosphate secretion using hybrid metabolic pathways and engineered host strains." *Biotechnol. Bioeng.* **59**:754-761.
32. J. Pramanik, P. L. Trelstad, and J. D. Keasling. 1998. "A flux-based stoichiometric model of enhanced biological phosphorus removal metabolism." *Wat. Sci. Tech.* **37**:609-613.
33. J. Pramanik and J. D. Keasling. 1998. "Effect of carbon source and growth rate on biomass composition and metabolic flux predictions of a stoichiometric model." *Biotechnol. Bioeng.* **60**:230-238.
34. S. J. Van Dien and J. D. Keasling. 1998. "Control of polyphosphate metabolism in genetically-engineered *Escherichia coli*." *Enzyme Microb. Technol.* **24**:21-25.
35. J. Pramanik, P. L. Trelstad, A. J. Schuler, D. Jenkins, and J. D. Keasling. 1998. "Development and validation of a flux-based stoichiometric model for enhanced biological phosphorus removal metabolism." *Water Research* **33**:462-476.

#### 1999

36. R. Brent Nielsen and J. D. Keasling. 1999. "Reductive dechlorination of chlorinated ethene DNAPLs by a culture enriched from contaminated groundwater." *Biotechnol. Bioeng.* **62**:160-165.
37. T. A. Carrier and J. D. Keasling. 1999. "A library of synthetic 5' secondary structures to manipulate mRNA stability in *Escherichia coli*." *Biotechnol. Prog.* **15**:58-64.
38. E. Gilbert, A. Khlebnikov, W. Meyer-Ilse, and J. D. Keasling. 1999. "Use of soft X-ray microscopy for analysis of early-stage biofilm formation." *Wat. Sci. Tech.* **39**(7):269-272.
39. S. J. Van Dien and J. D. Keasling. 1999. "Effect of polyphosphate metabolism on the *Escherichia coli* phosphate-starvation response." *Biotechnol. Prog.* **15**(4):587-593.
40. S. E. Cowan, J. Black, J. D. Keasling, and R. M. White. 1999. "Ultrasonic flexural-plate-wave sensor for detecting the concentration of settling *E. coli* W3110 cells." *Anal. Chem.* **71**(16):3622-3625.
41. P. L. Trelstad, P. Purdhani, W. Geibdorfer, W. Hillen, and J. D. Keasling. 1999. "Polyphosphate kinase of *Acinetobacter* sp. Strain ADP1: purification and characterization of the enzyme and its role during changes in extracellular phosphate." *Appl. Environ. Microbiol.* **65**(9):3780-3786.
42. J. D. Keasling. 1999. "Gene-expression tools for the metabolic engineering of bacteria." *Trends in Biotechnology* **17**:452-460.
43. T. A. Carrier and J. D. Keasling. 1999. "Investigating autocatalytic gene expression systems through mechanistic modeling." *J. Theor. Biol.* **201**:25-36.

#### 2000

44. S. E. Cowan, E. Gilbert, A. Khlebnikov, and J. D. Keasling. 2000. "Dual labeling with green fluorescent proteins for confocal microscopy." *Appl. Environ. Microbiol.* **66**:413-418.
45. D. S. Reichmuth, J. L. Hittle, H. W. Blanch, and J. D. Keasling. 2000. "Biodesulfurization of dibenzothiophene in *Escherichia coli* is enhanced by expression of a *Vibrio harveyi* oxidoreductase gene." *Biotechnol. Bioeng.* **67**:72-79.
46. J. D. Keasling, S. J. Van Dien, P. Trelstad, N. Renninger, and K. McMahon. 2000. "Application of polyphosphate metabolism to environmental and biotechnological problems." *Biochemistry (Moscow)*. **65**:324-331.
47. D. G. Bolesch and J. D. Keasling. 2000. "The effect of monovalent ions on polyphosphate binding to *Escherichia coli* exopolyphosphatase." *Biochem. Biophys. Res. Comm.* **274**:236-241.

48. S.-W. Bang, D. S. Clark, and J. D. Keasling. 2000. "Engineering hydrogen sulfide production and cadmium removal by expression of the thiosulfate reductase gene (phsABC) from *Salmonella enterica* serovar Typhimurium in *Escherichia coli*." *Appl. Environ. Microbiol.* **66**:3939-3944.
49. C. L. Wang, P. D. Maratukulam, A. M. Lum, D. S. Clark, and J. D. Keasling. 2000. "Metabolic engineering of an aerobic sulfate reduction pathway and its application to precipitation of cadmium on the cell surface." *Appl. Environ. Microbiol.* **66**:4497-4502.
50. S. E. Cowan, E. Gilbert, D. Liepmann, and J. D. Keasling. 2000. "Commensal interactions in a dual-species biofilm exposed to mixed organic compounds." *Appl. Environ. Microbiol.* **66**:4481-4485.
51. S.-W. Bang, D. S. Clark, and J. D. Keasling. 2000. "Cadmium, lead, and zinc removal by expression of the thiosulfate reductase gene from *Salmonella typhimurium* in *Escherichia coli*." *Biotechnol. Lett.* **22**:1331-1335.
52. D. G. Bolesch and J. D. Keasling. 2000. "Polyphosphate binding and chain length recognition of *Escherichia coli* exopolyphosphatase." *J. Biol. Chem.* **275**:33814-33819.
53. A. Khlebnikov, O. Risa, T. Skaug, T. A. Carrier, and J. D. Keasling. 2000. "Regulatable arabinose-inducible gene expression system with consistent control in all cells of a culture." *J. Bacteriol.* **182**:7029-7034.
54. C. D. Smolke, T. A. Carrier, and J. D. Keasling. 2000. "Coordinated, differential expression of two genes through directed mRNA cleavage and stabilization by secondary structures." *Appl. Environ. Microbiol.* **66**:5399-5405.
55. K. L. Jones, S.-W. Kim, and J. D. Keasling. 2000. "Low-copy plasmids can perform as well as or better than high-copy plasmids for metabolic engineering of bacteria." *Met. Eng.* **2**:328-338.

#### 2001

56. S.-W. Kim and J. D. Keasling. 2001. "Metabolic engineering of the nonmevalonate isopentenyl diphosphate synthesis pathway in *Escherichia coli* enhances lycopene production." *Biotechnol. Bioeng.* **72**:408-415.
57. C. L. Wang, A. M. Lum, S. C. Ozuna, D. S. Clark, and J. D. Keasling. 2001. "Aerobic sulfide production and cadmium precipitation by *Escherichia coli* expressing the *Treponema denticola* cysteine desulfhydrase gene." *Appl. Microbiol. Biotechnol.* **56**:425-430.
58. S. E. Cowan, D. Leipmann, and J. D. Keasling. 2001. "Development of engineering biofilms on poly-L-lysine patterned surfaces." *Biotechnol. Lett.* **23**:1235-1241.
59. I. Aldor and J. D. Keasling. 2001. "Metabolic engineering of poly(3-hydroxybutyrate-co-3-hydroxyvalerate) composition in recombinant *Salmonella enterica* serovar Typhimurium." *Biotechnol. Bioeng.* **76**:108-114.
60. C. L. Wang, D. S. Clark, and J. D. Keasling. 2001. "Analysis of an engineered sulfate reduction pathway and cadmium precipitation on the cell surface." *Biotechnol. Bioeng.* **75**:285-291.
61. C. D. Smolke, V. J. J. Martin, and J. D. Keasling. 2001. "Controlling the metabolic flux through the carotenoid pathway using directed mRNA processing and stabilization." *Met. Eng.* **3**:313-321.
62. V. J. J. Martin, Y. Yoshikuni, and J. D. Keasling. 2001. "The in vivo synthesis of plant sesquiterpenes in *Escherichia coli*." *Biotechnol. Bioeng.* **75**:497-503.
63. C. D. Smolke, A. Khlebnikov, and J. D. Keasling. 2001. "Effects of transcription induction homogeneity and transcript stability on expression of two genes in a constructed operon." *Appl. Microbiol. Biotechnol.* **57**:689-696.
64. A. Khlebnikov, K. A. Datsenko, T. Skaug, B. L. Wanner, and J. D. Keasling. 2001. "Homogeneous expression of the P<sub>BAD</sub> promoter in *Escherichia coli* by constitutive expression of the low-affinity high-capacity AraE transporter." *Microbiology* **147**:3241-3247.
65. E. S. Gilbert, A. Khlebnikov, S. E. Cowan, and J. D. Keasling. 2001. "Analysis of biofilm structure and gene expression using fluorescence dual labeling." *Biotechnol. Prog.* **17**:1180-1182.



## 2002

66. C. D. Smolke and J. D. Keasling. 2002. "Effect of copy number and mRNA processing and stabilization on transcript and protein levels from an engineered dual-gene operon." *Biotechnol. Bioeng.* **78**:412-424.
67. N. Renninger, K. D. McMahon, R. Knopp, H. Nitsche, D. S. Clark, and J. D. Keasling. 2002. "Uranyl precipitation by biomass from an enhanced biological phosphorus removal reactor." *Biodegradation* **12**:401-410.
68. C. L. Wang, S. C. Ozuna, D. S. Clark, and J. D. Keasling. 2002. "A deep-sea hydrothermal vent isolate, *Pseudomonas aeruginosa* CW961, requires thiosulfate for Cd<sup>2+</sup> tolerance and precipitation." *Biotechnol. Lett.* **24**:637-641.
69. A. W. Walker and J. D. Keasling. 2002. "Metabolic engineering of *Pseudomonas putida* for the utilization of parathion as a carbon and energy source." *Biotechnol. Bioeng.* **78**:715-721.
70. V. J. J. Martin, C. D. Smolke, and J. D. Keasling. 2002. "Redesigning cells for production of complex organic molecules." *ASM News* **68**:336-343.
71. A. Magyarosy, R. D. Laidlaw, R. Kilaas, C. Echer, D. S. Clark, and J. D. Keasling. 2002. "Nickel accumulation and nickel oxalate precipitation by *Aspergillus niger*." *Appl. Microbiol. Biotechnol.* **59**:381-388.
72. A. Magyarosy, J. Z. Ho, H. Rapoport, S. Dawson, J. Hancock, and J. D. Keasling. 2002. "Chlorxanthomycin, a fluorescent, chlorinated, pentacyclic pyrene from a *Bacillus* sp." *Appl. Environ. Microbiol.* **68**:4095-4101.
73. I. S. Aldor, S.-W. Kim, K. L. Jones, and J. D. Keasling. 2002. "Metabolic engineering of a novel propionate-independent pathway for the production of poly(3-hydroxybutyrate-co-3-hydroxyvalerate) in recombinant *Salmonella enterica* serovar Typhimurium." *Appl. Environ. Microbiol.* **68**:3848-3854.
74. A. Khlebnikov, T. Skaug, and J. D. Keasling. 2002. "Modulation of gene expression from the arabinose-inducible *araBAD* promoter." *J. Ind. Microbiol. Biotechnol.* **29**:34-37.
75. N. L. Goeden-Wood, V. P. Conticello, S. J. Muller, and J. D. Keasling. 2002. "Improved assembly of multimeric genes for the biosynthetic production of protein polymers." *Biomacromolecules* **3**:874-879.
76. A. Khlebnikov and J. D. Keasling. 2002. "Effect of *lacY* expression on homogeneity of induction from the P<sub>tac</sub> and P<sub>trc</sub> promoters by natural and synthetic inducers." *Biotechnol. Prog.* **18**:672-674.
77. K. D. McMahon, D. Jenkins, and J. D. Keasling. 2002. "Polyphosphate kinase genes from activated sludge carrying out enhanced biological phosphorus removal." *Water Sci. Technol.* **46**:155-162.
78. K. D. McMahon, M. A. Dojka, N. R. Pace, D. Jenkins, and J. D. Keasling. 2002. "Polyphosphate kinase from activated sludge performing enhanced biological phosphorus removal." *Appl. Environ. Microbiol.* **68**:4971-4978.
79. C. D. Smolke and J. D. Keasling. 2002. "Effect of gene location, mRNA secondary structures, and RNase sites on expression of two genes in an engineered operon." *Biotechnol. Bioeng.* **80**:762-776.
80. G.-Y. Wang and J. D. Keasling. 2002. "Amplification of HMG-CoA reductase production enhances carotenoid accumulation in *Neurospora crassa*." *Met. Eng.* **4**:193-201.

## 2003

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- P47. J. L. Fortman, L. Katz, E. J. Steen, J. D. Keasling. 2018. "Producing alpha-olefins using polyketide synthases." U. S. Patent 9,856,461.
- P48. G. E. Bokinsky, J. D. Keasling. 2018. "Growth arrested cells useful for producing compounds." U. S. Patent 9,902,964.
- P49. E. J. Steen, J. L. Fortman, J. A. Dietrich, J. D. Keasling. 2018. "Host cells and methods for producing diacid compounds." U. S. Patent 9,951,345.
- P50. J. D. Keasling, C. B. Eiben. 2019. "Heterologous pathway to produce terpenes." U. S. Patent 10,167,488.
- P51. J. Zhang, J. D. Keasling. 2019. "Host cell modified to produce 2-pyrrolidone." U. S. Patent 10,227,622.
- P52. S. Yuzawa, L. Katz, J. D. Keasling. 2019. "Producing 3-hydroxycarboxylic acid and ketone using polyketide synthases." U. S. Patent 10,233,431.

- P53. A. Mukhopadhyay, A. Reider Apel, M. Oullet, J. D. Keasling. 2019. "Synthetic polypeptide having a xylose import activity." U. S. Patent 10,316,068
- P54. R. W. Haushalter, J. D. Keasling. 2019. "Host cells and methods for producing diacid compounds." U. S. Patent 10,351,881.
- P55. W. Runguphan, J. D. Keasling. 2019. "Yeast cell modified to overproduce fatty acid and fatty acid-derived compounds." U. S. Patent 10,370,686.
- P56. J. D. Keasling, J. Kirby, E. M. Paradise. 2019. "Genetically modified host cells and use of same for producing isoprenoid compounds." U. S. Patent 10,435,717.
- P57. J. L. Fortman, A. Hagen, L. Katz, J. D. Keasling, S. Poust, J. Zhang, and S. Zotchev. 2019. "Hybrid polyketide synthases." U. S. Patent 10,494,625.
- P58. L. D'Espaux and J. D. Keasling. 2020. "Yeast host cells and methods for producing fatty acids." U. S. Patent 10,557,152.
- P59. J. D. Keasling, L. D'Espaux, J. Wong, X. Luo, M. Reiter, C. Denby, A. Lechner. 2020. "Recombinant microorganisms and methods for producing cannabinoids and cannabinoid derivatives." U. S. Patent 10,563,211.
- P60. T. S. Lee, Y. Satoh, J. D. Keasling. 2020. "Host cells and methods for oxidizing aromatic amino acids." U. S. Patent 10, 597,685.
- P61. C. M. Denby, J. D. Keasling, J. Kirby, R. A. Li. 2020. "Monoterpene-producing genetically modified host cells and methods of use of same." U. S. Patent 10,717,972.
- P62. A. R. Hagen, S. Poust, L. Katz, J. D. Keasling. 2020. "Producing adipic acid and related compounds using hybrid polyketide synthases." U. S. Patent 10,760,069.
- P63. J. D. Keasling, Z. Hu, C. Somerville, G. Church, D. Berry, L. C. Friedman, A. Schirmer, S. Brubaker, S. B. del Cardayre. 2020. "Production of fatty acids and derivatives thereof." U. S. Patent 10,844,406.
- P64. R. W. Haushalter, J. D. Keasling. 2020. "Host cells and methods for producing diacid compounds." U. S. Patent 10,876,139.
- P65. J. D. Keasling, L. D'espaux, J. Wong, X. Luo, M. Reiter, C. Denby, A. Lechner. 2021. "Recombinant microorganisms and methods for producing cannabinoids and cannabinoid derivatives." U. S. Patent 10,975,3
- P66. H. H. Chou, J. D. Keasling, S. Zotchev. 2021. "Synthetic transcription factor and uses thereof." U. S. Patent 11,021,525.
- P67. J. Zhang, J. D. Keasling. 2021. "Host cell modified to produce lactams." U. S. Patent 11,046,981.

## Books

- B1. M. K. Jensen and J. D. Keasling. 2017. *Synthetic Metabolic Pathways – Methods and Protocols*. Humana Press. New York, NY.

## Invited Presentations

1. University of California at Davis, Department of Chemical Engineering, Davis, CA, May 1993
2. Genentech, South San Francisco, CA. January 1994.
3. Zeneca Bio-products, Billingham, England. November 1994.
4. University of California at Santa Barbara, Department of Chemical Engineering, Santa Barbara, CA. October 1994.
5. Chiron, Emeryville, CA. May 1996.
6. Stanford University, Department of Chemical Engineering, Stanford, CA. May 1997.
7. Society for Industrial Microbiology, National Meeting, Reno, NV. August 1997.
8. 7<sup>th</sup> Biochemical Engineering Conference, Seoul, Korea. September 1997.

9. California Water Environment Association, 1998 Annual CWAE Conference. April 1998.
10. Merck and Co., July 1998.
11. Institute for Biological Engineering, Annual Meeting, Orlando, FL. July 1998.
12. California Institute of Technology, Department of Environmental Engineering Science, Pasadena, CA. September 30, 1998.
13. University of Wisconsin, Department of Chemical Engineering, Madison, WI. October 1998.
14. University of Michigan, Department of Chemical Engineering, Ann Arbor, MI. October 1998.
15. University of Michigan, Department of Microbiology and Immunology, Ann Arbor, MI. October 1998.
16. University of Toledo, Department of Bioengineering, Toledo, OH. January 1999.
17. Chiron, Emeryville, CA. June 1999.
18. Merck and Co., Bioprocess Research and Development. June 1999.
19. Enzyme Engineering XV, Kona, HI. October 1999.
20. Massachusetts Institute of Technology, Department of Chemical Engineering. November 1999.
21. University of California at Irvine, Department of Chemical and Environmental Engineering. February 2000.
22. International Symposium on Modern Problems of Microbial Biochemistry and Biotechnology. Pushchino, Russia. June 2000.
23. International Society for Environmental Biotechnology Meeting. Kyoto, Japan. July 2000.
24. Biotechnology 2000, Berlin, Germany. August 2000.
25. Princeton University, Department of Chemical Engineering, September 2000.
26. Metabolic Engineering and Directed Evolution, British Biotechnology Research Council. London, England. November 2000.
27. University of Minnesota, Department of Chemical Engineering. December 2000.
28. Pacifichem, Honolulu, HI. December 2000.
29. World Congress on Enzyme Technologies. San Diego, CA. February 26, 2001.
30. American Society for Microbiology Annual Meeting, Orlando, FL. May 19, 2001.
31. Genomatica, San Diego, CA. October 26, 2001.
32. University College London, Department of Bioprocess Engineering. London, UK. October 22, 2001.
33. University of Wisconsin, Department of Chemical Engineering, Madison, WI. October 30, 2001.
34. Actinides 2001. Hayama, Japan. November 5, 2001.
35. Princeton University, Department of Chemical Engineering, Princeton, NJ. December 7, 2001.
36. Stanford University, Department of Civil and Environmental Engineering. Stanford, CA. February 8, 2002.
37. University of Maryland, Department of Chemical Engineering, College Park, Maryland. February 25, 2002.
38. Microbia, Cambridge, MA. February 27, 2002.
39. Diversa, San Diego, CA. March 13, 2002.
40. Kosan Biosciences, Hayward, CA. March 29, 2002.
41. University of Washington, Department of Chemical Engineering, Seattle, WA. April 22, 2002.
42. National Research Center, Biotechnology Research Institute, Montreal, Canada. June 3, 2002.
43. Sandia National Laboratory, August 27, 2002.
44. Tenth International Small Genomes Conference, Lake Arrowhead, CA. September 9, 2002.

45. City College of New York, Department of Chemical Engineering, New York, NY. September 30, 2002.
46. Polytechnic University, Department of Chemical Engineering, Brooklyn, NY. October 2, 2002.
47. University of Delaware, Department of Chemical Engineering (Allan P. Colburn Memorial Lecture), Newark, DE. November 2, 2002.
48. American Institute of Chemical Engineers National Meeting, Indianapolis, IN. November 5, 2002.
49. Firmenich, Geneva, Switzerland, November 7, 2002.
50. University of Michigan, Cellular Biotechnology Program, January 13, 2003.
51. Metabolic Engineering Working Group, National Science Foundation, Arlington, VA. January 31, 2003.
52. Synthetic Biology, SRI International, Menlo Park, CA. March 3-4, 2003.
53. University of California, San Diego, Department of Chemistry, La Jolla, CA. April 4, 2003.
54. Annual Meeting of the Society for Biochemistry and Molecular Biology (ASBMB), San Diego, CA. April 15, 2003.
55. Terpnet Meeting, University of Kentucky, Lexington, KY. May 15, 2003.
56. Johns Hopkins University, Department of Chemistry, Baltimore, MD. May 19, 2003.
57. Society of Industrial Microbiology Annual Meeting, Minneapolis, MN. August 10, 2003.
58. University of California, Berkeley, Department of Chemistry, Berkeley, CA. September 2, 2003.
59. University of Nebraska, Lincoln, Department of Chemistry, Lincoln, NE. September 12, 2003.
60. University of Illinois, Department of Chemical Engineering, Urbana-Champaign, IL. September 29, 2003.
61. Rice University, Department of Chemical Engineering, Houston, TX. October 9, 2003.
62. University of Colorado, Department of Chemical Engineering, Boulder, CO. October 14, 2003.
63. AIChE National Meeting, San Francisco, CA. November 17, 2003.
64. Thirteenth ISBA Meeting, Melbourne, Australia. December 1-5, 2003.
65. Eidgenossische Technische Hochschule, Department of Chemistry, Zurich, Switzerland. March 22, 2004.
66. PSI Protein Production and Crystallization Workshop, National Institute of General Medical Sciences, Natcher Conference Center, Bethesda, Maryland. March 29, 2004.
67. Illinois Institute of Technology, Department of Chemical Engineering, Chicago, IL. April 28, 2004.
68. Biotech Summit, Berkeley, CA. May 10, 2004.
69. Biological Input-Output Systems, DARPA, Boston MA. June 14, 2004.
70. Biotec 2004, Oviedo, Spain. July 19, 2004.
71. Society for Industrial Microbiology, Anaheim, CA. July 25, 2004.
72. American Chemical Society, Philadelphia, PA. August 22, 2004.
73. Cornell University, Department of Chemical Engineering, Ithaca, NY. September 13, 2004.
74. Purdue University, Department of Chemical Engineering, West Lafayette, IN. September 14, 2004.
75. Metabolic Engineering V, Lake Tahoe, CA. September 19, 2004.
76. Small Genomes Meeting, Lake Arrowhead, CA. September 26, 2004.
77. Council for the Advancement of Science Writing, Fayetteville, AK. November 8, 2004.
78. BioAgenda, Palm Springs, CA. December 7, 2004.
79. The Crossroads of Biotechnology 2005, Montreal, Canada. February 8, 2005.
80. USDA-ARS Commercial Strategic Rubber from Crop Plants and Bioreactors Third Annual Meeting, Albany, CA. February 17-18, 2005.

81. SynBio 2005 International Conference, Seoul, Korea. February 23, 2005.
82. 229<sup>th</sup> ACS National Meeting, San Diego, CA. March 12, 2005.
83. American Society for Microbiology 105<sup>th</sup> General Meeting, Atlanta, GA. June 9, 2005.
84. Gordon Research Conference "Plant Metabolic Engineering", Tilton, NH. July 13-15, 2005.
85. International Union of Microbiological Societies (IUMS), San Francisco, CA. July 27, 2005.
86. Manipulation of Biological Systems Conference, McLean, VA. July 28, 2005.
87. 2005 SIMS Annual Meeting, Chicago, IL. August 22-23, 2005.
88. 13<sup>th</sup> Annual International Conference on Microbial Genomes, Madison, WI. September 13-15, 2005.
89. National Academy of Engineering 11<sup>th</sup> Annual US Frontiers of Engineering Symposium, Niskayuna, NY. September 22-24. 2005.
90. University of California, Santa Barbara, Department of Chemical Engineering, Santa Barbara, CA. October 6, 2005.
91. ICSB 2005, Boston, MA. October 20-22, 2005.
92. IBM Academy of Technology Annual Meeting, Burlingame, CA. November 2, 2005.
93. University of Michigan, Department of Chemical Engineering, East Lansing, MI. November 8-12, 2005.
94. Pacifichem 2005, Honolulu, HI. December 16-18, 2005.
95. 2006 Institute of Biological Engineering Conference, Tucson, AZ. March 9-12, 2006.
96. University of Virginia, 2006 Symposium, Charlottesville, VA. April 10-11, 2006.
97. University of San Diego, San Diego, CA. April 13-14, 2006.
98. Stanford University, Stanford, CA. May 9, 2006.
99. DuPont Central Research and Development, Wilmington, DE. June 1-3, 2006.
100. CNN Future Summit "Of Man and Machine", Singapore. June 11-15, 2006.
101. IUCRP Fellows Seminar, UC San Diego, San Diego, CA. July 11, 2006.
102. SIMS 2006 Annual Meeting, Baltimore, MD. July 30-31, 2006.
103. California Commonwealth Club's INFORUM, San Francisco, CA. August 7, 2006.
104. Seminar, University of Minnesota, Dept. of Chemical Engineering and Material Sciences, Minneapolis, MN. Sept. 11-12, 2006.
105. Seminar, University of California, Irvine, Synthetic Biology Department, Irvine, CA. Sept. 14-15, 2006.
106. 14<sup>th</sup> Annual International Meeting on Microbial Genomics, Lake Arrowhead, CA, September 24-28, 2006.
107. IBOS Conference, Nunspeet, The Netherlands. September 27 – 30, 2006.
108. Metabolic Engineering VI: From recDNA towards Engineering Biological Systems, Noordwijkerhout, The Netherlands. October 1-5, 2006.
109. UC Berkeley Homecoming Seminar, Berkeley, CA. October 6, 2006.
110. Contra Costa College, San Pablo, CA. October 13, 2006.
111. Invited Presentation, 3<sup>rd</sup> International *E. coli* Alliance Conference, Jeju, South Korea. November 1-3, 2006.
112. Seminar, IBM Almaden Research Center, San Jose, CA. November 7, 2006.
113. Invited Presentation, William L. Brown Symposium, Missouri Botanical Garden, St. Louis, MO. November 10-11, 2006.
114. Seminar, University of California, San Francisco, Department of Biophysics and Chemistry, San Francisco, CA. November 16, 2006.

115. Invited Presentation, Keystone Symposium, Drugs Against Protozoan Parasites, Lake Tahoe, CA. January 28, 2007.
116. Keynote Address, Biotechnology and Biological Sciences Research Council, BBSRC Workshop in Synthetic Biology, Alexandra House, Wroughton, Swindon, UK. February 8, 2007.
117. Seminar, Stanford University, Department of Microbiology, Stanford, CA. February 16, 2007.
118. Keynote Address, The World Congress on Industrial Biotechnology & Bioprocessing, Biotechnology Industry Organization, Orlando, FL. March 23, 2007.
119. Keynote Address, Joint Genome Institute User's Meeting, Walnut Creek, CA. March 28, 2007.
120. Seminar, University of Missouri, Columbia, Department of Biochemistry, Columbia, MO. April 13, 2007.
121. Panelist, Burrill General Partners Meeting, San Francisco, CA. April 17, 2007.
122. Keynote Address, Recomb 2007, Oakland, CA. April 23, 2007.
123. Seminar, Harvard Malaria Symposium, Harvard University, Cambridge, MA. April 24, 2007.
124. Seminar, Georgia Tech University, Center for the Study of Systems Biology, Atlanta, GA. May 2, 2007.
125. Seminar, Georgia Tech University, Department of Chemical Engineering, Atlanta, GA, May 3, 2007.
126. Seminar, Northern California AIChE, Berkeley, CA. May 15, 2007.
127. Seminar, University of British Columbia, Michael Smith Laboratories, Vancouver, British Columbia, Canada. May 17, 2007.
128. Seminar, Congressional Biomedical Research Caucus, Washington, D.C., May 23, 2007.
129. Seminar, PARC Forum, Palo Alto Research Center, Palo Alto, CA. May 24, 2007.
130. Seminar, Harvard University, Department of Chemistry, Cambridge, MA, May 31, 2007.
131. Seminar, Kavli Futures Symposium, Ilulissat, Greenland. June 13, 2007.
132. Seminar, University of Manchester, Manchester Institute of Biotechnology, Manchester, UK. July 12, 2007.
133. Presentation, Biochemical Engineering XV, Quebec City, Canada. July 12, 2007.
134. Presentation, Natural Products Gordon Research Conference, Tilton, NH. July 25, 2007.
135. Presentation, Society for Industrial Microbiology Meeting, Denver, CO. July 29, 2007.
136. Presentation, Energy Modeling Forum, Workshop on Climate Impacts and Integrated Assessment, Snowmass, CO. August 1, 2007.
137. Keynote Address, 10<sup>th</sup> Functional Genomics Meeting on Synthetic Biology, Goteborg, Sweden. August 28, 2007.
138. Presentation, KI International Symposium Future Design, Korean Advanced Institute for Science and Technology, Daejeon, Korea. September 6, 2007.
139. Keynote Address, Enzyme Engineering XIX, Harrison Hot Springs, British Columbia, Canada. September 23, 2007.
140. Presentation, Metabolic Engineering Meeting, Mathematical Biosciences Institute, Ohio State University, Columbus, OH. September 24, 2007.
141. Keynote Address, Frontiers in Transgenesis, Danforth Center, St. Louis, OH. September 28, 2007.
142. Seminar, Rice University, Department of Bioengineering, Houston, TX. October 10, 2007.
143. Presentation, Malaria Forum, Bill & Melinda Gates Foundation, Seattle, WA. October 17, 2007.
144. Presentation, Pop!Tech, Camden, ME. October 20, 2007.
145. Presentation, Energy Roundtable, Stanford University, Hoover Institute, Stanford, CA. November 20, 2007.

146. Presentation, Biological and Environmental Research Advisory Committee (BERAC), Washington, DC. November 29, 2007.
147. Harry S. Truman Award Lecture, Sandia National Laboratories, Albuquerque, NM. December 5, 2007.
148. Presentation, International Conference on Cellular & Molecular Bioengineering, Nanyang Technological University, Singapore. December 10, 2007.
149. Presentation, Symposium on Future Directions in Research at the Intersection of the Physical and Life Sciences (RIPLS), National Academy of Science, Washington, D.C., December 19, 2007.
150. Keynote Address, Technology Innovation Conference, Novozymes, Copenhagen, Denmark. January 13, 2008.
151. Presentation, US-EC Workshop on Bioenergy, San Francisco, CA. February 22, 2008.
152. Keynote Address, 6<sup>th</sup> TLL Life Sciences Symposium, Temasec Life Sciences Laboratories, Singapore National University, Singapore. January 25, 2008.
153. Presentation, Orinda Intermediate School, Orinda, CA. January 30, 2008.
154. Keynote Address, 12<sup>th</sup> Netherlands Biotechnology Conference, Ede, The Netherlands. March 14, 2008.
155. Presentation, Symposium on Synthetic Biology, University of Arizona, Tucson, AZ. March 19, 2008.
156. Seminar, Duke University, Department of Biochemistry, Durham, NC. March 21, 2008.
157. Seminar, Reliance Life Sciences, Mumbai, India. March 28, 2008.
158. Seminar, Council of Scientific and Industrial Research, New Dehli, India. March 30, 2008.
159. Seminar, University of Nevada, Department of Chemical Engineering, Reno, NV. April 7, 2008.
160. Seminar, University of California, Berkeley, Department of Mechanical Engineering, Berkeley, CA, March 10, 2008.
161. Presentation, Targeting and Tinkering with Interaction Networks, Barcelona, Spain. April 15, 2008.
162. Presentation, Institute for Systems Biology, Seattle, WA. April 21, 2008.
163. Seminar, University of Washington, Department of Bioengineering, Seattle, WA. April 22, 2008.
164. Seminar, Sangamo Biosciences, Richmond, CA. April 25, 2008.
165. Presentation, Fifth Annual World Congress on Industrial Biotechnology & Bioprocessing, Chicago, IL. April 28, 2008.
166. Seminar, California Institute of Technology, Department of Bioengineering, Pasadena, CA. May 5, 2008.
167. Seminar, Scripps Research Institute, Department of Chemistry, La Jolla, CA. May 7, 2008.
168. Presentation, Khosla Ventures CEO Summit, Carmel, CA. May 8, 2008.
169. Seminar, Novozymes, Davis, CA. May 12, 2008.
170. Seminar, *Synthetic Biology in Pursuit of Low-Cost, Effective, Anti-Malarial Drugs*, Harvard University Medical School, Department of Microbiology, Cambridge, MA. May 27, 2008.
171. Presentation, *Engineering Microorganisms for the Production of Drugs and Fuels*, Royal Society, London, UK. June 2, 2008.
172. Presentation, Burrill & Company, San Francisco, CA. June 10, 2008.
173. Presentation, *Engineering Microbial Metabolism for Production of Advanced Biofuels*, 4<sup>th</sup> European Plant Science Organization Conference, Cote d'Azur, France. June 26, 2008.
174. Presentation, *Metabolic Pathway Engineering for Drugs and Fuels*, Gordon Research Conference on Enzymes, Coenzymes, and Metabolic Pathways, Biddeford, ME. July 14, 2008.

175. Presentation, *Microbial Synthesis of Advanced Biofuels*, Protein Society Symposium, San Diego, CA. July 21, 2008.
176. Presentation, *Synthetic Biology in Pursuit of Low-Cost, Effective, Anti-Malarial Drugs*, Cadence, Berkeley, CA. August 18, 2008.
177. Presentation, *BioEnergy Research in the USA*, Solar & BioEnergy Symposium, University of Glasgow, Scotland. August 31, 2008.
178. Seminar, *Synthetic Biology: From Bugs to Drugs and Fuels*, University of Michigan, Detroit, MI. Sept. 3, 2008.
179. Presentation, *Synthetic Biology for Advanced Biofuels*, Society for General Microbiology, Trinity College, Dublin, Ireland. September 9, 2008.
180. Presentation, *Synthetic Biology for Synthetic Chemistry*, Patten Distinguished Seminar, University of Colorado, Boulder, CO. Sept. 11, 2008.
181. Presentation, *Synthetic Biology in Pursuit of Low-Cost, Effective, Anti-Malarial Drugs*, 13<sup>th</sup> Annual Human Genome Meeting: Genomics and the Future of Medicine, Hyderabad, India. September 27, 2008.
182. Presentation, *Fuel and Drug Production SB4.0: The Fourth International Conference on Synthetic Biology*, Kowloon, Hong Kong, China. October 11, 2008.
183. Presentation, *Life 2.0: From Bugs to Drugs and Fuels*, Fisher Center for Real Estate & Urban Economics, Pebble Beach, CA. October 15, 2008.
184. Presentation, *Synthetic Biology in Pursuit of Low-Cost, Effective, Anti-Malarial Drugs*, Frontier in Multi-Scale Systems Biology, Atlanta, GA. October 18, 2008.
185. Presentation, *Synthetic Biology for Synthetic Chemistry*, 2008 Britton Chance Distinguished Lecture, University of Pennsylvania, Philadelphia, PA. October 22, 2008
186. Presentation, VWR Stock Room Presentation, Emeryville, CA. October 24, 2008.
187. Seminar, *Synthetic Biology for Synthetic Chemistry*, University of Wisconsin, Madison, WI. November 17, 2008.
188. Professional Progress Award Lecture, *Synthetic Biology in Pursuit of Low-Cost, Effective, Anti-Malarial Drugs*, AIChE Centennial Meeting. Philadelphia, PA. November 18, 2008.
189. Seminar, *Synthetic Biology for Synthetic Chemistry*, National University of Singapore, Singapore. Jan. 7, 2009.
190. Presentation, *Synthetic Biology in Pursuit of Low-Cost, Effective, Anti-Malarial Drugs*, SBE's 2nd International Conference on Biomolecular Engineering, Santa Barbara, CA. January 19, 2009.
191. Presentation, *Synthetic Biology in Pursuit of Low-Cost, Effective, Anti-Malarial Drugs*, AAAS Annual Meeting, Chicago, IL. February 13, 2009.
192. Seminar, *Synthetic Biology in Pursuit of Low-Cost, Effective, Anti-Malarial Drugs* Vanderbilt Institute of Chemical Biology, Nashville, TN. February 18, 2009.
193. Merck Lecture, *Synthetic Biology for Synthetic Chemistry*, University of Virginia, Charlottesville, VA. February 19, 2008.
194. Presentation, *SynBio: From Bugs to Drugs to Fuels*, Hertz Foundation, Santa Clara, CA. March 20, 2009.
195. Seminar, *Synthetic Biology in Pursuit of Low-Cost, Effective Anti-Malarial Drugs* University of Austin, Austin, TX. March 24, 2009.
196. Presentation, *Engineering Microbial Metabolism for Production of Advanced Biofuels*, Keystone Symposia, Snowbird, UT. April 5, 2009.
197. New England Biolabs, *Engineering Microbial Metabolism for Synthesis of a Low-Cost, Effective, Anti-Malarial Drug*, Ipswich, MA. April 14, 2009.
198. Lecture, *Synthetic Biology in Pursuit of Low-Cost, Effective, Anti-Malarial Drugs*, Boston University, Boston, MA. April 14, 2009.



199. Seminar, *Engineering Microbial Metabolism for Production of Anti-Malarial Drugs*, Boston College, Chestnut Hill, MA. April 15, 2009.
200. Seminar, *From Bugs to Biofuels*, Boston College, Boston, Chestnut Hill, MA. April 16, 2008
201. Seminar, *Synthetic Biology: A New Discipline in Biological Engineering*, Boston College, Chestnut Hill, Boston, MA. April 17, 2009.
202. Seminar, *Engineering Microorganisms for Production of Advanced Biofuels*, Bollum Symposium, University of Minnesota, Minneapolis, MN. May 6, 2009.
203. Keynote Address, *Synthetic Biology in Pursuit of Low-Cost, Effective, Anti-Malarial Drugs*, EPSRC Centre for Synthetic Biology and Innovation, Imperial College, London, UK. May 12, 2009.
204. Seminar, *Engineering Microorganisms for Production of Drugs and Fuels*, University of California, Irvine, CA, May 21, 2009.
205. Keynote Address, 8<sup>th</sup> International Workshop on Advanced Genomics Expansion of Genome Science, *Synthetic Biology in Pursuit of Low-Cost Effective, Anti-Malarial Drugs*, Tokyo, Japan. June 16, 2009.
206. Presentation, *Synthetic Biology for Synthetic Chemistry*, Firmenich SA, Geneva, Switzerland. July 7, 2009
207. Presentation, *Synthetic Biology for Synthetic Chemistry*, Givaudan SA, Dubendorf, Switzerland, July 8, 2009
208. Presentation, *Synthetic Biology for Synthetic Chemistry*, BioTrans 2009, Berne, Switzerland. July 9, 2009
209. Presentation, *Advances in Metabolic Engineering*, Scientific Advisory Board Meeting, Genomatica, San Diego, CA. July 13, 2009
210. Presentation, *Synthetic Biology for Synthetic Fuels*, Synthetic Genes to Synthetic Life, 33rd Steenbock Symposium, University of Wisconsin, Madison, WI. August 1, 2009
211. Presentation, *Synthetic Biology for Synthetic Drugs and Fuels*, Swedish-American Life Summit, Stockholm, Sweden. August 21, 2009
212. Presentation, *Synthetic Biology for Synthetic Chemistry: From Bugs to Drugs and Fuels*, Danckwerts Lecture, World Congress on Chemical Engineering, Montreal, Canada. August 26, 2009
213. Presentation, *Metabolic Engineering of Microorganisms*, Second Tiselius Symposium on Horizons in Biochemistry, Uppsala, Sweden. September 5, 2009
214. Presentation, *Engineering Microbial Metabolism for Production of Advanced Biofuels*, Society for General Microbiology, Edinburgh, Scotland. September 7, 2009
215. Seminar, *Engineering Microbial Metabolism for Production of Artemisinin*, University of Edinburgh, Edinburgh, Scotland. September 8, 2009
216. Presentation, *Engineering Micro-Organisms for Production of Drugs and Fuels*, Society for General Microbiology, Edinburgh, Scotland. September 8, 2009
217. Seminar, *Engineering Microbial Metabolism for Drugs and Fuels*, Forefront of Genomics, UC Davis, Davis, CA. September 18, 2009
218. Presentation, *Bio-Bricks to Bio-Businesses: Building Synthetic Biology Companies*, City Campus, University of Nebraska, Lincoln, NE. September 25, 2009
219. Presentation, *Bio-Bricks to Bio-Businesses: Building Synthetic Biology Companies*, East Campus, University of Nebraska, Lincoln, NE. September 25, 2009
220. Presentation, *Engineering Microbial Metabolism for Production of Advanced Biofuels*, Symposium on Synthetic Biology, CSIR Science Centre, Delhi, India. October 19, 2009.
221. Presentation, *Synthetic Biology for Synthetic Chemistry*, International Center for Genetic Engineering & Biotechnology, Delhi, India. October 20, 2009

222. Presentation, *Synthetic Biology for Synthetic Chemistry*, 2009 3<sup>rd</sup> International Symposium on Bio-Inspired Engineering, Taipei, Taiwan. October 22, 2009
223. Seminar, *Synthetic Biology for Synthetic Chemistry: From Bugs to Drugs and Fuels*, Cox Lecture, Washington University, St. Louis, MO. October 30, 2009
224. Seminar, *Engineering Microbial Metabolism for Low-Cost, Effective, Anti-Malarial Drugs*, University of Kentucky, Lexington, KY. November 6, 2009
225. Seminar, *Synthetic Biology for Synthetic Fuels*, University of Kentucky, Lexington, KY. November 6, 2009
226. Presentation, *Engineering Microbial Metabolism for Production of Advanced Biofuels*, 2009 AIChE Annual Meeting, Nashville, TN. Nov. 10, 2009
227. Presentation, *Engineering Biology for Drugs and Fuels*, American Philosophical Society, Philadelphia, PA. November 13, 2009
228. Presentation, *The Joint BioEnergy Institute*, USDA/DOE Biomass Advisory Group, Washington, DC. December 1, 2009
229. Presentation, *Overview of Synthetic Biology*, National Science Advisory Board for Biosecurity Meeting, Bethesda, MD. December 3, 2009
230. Presentation, *Synthetic Biology in Pursuit of Low-Cost, Effective, Anti-Malarial Drugs*, Stanford University, Stanford, CA. January 26, 2010
231. Presentation, *Synthetic Biology for Synthetic Chemistry*, Chemical Sciences Roundtable, Washington, DC. February 3, 2010
232. Presentation, *Engineering Microbial Metabolism for Production of Low-Cost, Effective, Anti-Malarial Drugs*, John Hopkins University, Baltimore, MD. March 18, 2010
233. Presentation, *Engineering Microbial Metabolism for Production of the Anti-Malarial Drug Artemisinin*, 239th ACS Meeting, San Francisco, CA. March 23, 2010
234. Presentation, *Life 2.0: Synthetic Biology*, Arizona State University, Tempe, AZ. March 25, 2010
235. Presentation, *Synthetic Biology for Synthetic Chemistry*, Arizona State University, Tempe, AZ. March 26, 2010
236. Presentation, *Synthetic Biology for Synthetic Chemistry: From Bugs to Drugs and Fuels*, University of Toronto, Toronto, Ontario, Canada. April 7, 2010
237. Presentation, *Synthetic Biology for Synthetic Chemistry: From Bugs to Drugs and Fuels*, Ohio State University, Columbus, OH. April 13, 2010
238. Presentation, *Synthetic Biology for Synthetic Chemistry*, Yale University, New Haven, CT. April 14, 2010
239. Presentation, *Engineering Microbial Metabolism for Production of the Anti-Malarial Drug Artemisinin*, Institute for Systems Biology Symposium, Seattle, WA. April 19, 2010
240. Seminar, *Synthetic Biology for Synthetic Chemistry: From Bugs to Drugs and Fuels*, Nanyang Technological University, Singapore. April 30, 2010
241. Seminar, *Synthetic Biology for Synthetic Chemistry*, Carnegie Mellon, Pittsburgh, Pennsylvania. May 6, 2010
242. Seminar, *Synthetic Biology for Advanced Biofuels*, University of Alberta, Edmonton, Alberta, Canada. May 21, 2010
243. Seminar, *Synthetic Biology for Advanced Biofuels*, Stanford, Palo Alto, California. May 24, 2010
244. Presentation, *Synthetic Biology for Synthetic Chemistry*, ASM Meeting, San Diego, California. May 25, 2010
245. Seminar, *Synthetic Biology for Synthetic Chemistry*, Closs Lecture, University of Chicago, Chicago, Illinois. May 28, 2010

246. Presentation, *Engineering Microorganisms with Plant-Derived Genes to Produce Drugs and Fuels*, IAPB 2010 Congress, St. Louis, Missouri. June 9, 2010
247. Presentation, *Synthetic Biology for Synthetic Fuels*, Metabolic Engineering Conference VIII, Jeju Island, Korea. June 14, 2010
248. Presentation, *Biofuels*, World Council on Industrial Biotechnology, Jeju Island, Korea. June 18, 2010
249. Presentation, *Synthetic Biology for Synthetic Chemistry*, BOSS XII, Namur, Belgium. July 15, 2010
250. Presentation, *Synthetic Biology for Synthetic Fuels*, Conference on Cellular & Molecular Bioengineering, Singapore. August 4, 2010
251. Presentation, *Synthetic Biology for Synthetic Chemistry*, Institute of Bioengineering and Nanotechnology, Singapore, August 5, 2010.
252. Presentation, *Engineering Microbial Metabolism for Production of Advanced Biofuels*, Gothenburg Life Science Conference, Gothenburg, Sweden. August 20, 2010
253. Presentation, *Engineering Microbial Metabolism for Production of the Anti-Malarial Drug Artemisinin*, American Chemical Society Meeting, Boston, MA. August 23, 2010
254. Presentation, *Medicinal Drug Production in Microbes*, Synthetic Biology International Workshop, University of Copenhagen, Denmark. August 25, 2010
255. Seminar, *Synthetic Biology for Synthetic Chemistry*, Chinese University of Hong Kong, Hong Kong. October 16, 2010
256. Presentation, *Synthetic Biology for Synthetic Chemistry*, International Symposium on Synthetic Biology, Singapore. October 19, 2010
257. Presentation, *Synthetic Biology: From Bugs to Drugs & Fuels*, ION Beams in Biology and Medicine Workshop, Claremont Hotel, Oakland, California. October 28, 2010
258. Presentation, *Joint BioEnergy Institute: Start-up for Advanced Biofuels*, Ministry of Trade and Industry, Singapore. November 10, 2010
259. Seminar, *Synthetic Biology for Synthetic Fuels*, A\*STAR Scientific Conference, Singapore. November 10, 2010
260. Presentation, *Synthetic Biology for Advanced Agri-Products*, Farm Credit Counsel, San Francisco, California. January 24, 2011
261. Panel Discussion, *The Future of Fuel: Local Solution to Global Energy Challenges*, Science at the Leshner, Walnut Creek, California. January 18, 2011
262. Presentation, *Next Generation Biofuels through Synthetic Biology*, Keystone/A\*Star Symposium on Biofuels, Singapore. March 2, 2011
263. Presentation, *Synthetic Biology for Synthetic Chemistry*, Burrill, Palo Alto, California. March 10, 2011
264. Presentation, *Engineering Microbial Metabolism for Production of Anti-Malarial Drugs*, IOMs Forum on Microbial Threats Public Workshop, Washington, DC. March 15, 2011
265. Distinguished Speaker Seminar, *Synthetic Biology for Synthetic Chemistry*, John Hopkins University/NIH, Bethesda, Maryland. March 16, 2011
266. Keynote, *Sustainable Production of Advanced Biofuels*, ACS/BIOT, Anaheim, California. March 29, 2011
267. Presentation, *Synthetic Biology for Synthetic Fuels*, ExxonMobil, Galveston, Texas. April 6, 2011
268. Director's Special Colloquium Lecture, *Synthetic Biology for Synthetic Fuels*, Argonne National Laboratory, Argonne, Illinois. April 14, 2011
269. Keynote, *Synthetic Biology for Synthetic Chemistry*, Duke University, Durham, North Carolina. April 16, 2011

270. Keynote, *Synthetic Biology for Synthetic Chemistry*, Synthetic Biology for Learning and DOIng Conference, Paris, France. May 4, 2011
271. Presentation, *Synthetic Biology for Synthetic Chemistry*, Firmenich Biotech Symposium, Le Grand-Saconnex, Switzerland. May 5, 2011
272. Keynote, *Synthetic Biology for Synthetic Chemistry*, Biology by Design Symposium, Northwestern University, Evanston, Illinois. May 11, 2011
273. Seminar, *Synthetic Biology for Synthetic Chemistry*, University of California, San Francisco, California. May 24, 2011
274. Presentation, *Introduction to Synthetic Biology*, VTT, Espoo, Finland. June 9, 2011
275. Presentation, *Synthetic Biology Applications in Fuels and Chemicals Production*, VTT, Espoo, Finland. June 10, 2011
276. Presentation, *Synthetic Biology for Synthetic Chemistry*, Mexico Bio 2011, Guanajuato, Mexico. June 20, 2011
277. Presentation, *Synthetic Biology of Synthetic Fuels*, XIV Congreso Nacional de Biotecnologías y Bioingeniería, Queretaro, Mexico. June 21, 2011
278. Presentation, *Engineering Microorganisms for Production of Advanced Biofuels*, Biochemical and Molecular Engineering XVII, Seattle, Washington. June 27, 2011
279. Presentation, *Synthetic Biology for Synthetic Fuels*, Aspen Ideas Festival, Aspen, Colorado. June 28, 2011
280. Presentation, *Synthetic Biology for Synthetic Chemistry*, NASA Ames Research Center, Moffett Field, California. July 12, 2011
281. Keynote, *Sustainable, Biological Production of Hydrocarbons*, Synthetic Biology Biobased Future, Berkeley, CA. August 31, 2011
282. Presentation, *Synthetic Biology for Synthetic Fuels*, Poptech!, New York, NY. September 8, 2011
283. Keynote, *Sustainable, Microbial Production of Chemical and Fuels*, Dow Innovation Student Challenge Awards, Berkeley, CA. October 5, 2011
284. Presentation, *Synthetic Biology: From Bugs to Drugs and Fuels*, Siebel Scholars Conference, Chantilly, VA. October 15, 2011
285. Seminar, *Sustainable, Biological Production of Hydrocarbons*, University of Washington, Seattle, WA. October 19, 2011
286. Keynote, *Synthetic Biology for Synthetic Chemistry: Biological Production of Hydrocarbons*, SystemsX Conference, Basel, Switzerland. October 25, 2011
287. Keynote, *Synthetic Biology for Synthetic Chemistry*, Cold Spring Harbor – Asia Symposium, Suzhou, China. November 7, 2011
288. Seminar, *Synthetic Biology for Synthetic Chemistry*, Stanford University, Palo Alto, CA. February 3, 2012
289. Seminar, *Synthetic Biology for Synthetic Chemistry*, Gladstone Institute of Virology and Immunology, San Francisco, CA. March 22, 2012
290. Seminar, *Engineering Microbial Hydrocarbon Metabolism for Production of Advanced Fuels*, Genetics Department, Yale University, New Haven, CT. April 3, 2012
291. Tetelman Award Lecture, *Life 2.0: Engineering Biology to Change the World*, Yale University, New Haven, CT. April 4, 2012
292. Seminar, *Synthetic Biology for Synthetic Chemistry*, Virginia Commonwealth University, Richmond, VA. April 17, 2012
293. Keynote, *Microbial Production of Artemisinin*, Bay Area World Malaria Day Symposium, San Francisco, CA. April 25, 2012

294. Seminar, *Engineering Hydrocarbon Biochemistry in Microbes*, University of Calgary, Calgary, Alberta, Canada. May 1, 2012
295. Katz Ward Lecture 1, *Life 2.0: Engineering Biology for Sustainable Development*, Katz Lecture, University of Michigan, Ann Arbor, MI. May 3, 2012
296. Katz Award Lecture 2, *Engineering Microbial Hydrocarbon Metabolism for Production of Advanced Fuels*, Katz Lecture, University of Michigan, Ann Arbor, MI. May 4, 2012
297. Heuermann Award Lecture, *The Bold Future of Alternative Energy*, University of Nebraska, Lincoln, NE. May 8, 2012
298. Seminar, *Synthetic Biology for Synthetic Fuels*, Concordia University, Montreal, Quebec, Canada. May 21, 2012
299. Lecture, *Synthetic Biology towards Biofuels*, Molecular Frontiers Symposium, Stockholm, Sweden. May 30, 2012
300. Award Lecture, *Advanced Feedstocks to Advanced Fuels: An Integrated Approach*, Metabolic Engineering IX, Biarritz, France. June 6, 2012
301. Lecture, *Advanced Fuels from Advanced Feedstocks*, enGENEious Conference, University of Oxford, Oxford, UK. June 26, 2012
302. Lecture, *Synthetic Biology: From Bugs to Drugs and Fuels*, KingsLinks Colloquium, University of Edinburgh, Edinburgh, UK. June 27, 2012
303. Keynote, *Opportunities and Challenges for Synthetic Biology in Biocatalysis*, GRC Biocatalysis Conference, Smithfield, RI. July 8, 2012
304. Lecture, *Synthetic Biology for Synthetic Fuels*, CAS Conference on Synthetic Biology, Martinsried, Germany. July 25, 2012
305. Lecture, *Synthetic Biology for Synthetic Chemistry*, Ajinomoto-Genetika Research Institute, Moscow, Russia. July 27, 2012
306. Keynote, *Synthetic Biology for Synthetic Fuels*, Society for Industrial Microbiology Annual Meeting, Washington, DC. August 12, 2012
307. Keynote, *Synthetic Biology for Synthetic Fuels*, Pacific Northwest National Laboratory, Richland, WA. August 14, 2012
308. Keynote, *Metabolic Engineering of Hydrocarbon Production*, University of Western Ontario, London, Ontario, Canada. August 24, 2012
309. Seminar, *Synthetic Biology for Synthetic Chemistry*, National University of Singapore, Singapore. September 11, 2012
310. Seminar, *Advanced Fuels from Advanced Plants*, University of Washington, Seattle, Washington. September 18, 2012
311. Seminar, *Advanced Fuels from Advanced Plants*, Cornell University, Ithaca, NY. September 20, 2012
312. Guest lecturer in several classes, Masters Week, University of Nebraska, Lincoln, Nebraska. November 9, 2012
313. Seminar, *Biofuels for the Future*, Chalmers University of Technology, Gothenburg, Sweden. November 17, 2012
314. Lecture, *Synthetic Biology for Synthetic Chemistry*, American Society for Cell Biology Annual Meeting, San Francisco, CA. December 18, 2012
315. Lecture, *Managing an Energy Hub*, Joint Center for Energy Storage Research, Oakland, CA. December 18, 2012
316. Panel, *The Role of the Research Labs in our Regional Economy*, CCUSA 2013, Concord, CA. January 24, 2013
317. Seminar, *Metabolic Engineering of Hydrocarbon Production*, Georgia Institute of Technology, Atlanta, GA. March 5, 2013

318. Panel, *Programming Life, The Revolutionary Potential of Synthetic Biology*, SynBERC & Discover Event, UC Berkeley, Berkeley, CA. March 25, 2013
319. Award Talk, *Metabolic Engineering of Microbial Metabolism for Hydrocarbon Production*, ACS National Meeting and Exposition. New Orleans, LA. April 9, 2013
320. Panel, *How will Synthetic Biology and Conservation Shape the Future of Nature?* Wildlife Conservation Meeting, Clare College, Cambridge, England. April 10, 2013
321. Seminar, *Synthetic Biology for Synthetic Chemistry*, Nanyang Technological University, Singapore. April 18, 2013
322. Seminar, *Life 2.0: Engineering Biology for Sustainable Development*, University of St. Thomas, St. Paul, MN. May 1, 2013
323. Seminar, *Advanced Fuels from Advanced Plants*, University of St. Thomas, St. Paul, MN. May 3, 2013
324. Lecture, *Engineering Microbial Metabolism for Production of Advanced Hydrocarbons*, Cell Factories and Biosustainability Conference, Hillerod, Denmark. May 6, 2013.
325. Promega Biotechnology Research Award Lecture, *Advanced Plants to Advanced Fuels*, 2013 ASM General Meeting, Denver, CO. May 19, 2013
326. Lecture, *Synthetic Biology for Synthetic Chemistry*, Biochemical and Biomolecular Engineering XVIII Conference, Beijing, China. June 16, 2013
327. George Washington Carver Award acceptance speech, 10th Annual BIO World Congress on Industrial Biotechnology, Montreal, Quebec, Canada. June 18, 2013
328. Lecture, *Synthetic Biology for Synthetic Chemistry*, SB6.0, London, England. July 11, 2013
329. Seminar, *Engineering Biology for Sustainable Development*, University of Pittsburgh, Pittsburgh, PA. July 25, 2013
330. Seminar, *Engineering Microbial Hydrocarbon Metabolism for Production of Advanced Fuels*, University of Pittsburgh, Pittsburgh, PA. July 26, 2013
331. Lecture, *Engineering Microorganisms for Production of Hydrocarbons*, International Conference on Systems Biology (ICSB), Copenhagen, Denmark. September 3, 2013.
332. Panel, *New Biology: New World?*, Science at the Theater, Berkeley, California. September 23, 2013
333. Keynote, *Advanced Fuels from Advanced Plants*, Advanced Biofuels Leadership Conference, San Francisco, CA. October 10, 2013
334. Seminar, *Engineering Microbial Metabolism for Production of Hydrocarbons*, Carnegie Institution for Science, Stanford, CA. October 11, 2013
335. Lecture, *The Challenges and Opportunities in Biofuels*, Agro Nexus Summit, Herzliya, Israel. October 20, 2013
336. Seminar, *Advanced Fuels from Advanced Plants*, Weizmann Institute, Rehovot, Israel. October 22, 2013
337. Award Lecture, *Synthetic Biology for Synthetic Fuels*, AIChE Awards, San Francisco, CA. November 5, 2013
338. Lecture, *Synthetic Biology at Berkeley Lab*, Berkeley Lab Community Advisory Group Meeting, Berkeley, CA. January 13, 2014
339. Lecture, *Synthetic Biology for Synthetic Chemistry*, Is a Ph.D. for Me? Synberc Symposium, Atlanta, GA. February 1, 2014
340. Lecture, *Microbial Engineering for Biofuel Production*, Environmental Defense Fund Science Day, Sausalito, CA. February 5, 2014
341. Lecture, *Engineering Hydrocarbon Production*, American Association for the Advancement of Science (AAAS) Annual Meeting, Chicago, IL. February 15, 2014

342. Seminar, *Synthetic Biology for Synthetic Chemistry*, Cold Spring Harbor Laboratory, Cold Spring, NY. March 6, 2014
343. Seminar, *Synthetic Biology for Synthetic Chemistry*, National University of Singapore, Singapore. March 18, 2014
344. Lecture, *Synthetic Biology for Synthetic Chemistry*, International Singapore Lipid Symposium (iSLS5), Singapore. March 19, 2014
345. Lecture, *The Path Forward for Biobased Fuels and Chemicals*, TOTAL Annual R&D Meeting, Paris, France. April 3, 2014
346. Seminar, *Synthetic Biology for Synthetic Chemistry*, University of Chicago, Chicago, IL. April 14, 2014
347. Panel, *Better, Faster, Cheaper: The Technologies and Resources Changing the Game of Manufacturing*, DOE's Clean Energy Manufacturing Initiative Summit (CEMI), San Francisco, CA. April 17, 2014
348. Lecture, *Engineering Microbial Production of Artemisinin: Lessons for Biomanufacturing*, Novartis, Emeryville, CA. April 25, 2014
349. Seminar, *Synthetic Biology for Synthetic Chemistry*, Columbia University, New York, NY. April 28, 2014
350. Lecture, *Synthetic Biology for Synthetic Chemistry*, BASF, Ludwigshafen, Germany. May 6, 2014
351. Lecture, *Synthetic Biology for Synthetic Fuels*, Synmikro Microbial Formation of Biofuels and Platform Chemicals Symposium, Marburg, Germany. May 7, 2014
352. Seminar, *Life 2.0 Engineering Biology for Sustainable Development*, Ohio State University, Columbus, OH. May 28, 2014
353. Seminar, *Engineering Microbial Hydrocarbon Metabolism for Production of Advanced Fuels and Chemicals*, Ohio State University, Columbus, OH. May 29, 2014.
354. Talk, *Production of Advanced Fuels from Sugars Using Engineered Microorganisms*, 2014 DOE-BER Bioenergy Workshop, Washington, DC. June 23, 2014
355. Keynote, *Synthetic Biology for Synthetic Chemistry*, 16th European Congress on Biotechnology, Edinburgh, UK. July 13, 2014
356. Seminar, *Metabolic Engineering of Yeast for Production of Fuels and Chemicals*, Cold Spring Harbor Laboratory, Cold Spring, NY. August 4, 2014
357. Talk, *Synthetic Biology for Advanced Biofuels*, ACS National Meeting, San Francisco, CA. August 12, 2014
358. Seminar, *Synthetic Biology for Synthetic Chemistry*, University of Virginia, Charlottesville, VA. October 2, 2014
359. Talk, *Engineering Microbes for Chemicals and Fuels*, Synbio Conference, Berkeley, CA. November 10, 2014
360. Talk, *Advanced Plants to Advanced Fuels*, Secretaria de Energia de Mexico, Mexico, D.F., Mexico. November 24, 2014
361. Talk, *Engineering Microbes for Chemicals and Fuels*, Mexican Petroleum Institute, Mexico, D.F., Mexico. November 24, 2014
362. Panel, *Biomanufacturing in California and Israel*, Globes International Economic Conference, Tel Aviv, Israel. December 7, 2014
363. Presentation, *Advanced Plants to Advanced Fuels*, Eilat-Eilat Renewable and Green Energy Conference, Eilat, Israel. December 8, 2014
364. Panel, *Translating Academic Innovation to Biotechnology Development*, Center for Emerging and Neglected Diseases, University of California, Berkeley, CA. January 9, 2015
365. Talk, *Engineering Microbes to Produce our Stuff*, UC Emeritus Association, Berkeley, CA. January 24, 2015

366. Talk, *Engineering Microbes for Production of Chemicals and Fuels*, National University of Singapore, Singapore. January 27, 2015
367. Talk, *Reengineering Life*, Stanford University School of Medicine, Stanford, CA. February 23, 2015
368. Talk, *Engineering Microbes to Solve Global Challenges*, Miller Institute for Basic Science in Research, Berkeley, CA. March 9, 2015
369. Earl Bakken Lecture, *Engineering Microbes to Solve Global Challenges*, American Institute for Medical and Biological Engineering (AIMBE) 2015 Annual Event, Arlington, VA. March 15, 2015
370. Keynote, *Engineering Microbes for Production of Chemicals and Fuels*, Directing Biosynthesis IV, Norwich, United Kingdom. March 27, 2015
371. Talk, *Synthetic Biology for Synthetic Chemistry, Is a PhD for Me?*, University of California, Berkeley, Berkeley, CA. April 12, 2015
372. Talk, *Microbial Production of Artemisinin*, Universities Allied for Essential Medicines, University of California Berkeley, Berkeley, CA. April 13, 2015
373. Abbott Lecture, *Life 2.0: Engineering Biology for Sustainable Development*, Rensselaer Polytechnic Institute, Troy, NY. April 15, 2015
374. Abbott Lecture, *Advanced Fuels from Advanced Plants*, Rensselaer Polytechnic Institute, Troy, NY. April 16, 2015
375. Honorary Doctorate Talk, *Engineering Microbes to Solve Global Challenges*, Chalmers University of Technology, Gothenburg, Sweden. May 8, 2015
376. Legislative Committee Presentation, *Carbon-neutral Transportation Fuels from Plant Biomass*, State Capitol, Sacramento, CA. June 17, 2015
377. Lecture, *Engineering Microbial Metabolism for Production of Chemicals*, Enabling Technologies for Eukaryotic Synthetic Biology Conference, Heidelberg, Germany. June 23, 2015
378. Lecture, *Synthetic Biology for Synthetic Chemistry*, RWTH-ERS Synthetic Biology Workshop, Aachen, Germany. June 24, 2015
379. Lecture, *Engineering Microbial Metabolism for Synthesis of Advanced Biofuels*, Tailor-Made Fuels from Biomass Conference, RWTH - Aachen University, Aachen, Germany. June 25, 2015
380. Lecture, *Engineering Microbes for Production of Drugs, Fuels, and Chemicals*, GRC Conference on Synthetic Biology, Newry, ME. July 1, 2015
381. Lecture, *Engineered Polyketide Synthases for Production of Commodity and Specialty Chemicals*, ECI Biochemical Engineering Conference, Puerto Vallarta, Mexico. July 13, 2015.
382. Seminar, *Engineering Microbes for Production of Chemicals and Fuels*, National University of Singapore, Singapore. September 29, 2015
383. Seminar, *Life 2.0: Engineering Biology for Sustainable Development*, SynCTI Symposium, National University of Singapore, Singapore. September 30, 2015
384. Seminar, *Engineering Microbes for Production of Chemicals and Fuels*, University of California, Davis, Davis, CA. October 12, 2015
385. Seminar, *Engineering Biology to Solve Global Challenges*, Lamar University, Beaumont, TX. October 14, 2015
386. Lecture, *Engineering Biology to Solve Global Challenges*, Young President's Organization, Haas School of Business, University of California, Berkeley, Berkeley, CA. November 5, 2015
387. Panel, *Path Finders in Synthetic Biology*, SynBioBeta Conference, San Francisco, CA. November 5, 2015
388. Moderator, *Engineering of Cellular Processes*, Design Principles for Engineering Biology Workshop, National Science Foundation, Tyson's Corner, VA. November 12, 2015
389. Lecture, *California Perspective on Biofuels and Energy*, Biomass Research and Development Technical Advisory Committee, Berkeley, CA. November 19, 2015



390. Discussion Leader, *Manufacturing Reimagined*, World Economic Forum, Davos, Switzerland. January 20, 2016
391. Lecture, *Energy Disruptor: Biotechnology at the Cutting Edge*, World Economic Forum, Davos, Switzerland. January 21, 2016
392. Presentation, *Biomanufacturing to Solve Global Challenges*, Google[x], Mountain View, CA. February 9, 2016
393. Seminar, *Biomanufacturing and the Future of Biological Engineering*, National University of Singapore, Singapore. February 16, 2016.
394. Seminar, *Biomanufacturing to Solve Global Challenges*, University of San Diego, La Jolla, CA. March 11, 2016
395. Presentation, *Engineering Microbes for Production of Chemicals and Fuels*, American Chemical Society National Meeting, San Diego, CA. March 14, 2016
396. Virtual Talk, *Engineering Microbes for Production of Chemicals and Fuels*, Indo-US Workshop on Cell Factories. March 19, 2016.
397. Katz Lecture, *Engineering Biology for Sustainable Development*, City College of New York, New York, NY. April 11, 2016
398. Seminar, *Engineering Microbial Metabolism for Production of Chemicals and Fuels*, Rutgers, The State University of New Jersey, Piscataway, NJ. April 12, 2016
399. Panel, *Agent of Change: The California-Israel Global Innovation Partnership*, Milken Institute, Beverly Hills, CA. May 4, 2016
400. Talk, *Engineering Microbial Metabolism for Production of Chemicals and Fuels*, 7th Life Science Symposium, Delft, The Netherlands. May 10, 2016
401. Seminar, *Engineering Microbial Metabolism for Production of Chemicals and Fuels*, Delft University of Technology, Delft, The Netherlands. May 11, 2016
402. Seminar, *Engineering Microbial Metabolism for Production of Chemicals and Fuels*, California Institute of Technology, Pasadena, CA. May 24, 2016
403. Talk, *Emerging Technologies, Synthetic Biology*, MLS LP Meeting, Berkeley, CA. May 24, 2016
404. Panel, *OUT in Science*, 3rd Annual OUT in Science, University of San Francisco, San Francisco, CA. May 26, 2016
405. Board Discussion, *Interconnection Between Agriculture and Technology*, California State Board of Food and Agriculture, Amyris, Emeryville, CA. May 31, 2016
406. Talk, *Engineered Polyketide Synthases for Production of Commodity and Specialty Chemicals*, Metabolic Engineering 11, Kobe, Japan. June 28, 2016.
407. Panel, *Advanced Molecular and Cellular Technologies*, SEAB Task Force on Biomedical Sciences, Berkeley, CA. July 18, 2016
408. Talk, *Engineered Polyketide Synthases for Production of Commodity and Specialty Chemicals*, SEED Conference, Chicago, IL. July 19, 2016
409. Panel, *Advancing U.S. Biosciences - Technology*, U.S. Council on Competitiveness, Washington, DC. July 27, 2016
410. Seminar, *Engineering Microbial Metabolism for Production of Chemicals and Fuels*, Harvard University, Cambridge, MA. September 8, 2016
411. Seminar, *Engineering Microbial Metabolism for Production of Chemicals and Fuels*, Boston University, Boston, MA. September 9, 2016
412. Class II - Biological Sciences Speaker, *Biology as Technology*, Induction Ceremony, American Academy of Arts and Sciences. Cambridge, MA. October 8, 2016
413. Talk, *Biomanufacturing and the Future of Biological Engineering*, Global Cre8 Summit, Shenzhen, China. October 15, 2016

414. Talk, *Engineering Microbes for Production of Chemicals and Fuels*, 3rd Synthetic Biology Congress, London, United Kingdom. October 20, 2016
415. Seminar, *Engineering Microbial Metabolism for Production of Chemicals and Fuels*, Ecole Polytechnique Federale de Lausanne (EPFL), Lausanne, Switzerland. October 24, 2016
416. Talk, *Ten Years of Public-Private Partnership*, Singapore Consortium for Synthetic Biology (SINERGY), Singapore. November 8, 2016
417. Talk, *Advances in Metabolic Engineering*, American Institute of Chemical Engineers (AIChE) Annual Meeting, San Francisco, CA. November 15, 2016
418. Talk, *Engineered Polyketide Syntheses for Production of Chemicals and Fuels*, Novozymes Prize Symposium, Hellerup, Denmark. November 21, 2016
419. Talk, *Life 2.0: Engineering Biology for Sustainable Development*, TechCracker 2016, Whistler, Canada. December 3, 2016
420. Talk, *Biomanufacturing to Solve Global Challenges*, International Society for Pharmaceutical Engineering (ISPE), San Francisco, CA. December 6, 2016
421. Talk, *Biomanufacturing to Solve Global Challenges*, IET/SynbiCITE Engineering Biology Conference, London, England, United Kingdom. December 13, 2016
422. Talk, *Using Biology to Solve the Nation's Energy and Environmental Challenges*, California Energy Commission, Berkeley, CA. January 9, 2017
423. Talk, *The Joint BioEnergy Institute, EBI-Royal Shell Workshop*, Emeryville, CA. January 13, 2017
424. Talk, *Engineered Polyketide Syntheses for Production of Commodity and Specialty Chemicals*, Synthetic Biology for Natural Products Conference, Cancun, Mexico. March 7, 2017
425. Talk, *Engineering Microbial Metabolism for Production of Chemicals and Fuels*, University of Dundee, Perthshire, Scotland. March 17, 2017
426. Talk, *Synthetic Biology for Synthetic Chemistry*, University of Michigan, Ann Arbor, MI. March 21, 2017
427. Keynote, *Synthetic Biology for Synthetic Chemistry*, Microbiology Retreat, University of California, Berkeley, Berkeley, CA. March 23, 2017
428. Talk, *Kicking the Habit: Building Biology to Replace the Entire Oil Barrel*, The Novo Nordisk Foundation Center for Biosustainability, Lyngby, Denmark. March 27, 2017
429. Talk, *Advanced Fuels from Advanced Plants*, Nebraska EPSCoR NRIC on Predictive Crop Design: Genome to Phenome Conference, Lincoln, NE. April 7, 2017
430. Panel Leader, *Renewables and Biofuels Session*, National Lab Day, Fayetteville, Arkansas. April 18, 2017
431. Talk, *Synthetic Biology for Synthetic Chemistry*, Northwestern University. Evanston, IL. April 25, 2017
432. Talk, *Engineering Biology to Solve Global Challenges*, UC Berkeley Executive Education, Berkeley, CA. May 23, 2017
433. Talk, *Engineering Microbial Metabolism for Production of Chemicals and Fuels*, International Consortium of Applied Bioeconomy Research (ICABR), Berkeley, CA. June 1, 2017
434. Talk, *Engineering Biology to Solve Grand Challenges*, Cheung Kong Graduate School of Business, Emeryville, CA. July 13, 2017
435. Talk, *Engineering Biology for Sustainable Development*, Synthetic & Systems Biology Summer School, Cambridge, UK. July 17, 2017
436. Talk, *Synthetic Biology for Synthetic Chemistry*, Synthetic & Systems Biology Summer School, Cambridge, UK. July 17, 2017
437. Amgen Award Lecture, *Engineered Polyketide Syntheses: Molecular Foundries for Commodity Chemicals, Specialty Chemicals, and Biofuels*, Biochemical and Molecular Engineering XX, Newport Beach, CA. July 19, 2017

438. Panel, *U.S. Bioscience and Biomanufacturing*, Council on Competitiveness, Washington, DC. July 25, 2017
439. Talk, *Engineered Polyketide Synthases for Production of Commodity and Specialty Chemicals*, GRC Natural Products & Bioactive Compounds, Andover, NH. August 1, 2017
440. Talk, *Engineered Polyketide Synthases: Molecular Foundries for Commodity Chemicals, Specialty Chemicals, and Biofuels*, Institute on Molecular and Cell Biology, Singapore. August 22, 2017
441. Keynote, *Biomanufacturing and the Future of Biological Engineering*, Shenzhen Institutes of Advanced Technology (SIAT), Shenzhen, China. August 24, 2017
442. Seminar, *Synthetic Biology for Synthetic Chemistry*, Pennsylvania State University, University Park, PA. September 20, 2017
443. Talk, *Manufacturing our Future with Biology*, Nanjing Ministry of Commerce, Nanjing, China. September 28, 2017
444. Seminar, *Engineered Polyketide Synthases for Production of Commodity and Specialty Chemicals*, Texas A&M University, College Station, TX. October 4, 2017
445. Talk, *JBEI 3.0: Production of Advanced Biofuels and Bioproducts from Advanced Crops*, ABLC NEXT, San Francisco, CA. October 17, 2017
446. Talk, *Engineered Polyketide Synthases for Production of Commodity and Specialty Chemicals*, Metabolic Engineering Summit, Beijing, China. October 23, 2017
447. Talk, *Academic Science: A Foundation for New Companies*, Government of Nanjing. Nanjing, China. October 24, 2017
448. Keynote, *Synthetic Biology: Manufacturing with Biology*, National Science Foundation BRC Biennial Meeting, Alexandria, VA. November 1, 2017
449. Seminar, *Synthetic Biology for Synthetic Chemistry*, University of Santa Barbara, Santa Barbara, CA. November 7, 2017.
450. Talk, *Synthetic Biology: Manufacturing with Biology*, Tsinghua-Berkeley Shenzhen Institute (TBSI), University of California, Berkeley, CA. January 23, 2018
451. Seminar, *Engineered Polyketide Synthases for Production of Commodity and Specialty Chemicals*, Stanford University, Stanford, CA. February 5, 2018
452. Talk, *Production of Terpenoid Natural Products in Microorganisms*, Pfizer Corporation, Groton, CT. March 1, 2018
453. Talk: *Engineered Polyketide Synthases for Production of Commodity and Specialty Chemicals*, ECI Microbial Engineering Conference, Santa Fe, NM. March 6, 2018
454. Panel Moderator: *The Curious Case of Benjamin Button: Battling Aging*, TechCracker, Tokyo, Japan. March 19, 2018
455. Talk: *Engineering Polyketide Synthases for Production of Commodity and Specialty Chemicals*, Mosbacher Kolloquium, Mosbach, Germany. March 23, 2018
456. Seminar, *Engineering Microorganisms for Production of Isoprenoid Natural Products and Some Not-So-Natural Products*, Princeton University, Princeton, NJ. April 11, 2018
457. Talk, *Engineering Biology to Solve Global Challenges*, UC Berkeley Executive Education, Berkeley, CA. April 20, 2018
458. Award Talk, *Microbial Production of Isoprenoids*, Leibniz Conference on Bioactive Compounds, Halle, Germany. April 23, 2018
459. Faculty Panelist, *Future of Chemical Sciences*, College of Chemistry's 150th Celebration Dinner, University of California, Berkeley. May 2, 2018
460. Talk, *Synthetic Biology*, Malaysia Life Sciences Conference. Oakland, CA. May 8, 2018
461. Seminar, *Engineering Microorganisms for Production of Isoprenoid Natural Products and Some Not-So-Natural Products*, University of California, Los Angeles. May 24, 2018

462. Talk, *Science at Berkeley*, Berkeley Executive Education, Berkeley, CA. June 4, 2018
463. Keynote, *Engineering Microorganisms for Production of Isoprenoid Natural Products and Some Not-So-Natural Products*, SEED Conference, Scottsdale, AZ. June 7, 2018
464. Talk, *Synthetic Biology for Synthetic Chemistry*, Global Frontiers in Science and Technology Conference, Berkeley, CA. June 14, 2018
465. Keynote, *Engineering Microorganisms for Production of Isoprenoid Natural Products and Some Not-So-Natural Products*, Metabolic Engineering Conference, Munich, Germany. June 27, 2018
466. Talk, *Engineered Polyketide Synthases for Production of Commodity and Specialty Chemicals*, KMB International Symposium, Yeosu, South Korea. June 28, 2018
467. Talk, *Synthetic Biology of Synthetic Chemistry*, LG Chem, Seoul, South Korea. June 29, 2018
468. Talk, *Synthetic Biology for Synthetic Chemistry*, CJ Research Institute, Suwon, South Korea. June 29, 2018
469. Talk, *Engineering Polyketide Synthases for Production of Chemicals, Materials, and Fuels*, GRC Biocatalysis Conference, Biddeford, ME. July 8, 2018
470. Seminar, *Engineering Type I Polyketide Synthases to be Foundries for Renewable Chemicals and Fuels*, Jiangnan University, Jiangsu Sheng, China. September 19, 2018
471. Talk, *Synthetic Biology for Synthetic Chemistry*, Sanders Tri-Institutional Chemical Biology Seminar Series, New York, NY. October 8, 2018
472. Keynote, *Engineered Polyketide Synthases as Platform for Synthetic Chemistry*, Nature Conference, Shanghai, China. October 15, 2018
473. Talk, *Engineering Polyketide Synthases for the Production of Commodity Chemicals*, Department of Defense Synthetic Biology for Materials Workshop, Arlington, VA. October 23, 2018
474. Talk, *Engineering Microorganisms for Production of Isoprenoid Natural Products and Some Not-So-Natural Products*, University of Nebraska, Lincoln, NE. October 24, 2018
475. Talk, *Constructing a Better World Through Synthetic Biology*, ABLC Global 2018, San Francisco, CA. November 8, 2018
476. Talk, *Rethinking the Future of Energy: Can Biology Power the Planet*, Special Event hosted by the William A. Haseltine Foundation for Medical Sciences and the Arts, Lawrence Berkeley National Laboratory and the World Science Festival, New York, NY. November 18, 2018
477. Talk, *Manufacturing with Biology*, Johnson Matthey Biotechnology Symposium, Cambridge, United Kingdom, January 9, 2019
478. Talk, *Engineering Microbes for Production of Isoprenoids*, The Production Board, San Francisco, CA. January 28, 2019
479. Talk, *Building the Future of Low Carbon Transportation through Integrated Basic Science*, California Bioresources Economy Summit, Berkeley, CA. January 29, 2019
480. Seminar, *Engineered Polyketide Synthases as Platform for Synthetic Chemistry*, Dalian Institute of Chemical Physics, Dalian, China. March 11, 2019
481. Talk, *Engineering Microorganisms for Production of Isoprenoid Natural Products and Some Not-So-Natural Products*, National Academy of Engineering Regional Meeting, Santa Clara, CA. March 28, 2019
482. Seminar, *Engineering Microbes for Production of Isoprenoids*, The Novo Nordisk Foundation Center for Biosustainability, Lyngby, Denmark. April 3, 2019
483. Keynote, *Engineered Polyketide Synthases as Platform for Synthetic Chemistry*, BBC 2019 Biofuels & Bioenergy Conference, San Francisco, CA. April 29, 2019
484. Panel, *Establishing Pipelines, Tools, and Multidisciplinary Partnerships*, National Academies' National Materials and Manufacturing Board, Washington, DC. May 1, 2019

485. Talk, *Essence of Hops and Cannabis: Engineering Yeast to Produce Some of the Better Things in Life*, Natural Products – Discovery, Biosynthesis and Application Conference, Hillerod, Denmark. May 6, 2019
486. Talk, *Engineering Microorganisms for Production of Isoprenoid Natural Products and Some Not-So-Natural Products*, Nature Conference on Engineering Biology for Medicine, Durham, NC. May 21, 2019
487. Talk, *Engineering Biology to Solve Global Challenges*, UC Berkeley Center for Executive Education, Berkeley, CA. May 24, 2019
488. Panel, *Engineering Meets Biology*, The Production Board Symposium 2019: Convergence, Sausalito, CA. June 5, 2019
489. Talk, *Engineered Polyketide Synthases as Platform for Synthetic Chemistry*, Air Force Research Lab, Dayton, OH. July 16, 2019
490. Talk, *Synthetic Biology for Synthetic Chemistry*, 6th World Starch Industry Conference and Chinese Academy of Engineering Green Bio-manufacturing Industry Forum, Changchun, China. August 14, 2019
491. Talk, *Engineering Biology for Sustainable Development*, CJ R&D Global Conference, Gyeonggi-do, Republic of Korea. August 22, 2019
492. Talk, *Essence of Hops and Cannabis: Engineering Yeast to Produce Some of the Better Things in Life*, Novo Nordisk Foundation, Hellerup, Denmark. September 5, 2019
493. Talk, *Engineered Polyketide Synthases as Platform for Synthetic Chemistry*, Synthetic Biology for Defense Conference, Arlington, VA. September 17, 2019
494. Talk, *Engineered Polyketide Synthases as Platform for Synthetic Chemistry*, Synthetic Biology World Forum, Nanjing, China. September 24, 2019
495. Seminar: *Engineered Polyketide Synthases as a Platform for Synthetic Chemistry*, University of Illinois, Urbana, IL. October 8, 2019
496. Talk, *Essence of Hops and Cannabis: Engineering Yeast to Produce Some of the Better Things in Life*, Metabolic Engineering Summit, Tianjin, China. October 21, 2019
497. Talk, *Engineered Polyketide Synthases as Platform for Synthetic Chemistry*, Cold Spring Harbor Asia Synthetic Biology Conference, Suzhou, China. October 22, 2019
498. Talk, *Come Together: Altering Life Through Quantum Computing and Synthetic Biology*, Tech Cracker, Bergen, Norway. October 25, 2019
499. Seminar, *Engineered Polyketide Synthases as Platforms for Synthetic Chemistry*, Arizona State University, Tempe, Arizona. November 8, 2019
500. Talk, *Innovations in Synthetic Biology*, 2019 American Institute of Chemical Engineering Annual Meeting, Orlando, Florida. November 12, 2019
501. Panel, *LGBTQ + Inclusion in Engineering*, 2019 American Institute of Chemical Engineering Annual Meeting, Orlando, Florida. November 12, 2019
502. Talk, *Engineered Polyketide Synthases as Platform for Synthetic Chemistry*, European Summit on Industrial Biotechnology, Graz, Austria. November 18, 2019
503. Talk, *Engineered Polyketide Synthases as Platform for Synthetic Chemistry*, Praj Matrix, Pune, India. December 19, 2019
504. Talk, *Engineering Biology for Biomanufacturing*, Jiangning Hi-tech Industrial Zone Committee, Berkeley, CA. January 14, 2020
505. Talk, *Essence of Hops and Cannabis: Engineering Yeast to Produce Some of the Better Things in Life*, 3rd International Conference on Natural Product Discovery and Development in the Genomic Era, San Diego, CA. January 15, 2020
506. Panel, *Digitizing Biology and Biomanufacturing*, Innovation XLab Biomanufacturing Summit, Berkeley, CA. January 28, 2020

507. Talk, *Engineered Polyketide Synthases as a Platform for Synthetic Chemistry*, Dr. Leonard Katz Symposium, Berkeley, CA. February 1, 2020
508. Talk, *Accelerating Polyketide Synthase Engineering for High TRY Production of Biofuels and Bioproducts*, NSF Public BioFoundaries Workshop, Emeryville, CA. February 14, 2020
509. Talk, *Engineering Biology for a Sustainable Future*, National Science Foundation. August 20, 2020
510. Talk, *Future of Biological Engineering in the Chemical Engineering Discipline*, National Academies of Sciences, Engineering, and Medicine. August 25, 2020
511. Keynote, *Engineered Polyketide Synthases as a Platform for Synthetic Chemistry*, Commercializing Industrial Biotechnology Conference. September 8, 2020
512. Talk, *Engineering Polyketide Synthases as a Platform for Synthetic Chemistry*, University of Texas, Austin. September 25, 2020
513. Talk, *Engineering Polyketide Synthases as a Platform for Synthetic Chemistry*, Biofuels Technology Club, University of California, Berkeley. October 7, 2020
514. Talk, *Engineering Polyketide Synthases as a Platform for Synthetic Chemistry*, Applied Synthetic Biology in Europe. November 2, 2020
515. Talk, *Engineering Microbial Metabolism for a Sustainable Future*, Seoul National University. November 4, 2020
516. Talk, *Engineered Microbes for Production of Isoprenoid Natural and Unnatural Products*, University of California, Riverside. November 13, 2020
517. Keynote, *Engineered Polyketide Synthases as Platform for Synthetic Chemistry*, International BioDesign Research Conference. December 8, 2020
518. Talk, *Engineered Polyketide Synthases as Platform for Synthetic Chemistry*, University of Virginia. March 25, 2021
519. Keynote, *Manufacturing With and Commercializing Biology*, NSF Future Manufacturing Awardee Meeting. March 26, 2021
520. Talk, *Engineering Biology for a Sustainable Future*, Danaher Scientific Advisory Board. April 28, 2021
521. Panel, *Aspirations for a Fragile Planet: What We Can, Should, Will Build*, ABLC Digital. May 7, 2021
522. Talk, *Manufacturing With and Commercializing Biology*, National Academy of Sciences. May 19, 2021
523. Talk, *Engineering Microbes for Production of Isoprenoid Natural and Unnatural Products*, Symposium on Biosynthesis of Plant Natural Products and Synthetic Biology for Their Production. May 19, 2021
524. Talk, *Engineering Microbes for Production of Isoprenoid Natural and Unnatural Products*, International Summit Forum on Future Food and Biotechnology. May 20, 2021
525. Pigford Award Lecture, *Engineered Polyketide Synthases as Platform for Synthetic Chemistry*, University of Delaware. May 21, 2021
526. Panel, Proud Innovation, Inspiring innovation: *A Discussion on Creating Change and Building a Legacy*, United States Patent and Trademark Office. June 29, 2021
527. Talk, *Artificial Biosynthetic Pathway for an Unnatural Terpenoids*, Metabolic Engineering 14 Conference. July 13, 2021
528. Talk, *Engineered Polyketide Synthases: A Platform for Renewable Synthetic Chemistry*, BASF Coast-to-Coast Colloquium (C3). July 19, 2021
529. Talk, *Manufacturing with and Commercializing Biology*, World Without Waste Workshop. August 20, 2021

## Workshops, Panels, and Short Courses

1. Massachusetts Institute of Technology, Department of Chemical Engineering. August 10-14, 1998. "Metabolic Engineering Short Course."
2. AIChE workshop on Bioinformatics. Houston, TX. March 13-14, 1999.
3. Massachusetts Institute of Technology, Department of Chemical Engineering. August 10-14, 1999. "Metabolic Engineering Short Course."
4. DARPA workshop on Metabolic Engineering. Washington, D.C. March 24 – 26, 2000.
5. Lawrence Berkeley National Laboratory Workshop "Solar to Fuel – Future Challenges and Solutions", Berkeley, CA. March 28-29, 2005.
6. 2005 Genomes to Life Program Workshop, Washington, DC. February 6-14, 2005.
7. Intercollegiate Genetically Engineered Machine Competition (iGEM) 2005 Teacher's Workshop, Boston, MA. May 14-15, 2005.
8. European Science Foundation Exploration Workshop, "Synthetic Biology: Constructing and Deconstructing Life" Arila, Spain. October 13-16, 2005.
9. The National Science Foundation workshop, "Design Principles for Engineering Biology." Tysons Corner, VA. November 11-12, 2015.

## Presentations at National or International Meetings

1. J. D. Keasling, A. Joshi, and B. O. Palsson. 1987. "Towards rational design and exploitation of recombinant prokaryotic cells." *194th ACS National Meeting*, New Orleans, LA.
2. J. D. Keasling and B. O. Palsson. 1988. "Dynamics and control of vector replication." *196th ACS National Meeting*, Los Angeles, CA.
3. J. D. Keasling and B. O. Palsson. 1989. "Design in bacterial plasmids." *National AIChE Meeting*, San Francisco, CA.
4. J. D. Keasling, B. O. Palsson, and S. Cooper. 1990. "Cell-cycle-specific F'*lac* plasmid replication: regulation by cell size control of initiation." *European Molecular Biology Organization Meeting on the Bacterial Cell Cycle*, Collonges-La Rouge, France.
5. J. D. Keasling, S. Cooper, and B. O. Palsson. 1990. "Dynamics and control of plasmid replication." *AIChE National Meeting*, Chicago, IL.
6. S. Cooper and J. D. Keasling. 1991. "F plasmid replication: cell-cycle specificity, regulation by cell size control of initiation, and the relationship of different origins of replication to plasmid synthesis." *Human Frontier Science Program Workshop on Regulatory Mechanisms of DNA Replication*, Les Arcs, France.
7. J. D. Keasling and S. Cooper. 1991. "Cell-cycle-specificity, regulation by cell-size control of initiation, and the relationship of different origins of replication to plasmid synthesis." *American Society for Microbiology*, Dallas, TX.
8. S. Cooper and J. D. Keasling. 1991. "Synthesis and regulation of cytoplasm, DNA, cell surface, and plasmid during the bacterial division cycle." *Cold Spring Harbor Symposium on Quantitative Biology*, Cold Spring Harbor, NY.
9. S. Cooper and J. D. Keasling. 1991. "Cell-cycle-specific F plasmid replication during the *Escherichia coli* division cycle: regulation of replication by cell size control of initiation." *Gordon Conference on Extrachromosomal Elements*.
10. J. D. Keasling, S. Cooper, and B. O. Palsson. 1991. "Dynamics and Control of Bacterial Plasmid Replication." *AIChE National Meeting*, Los Angeles, CA.

11. J. D. Keasling, B. O. Palsson, and S. Cooper. 1992. "Plasmid Replication during the Cell Cycle." *Keystone Symposium on Molecular Mechanisms in DNA Replication and Recombination*, Taos, NM.
12. J. D. Keasling, L. Bertsch, and A. Kornberg. 1993. "Guanosine pentaphosphate phosphohydrolase of *Escherichia coli* is a long-chain polyphosphatase." *205th ACS National Meeting*, Denver, CO.
13. J. D. Keasling, S. T. Sharfstein, B. Deaton, and G. Hupf. 1993. "Engineering and phosphate and energy metabolism in micro-organisms." *Biochemical Engineering VIII*, Princeton, NJ.
14. D. G. Bolesch and J. D. Keasling. 1993. "Anaerobic bioremediation of TCE contamination in groundwater." *Zeneca Process Technology Conference, Leeds, UK*.
15. S. T. Sharfstein, B. Deaton, J. D. Keasling. 1993 (1994). "Engineering and phosphate and energy metabolism in micro-organisms." *207th American Chemical Society National Meeting*, San Diego, CA
16. J. D. Keasling, H. Kuo, and G. Vahanian. 1994. "A probabilistic representation of the *Escherichia coli* cell cycle." *AIChE National Meeting*, San Francisco, CA.
17. S. T. Sharfstein, S. J. Van Dien and J. D. Keasling. 1994. "Engineering and phosphate and energy metabolism in micro-organisms." *AIChE National Meeting*, San Francisco, CA.
18. G. A. Hupf, N. Shapiro and J. D. Keasling. 1994. "Manipulation of phosphate and energy metabolism to improve heavy metal resistance and uptake." *AIChE National Meeting*, San Francisco, CA.
19. J. Pramanik and J. D. Keasling. 1994. "Mathematical analysis of fluxes through the metabolic pathways of *Escherichia coli*." *AIChE National Meeting*, San Francisco, CA.
20. R. Pape, P. Jorjani, and J. D. Keasling. 1994. "Design and construction of low-copy plasmids for metabolic engineering of *Escherichia coli*." *AIChE National Meeting*, San Francisco, CA.
21. D. Bolesch and J. D. Keasling. 1994. "Anaerobic bioremediation of chlorinated alkanes." *AIChE National Meeting*, San Francisco, CA.
22. D. Bolesch and J. D. Keasling. 1995. "Anaerobic bioremediation of chlorinated hydrocarbons." *In Situ and On-Site Bioreclamation*, San Diego, CA.
23. G. Hupf and J. D. Keasling. 1995. "Manipulation of phosphate and energy metabolism to improve heavy metal resistance and uptake." *In Situ and On-Site Bioreclamation*, San Diego, CA.
24. J. D. Keasling, S. Van Dien, S. Keyhani, and S. Sharfstein. 1995. "Engineering polyphosphate metabolism in bacteria." *Biochemical Engineering VIII*, Davos, Switzerland.
25. P. C. Michels, J. A. Baross, J. D. Keasling, and D. S. Clark. 1995. "Bioremediation potential of newly isolated, metal-tolerant archaea." *Biochemical Engineering VIII*, Davos, Switzerland.
26. J. D. Keasling, S. Van Dien, S. Keyhani, D. Bolesch, and S. Sharfstein. 1995. "Redirection of phosphate and energy metabolism through polyphosphate pathways." *AIChE National Meeting*, Miami Beach, FL.
27. J. D. Keasling, D. Szykowny, and J. Elmen. 1995. "Degradation of aromatic hydrocarbons under denitrifying conditions." *AIChE National Meeting*, Miami Beach, FL.
28. R. Brent Nielsen and J. D. Keasling. 1996. "Anaerobic bioremediation of chlorinated hydrocarbons." Engineering Foundation meeting. *Bioremediation of Surface and Subsurface Contamination* in Palm Coast, FL.
29. J. Elmen, D. Szykowny, and J. D. Keasling. 1996. "Degradation of aromatic hydrocarbons under denitrifying conditions." Engineering Foundation meeting, *Bioremediation of Surface and Subsurface Contamination* in Palm Coast, FL.
30. J. D. Keasling. 1996. "Metabolic engineering of polyphosphate metabolism in bacteria for phosphate and heavy metal bioremediation." Engineering Foundation meeting, *Bioremediation of Surface and Subsurface Contamination* in Palm Coast, FL.



31. Jaya Pramanik and J. D. Keasling. 1996. "A flux-based model of metabolism: effect of biomass requirements and redirected pathways on central metabolism." *211th American Chemical Society National Meeting* in New Orleans, LA.
32. J. D. Keasling. 1996. "Metabolic engineering for bioremediation of inorganic pollutants" *Metabolic Engineering*, Danvers, MA.
33. R. B. Nielsen and J. D. Keasling. 1996. "Kinetic parameter evaluation and modeling of the anaerobic conversion of trichloroethene to ethene." *AIChE National Meeting*, Chicago, IL.
34. N. Eliashberg and J. D. Keasling. 1996. "Simulation of bacterial growth and substrate utilization in a polluted groundwater environment." *AIChE National Meeting*, Chicago, IL.
35. J. Pramanik and J. D. Keasling. 1996. "A flux-based metabolic model for bacteria: study of metabolic regulation and its sensitivity to biomass composition." *AIChE National Meeting*, Chicago, IL.
36. S. J. Van Dien and J. D. Keasling. 1996. "Engineering the polyphosphate levels in *Escherichia coli* and the effects on the phosphate-starvation response." *AIChE National Meeting*, Chicago, IL.
37. J. Pramanik, P. L. Trelstad, and J. D. Keasling. 1996. "Analysis of bioremediation processes using a flux-based metabolic model." *AIChE National Meeting*, Chicago, IL.
38. S. J. Van Dien and J. D. Keasling. 1997. "Engineering the polyphosphate levels in *Escherichia coli*: Effects of energy and phosphate starvation." *ACS National Meeting*, San Francisco, CA.
39. R. B. Nielsen and J. D. Keasling. 1996. "Anaerobic biodegradation of chlorinated hydrocarbons by groundwater microorganisms." *ACS National Meeting*, San Francisco, CA.
40. J. Pramanik, P. L. Trelstad, and J. D. Keasling. 1996. "Analysis of the metabolism of enhanced biological phosphorus removal using a fluxed-based metabolic model." *ACS National Meeting*, San Francisco, CA.
41. J. D. Keasling. 1997. "*In situ* bioremediation of chlorinated and aromatic hydrocarbons in groundwater: application of modern molecular and mathematical tools." *Biochemical Engineering X*, Kananaskis, Canada.
42. J. D. Keasling. 1997. "Development of tools for the metabolic engineering of bacteria." *Biochemical Engineering X*, Kananaskis, Canada.
43. J. D. Keasling, J. Pramanik, and J. Benemann. 1997. "Metabolic engineering for hydrogen fermentations." *Biohydrogen '97*, Kona, Hawaii.
44. N. Eliashberg and J. D. Keasling. 1997. "Simulation of spacial heterogeneity development in a mutualistic mixed species biofilm." *AIChE National Meeting*, Los Angeles, CA.
45. R. B. Nielsen and J. D. Keasling. 1997. "Kinetics of anaerobic biodegradation of chlorinated ethenes." *AIChE National Meeting*, Los Angeles, CA.
46. T. A. Carrier and J. D. Keasling. 1997. "Mechanistic modelling of prokaryotic mRNA decay." *AIChE National Meeting*, Los Angeles, CA.
47. S. J. Van Dien and J. D. Keasling. 1997. "Engineering polyphosphate metabolism in *Escherichia coli*." *AIChE National Meeting*, Los Angeles, CA.
48. K. L. Jones and J. D. Keasling. 1997. "Construction, stability, and expression of low-copy vectors derived from the *E. coli* F plasmid." *AIChE National Meeting*, Los Angeles, CA.
49. T. A. Carrier, K. L. Jones, and J. D. Keasling. 1997. "mRNA stability and plasmid copy number effects on gene expression from an inducible promoter system." *AIChE National Meeting*, Los Angeles, CA.
50. R. B. Nielsen and J. D. Keasling. 1998. "Anaerobic degradation of PCE and TCE DNAPLs by groundwater microorganisms." *Remediation of Chlorinated and Recalcitrant Compounds*, Monterey, CA.

51. E. Gilbert, A. Khlebnikov, W. Meyer-Illse and J.D. Keasling. 1998. "Use of soft X-ray microscopy for analysis of early stage biofilm formation." *Microbial Ecology of Biofilms: Concepts, Tools and Applications. International Association on Water Quality (IAWQ)*, Lake Bluff, IL.
52. K. L. Jones, T. A. Carrier, and J. D. Keasling. 1998. "Plasmid vehicles for long-term, variable gene expression in *Escherichia coli*." *AICHE National Meeting*, Miami Beach, FL.
53. P. L. Trelstad and J. D. Keasling. 1998. "Polyphosphate Metabolism in *Acinetobacter calcoaceticus*: Implications for Enhanced Biological Phosphorus Removal." *AICHE National Meeting*, Miami Beach, FL.
54. R. Brent Nielsen and J. D. Keasling. 1998. "Anaerobic Dechlorination of PCE and TCE DNAPLs by Groundwater Microorganisms." *AICHE National Meeting*, Miami Beach, FL.
55. C. Wang, A. M. Lum, S. C. Ozuna, D. S. Clark, and J. D. Keasling. 1999. Cadmium precipitation by *Escherichia coli* producing cysteine desulfhydrase." *ACS National Meeting*, Anaheim, CA.
56. R. Brent Nielsen and J. D. Keasling, 1999. "Identification of organisms present in a TCE-degrading consortium." *ACS National Meeting*, Anaheim, CA.
57. A. Khlebnikov, O. Risa, and J. D. Keasling. 1999. "Gene expression in a decoupled autocatalytic system under control of inducible promoters." *American Society for Microbiology General Meeting*, Chicago, IL.
58. E. Gilbert, A. Khlebnikov, and J. D. Keasling. 1999. "Dual-GFP labeling of cells in biofilms." *American Society for Microbiology General Meeting*, Chicago, IL.
59. S-W. Bang, D. S. Clark, and J. D. Keasling. 1999. "Precipitation of heavy metals by expression of thiosulfate reductase." *American Society for Microbiology General Meeting*, Chicago, IL.
60. C. Wang, S. C. Ozuna, D. S. Clark, and J. D. Keasling. 1999. "Metabolic engineering of microorganisms to precipitate cadmium wastes." *AICHE National Meeting*, Dallas, TX.
61. A. W. Walker and J. D. Keasling. 1999. "Metabolic engineering of bacteria for the environment: the controlled degradation of parathion." *AICHE National Meeting*, Dallas, TX.
62. P. L. Trelstad, D. Hong, and J. D. Keasling. 1999. "Understanding of the metabolism of enhanced biological phosphorus removal." *AICHE National Meeting*, Dallas, TX.
63. C. D. Smolke, T. A. Carrier, and J. D. Keasling. 1999. "Engineering single and multiple gene expression through mRNA stability control." *AICHE National Meeting*, Dallas, TX.
64. S. Reichmuth, J. D. Keasling, and H. W. Blanch. 1999. "Biodesulfurization of dibenzothiophene in *Escherichia coli* is enhanced by expression of a *Vibrio harveyi* oxidoreductase gene." *AICHE National Meeting*, Dallas, TX.
65. S.W. Kim, K.L. Jones, and J. D. Keasling. 2000. "Expression of 1-deoxy-D-xylulose-5-phosphate synthase in *Escherichia coli* Enhances Lycopene Production." *American Society for Microbiology General Meeting*, Los Angeles, CA.
66. S. E. Cowan, E. S. Gilbert, A. Khlebnikov and J. D. Keasling. 1999. "Dual labeling with green fluorescent proteins for confocal microscopy." *IAWQ/IWA Conference on Biofilm Systems, International Association on Water Quality*, New York, NY.
67. K. D. McMahon, M. A. Dojka, N. R. Pace, J. D. Keasling, and D. Jenkins. 1999. "Microbial community structure of laboratory activated sludge performing enhanced biological phosphorus removal." *American Society for Microbiology General Meeting*. Chicago, IL.
68. E. S. Gilbert and J. D. Keasling. 2000. "Degradation of parathion by a dual-species biofilm consortium." *American Society for Microbiology General Meeting*. Los Angeles, CA.
69. A. Khlebnikov, T. Skaug and J. D. Keasling. 2000. "Elimination of all-or-none gene expression by independent expression of the arabinose transport gene." *American Society for Microbiology General Meeting*, Los Angeles, CA.
70. C. D. Smolke and J. D. Keasling. 2000. "Coordinated, differential expression of multiple genes through directed mRNA cleavage and stabilization by secondary structures." *American Society for Microbiology General Meeting*, Los Angeles, CA.

71. I. Aldor and J. D. Keasling. 2000. "Metabolic engineering of poly(3-hydroxybutyrate-co-3-hydroxyvalerate) production in recombinant *Salmonella typhimurium*." *American Chemical Society National Meeting*, San Francisco, CA.
72. E. S. Gilbert and J. D. Keasling. 2000. "Degradation of parathion by a dual-species biofilm consortium." *American Chemical Society National Meeting*. San Francisco, CA.
73. A. Khlebnikov, T. Skaug and J. D. Keasling. 2000. "A regulatable arabinose-inducible gene expression system with consistent control in all cells of a culture." *American Chemical Society National Meeting*, San Francisco, CA.
74. E. S. Gilbert and J. D. Keasling. 2000. "Degradation of parathion by a dual-species biofilm consortium." *Biofilms 2000, American Society of Microbiology*, Big Sky, MT.
75. C. D. Smolke and J. D. Keasling. 2000. "Engineering mRNA stabilizing elements to achieve coordinated, differential expression of two genes." *FASEB Summer Conference in Post-Transcriptional Control of Gene Expression*, Copper Mountain, CO.
76. I. Aldor and J. D. Keasling. 2000. "Metabolic engineering of poly(3-hydroxybutyrate-co-3-hydroxyvalerate) production in recombinant *Salmonella typhimurium*." *International Symposium on Biological Polyesters*, Cambridge, MA.
77. K. D. McMahon, N. R. Pace, J. D. Keasling, and D. Jenkins. 2000. "Microbial community structure of activated sludge performing enhanced biological phosphorus removal." *California Water Environment Association Annual Conference*, Sacramento, CA.
78. C. D. Smolke and J. D. Keasling. 2000. "Engineering mRNA stabilizing /destabilizing elements to achieve coordinated differential expression of two genes." *AICHE Annual Meeting*, Los Angeles, CA.
79. A. W. Walker, S. K. Tehara and J. D. Keasling. 2000. "Metabolic Engineering of Bacteria for the Environment: The Degradation of Parathion." *American Institute of Chemical Engineers*, Los Angeles, CA.
80. D.S. Reichmuth, H.W. Blanch and J. D. Keasling. 2000. "Biodesulfurization of dibenzothiophene in *Escherichia coli* is enhanced by expression of a *Vibrio harveyi* Oxidoreductase Gene." *California Catalysis Society Annual Meeting*, Richmond, CA.
81. A. W. Walker, S. K. Tehara and J. D. Keasling. 2001. "Metabolic Engineering of Bacteria for the Environment: The Degradation of Parathion and Paraoxon." *Bioengineering XII*, Sonoma, CA.
82. S.K. Tehara and J.D. Keasling. 2001. "Isolation of a Novel Phosphodiesterase for Biodegradation of Organophosphates." *American Chemical Society*, San Diego, CA.
83. D. S. Reichmuth, J. L. Hittle, H. W. Blanch, and J. D. Keasling. 2001. "Metabolic engineering of the dibenzothiophene biodesulfurization process." *Biochemical Engineering XII*, Sonoma, CA.
84. G. Y. Wang and J. D. Keasling. 2001. "Isolation and characterization of two key regulatory genes involved in isoprenoid biosynthesis of *Aspergillus nidulans*." *Twenty-First Fungal Genetics Conference*, Pacific Grove, CA.
85. N. L. Goeden, J. D. Keasling, and S. J. Muller. 2001. "Bacterial Expression of a Self-Assembling Amphiphilic Protein Polymer." *AICHE National Meeting*, Reno, NV.
86. N. L. Goeden, J. D. Keasling, and S. J. Muller. 2001. "Bacterial expression of a poly(L-leucylglutamic acid) fusion protein for use in studying structure-property relationships of disordered copolymers." *ACS National Meeting*, San Diego, CA.
87. C. D. Smolke and J. D. Keasling. 2001. "Effects of gene copy number and steady-state mRNA levels on the relative expression levels of two genes in a novel operon." *American Chemical Society National Meeting*, San Diego, CA.
88. C. D. Smolke and J. D. Keasling. 2001. "Effects of gene copy number and steady-state mRNA levels on the relative expression levels of two genes in a novel operon." *American Society for Microbiology General Meeting*, Orlando, FL.

89. V. J. J. Martin, Y. Yoshikuni, and J. D. Keasling. 2001. "A study of the *in vivo* synthesis of plant sesquiterpenes by *Escherichia coli*." *Society for Industrial Microbiology Annual Meeting*, St. Louis, Missouri.
90. K. D. McMahon, D. Jenkins, J. D. Keasling. 2001. "Polyphosphate kinase genes from activated sludge carrying out enhanced biological phosphorus removal." *Water Environment Federation 74th Annual Conference and Exposition (WEFTEC)*, Atlanta, GA.
91. K. D. McMahon, J. D. Keasling, D. Jenkins. 2001. "Polyphosphate kinase genes from activated sludge carrying out enhanced biological phosphorus removal." *International Association for Water Quality 3rd International Specialized Conference on Microorganisms in Activated Sludge and Biofilm Processes*. Rome, Italy.
92. K. D. McMahon, D. Jenkins, J. D. Keasling. 2001. "Polyphosphate kinase genes from activated sludge carrying out enhanced biological phosphorus removal." *101st General Meeting of the American Society for Microbiology*, Orlando, FL.
93. C. D. Smolke and J. D. Keasling. 2001. "Effects of gene copy number and steady-state mRNA levels on the relative expression levels of two genes in a novel operon." *Biochemical Engineering XII*, Rohnert Park, CA.
94. C. D. Smolke, B. Pflieger, and J. D. Keasling, J. D. 2001. "Rational and random design strategies for controlling heterologous protein production from novel operon systems in *E. coli*." *American Institute of Chemical Engineers Annual Meeting*, Reno, NV.
95. N. L. Goeden, J. D. Keasling, and S. J. Muller. 2002. "Microbial Production of a Self-Assembling Amphiphilic Protein Polymer." *American Chemical Society National Meeting*, Orlando, FL.
96. Brian Pflieger, Christina Smolke, and Jay Keasling. 2002. "Engineering mRNA Stability." *Annual Meeting of the Society for Industrial Microbiology*. Philadelphia, PA.
97. G. Y. Wang and J. D. Keasling. 2002. "Metabolic engineering of isoprenoid production in *Aspergillus nidulans*." *Annual Meeting of the Society for Industrial Microbiology*, Philadelphia, PA.
98. G. Y. Wang, M. H. Chai, and J. D. Keasling. 2002. "Potential use of a novel geranylgeranyl diphosphate synthase gene from *Aspergillus nidulans* in metabolic engineering of isoprenoid production." *American Society for Microbiology General Meeting*, Salt Lake City, UT.
99. G. Y. Wang, M. H. Chai, D. J. Pitera, and J. D. Keasling. 2002. "Functional characterization of genes involved in isoprenoid biosynthesis from *Aspergillus nidulans*." *102nd General Meeting of the American Society for Microbiology*, Salt Lake City, UT.
100. S.K. Tehara and J.D. Keasling. 2002. "Purification and Characterization of a Phosphodiesterase from *Delftia acidovorans*." *American Society for Microbiology*, Salt Lake City, UT.
101. V. J. J. Martin, D. Pitera, and J. D. Keasling. 2002. "Metabolic engineering of isoprenoid biosynthesis." *American Society for Microbiology General Meeting*, Salt Lake City, Utah.
102. D. Pitera, V. J. J. Martin, and J. D. Keasling. 2002. "Isoprenoid biosynthesis: Expression and engineering of the mevalonate pathway in *Escherichia coli*." *Society for Industrial Microbiology Annual Meeting*, Philadelphia, PA.
103. K. D. McMahon, D. Jenkins, J. D. Keasling. 2002. "Polyphosphate kinase from activated sludge carrying out enhanced biological phosphorus removal." *Society for Industrial Microbiology Annual Meeting*, Philadelphia, PA.
104. V. J. J. Martin, D. Pitera, S. Withers, Y. Yoshikuni, J. Newman, J., and J. D. Keasling. 2002. "Eau-de-*E. coli*: Production of flavor and fragrance terpenes in *Escherichia coli*." *Metabolic Engineering IV*, Barga, Italy.
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