

Contact Information

Christina D. Smolke
Bioengineering Department
Y2E2 Building, Room 269A, MC 4201
473 Via Ortega
Stanford University
Stanford, CA 94305-4201
P: (650) 721-6371
F: (650) 721-6602
csmolke@stanford.edu
<http://openwetware.org/wiki/Smolke>

Education

Postdoctorate, Molecular and Cell Biology, 2001 – 2003

University of California at Berkeley, Berkeley, CA
Topic: Role of Export in Nonsense-Mediated Decay in *Saccharomyces cerevisiae*
Mentor: Karsten Weis

Ph.D., Chemical Engineering, 2001

University of California at Berkeley, Berkeley, CA
Thesis Topic: Engineering the Stabilities of Polycistronic mRNA
Advisor: Jay D. Keasling

B.S., Chemical Engineering with Emphasis in Biology, 1997

University of Southern California, Los Angeles, CA

Professional Experience

2012-present	Associate Professor (Dept. Bioengineering, Stanford University)
2009-2012	Assistant Professor (Dept. Bioengineering, Stanford University)
2006-2010	Adjunct Faculty (Comprehensive Cancer Center, City of Hope, Duarte)
2003-2010	Assistant Professor (Dept. Chemical Engineering, Caltech, on leave 1/1/09-12/31/10)
2001-2003	NIH Postdoctoral Research Fellow (Dept. Molecular and Cell Biology, UCB)
1998-2000	Graduate Student Instructor (Dept. Chemical Engineering, UCB)
1997-2001	Graduate Research Assistant (Dept. Chemical Engineering, UCB)
1997	Process Engineer (Mobil Oil, Torrance, CA)
1996	Undergraduate Research Assistant (Dept. Chemical Engineering, UCLA)
1995	Facilities Engineer (Mobil Oil, Bakersfield, CA)
1994-1997	Laboratory Instructor (Information Technology Dept., USC)
1993-1997	Undergraduate Research Assistant (Dept. Chemical Engineering, USC)

Teaching Experience

2010-present	Instructor, undergraduate/graduate-level advanced synthetic biology course (BioE 244; newly-developed course, Stanford University)
2010-present	Instructor, undergraduate-level introduction to bioengineering course (BioE/E 80; newly-developed course, Stanford University)
2004-2008	Instructor, graduate-level chemical thermodynamics course listed jointly in the Chemistry and Chemical Engineering Departments (ChE 165; Caltech)
2005-2008	Instructor, undergraduate-level biomolecular engineering laboratory (ChE 130; newly-developed course, Caltech)

2000-2003	University GSI Teaching and Orientation Workshop Leader (UCB)
1998-2000	Graduate Student Instructor, graduate engineering mathematics course and undergraduate separations course (Dept. Chemical Engineering, UCB)
1994-1997	Laboratory Instructor (Information Technology Programming Dept., USC)

Membership / Services

2013	Member, Organizing Committee, SBE International Conference on Biomolecular Engineering
2012	Member, Organizing Committee, SBE International Conference on Bioengineering and Nanotechnology
2011	Guest Editor, Special issue on Synthetic Biology, Metabolic Engineering Journal
2011	Member, Editorial Board, FEMS Yeast Research
2010-present	Member, Advisory Editorial Board, Molecular Systems Biology
2010	Member, Scientific Advisory Board, Metabolic Engineering VIII
2010	Track Chair, "New Frontiers in Bioengineering", BMES Annual Meeting
2010	Session Chair, "Synthetic Biology", ACS National Meeting
2010-present	Member, Biomedical Engineering Society
2009	Member, Steering Committee, NAKFI Synthetic Biology Symposium
2009	Member, Science Team, Innovations for Agricultural Value Chain in Africa Project, Meridian Institute (Gates Foundation)
2009	Symposium Organizer, "Synthetic Life", AAAS Annual Meeting
2009-2010	Faculty Mentor, Stanford iGEM team
2008-2009	President, Institute for Biological Engineering
2008-present	Member, Editorial Board, Synthetic Biology Journal
2008	Conference Organizer, "Engineering Principles in Biological Systems", CSHL Meeting
2008-2009	Session Chair, "Synthetic Biology", IBE Annual Meeting
2007-2009	Member, Scientific Advisory Board, SynBERC (Synthetic Biology Engineering Research Center)
2007-2010	Judge, iGEM competition
2007	Session Chair, "Metabolic Engineering and Synthetic Biology", Biochem Eng Conference XV
2007	Session Chair, "Metabolic Engineering", IBC Life Sciences Synthetic Biology Conference: Transforming Life Science Research and Discovery
2007, 2011	Session Chair, "Synthetic Biology", SBE Int'l Conference in Biomolecular Engineering
2007	President-Elect, Institute for Biological Engineering
2006-2009	Program Director, HHMI Undergraduate Science Education Program, Caltech
2006-present	Proposal reviewer and panel member, National Science Foundation, National Institutes of Health, Department of Defense, ARPA-E
2006-2010	Member, City of Hope NCI-sponsored Comprehensive Cancer Institute, Cancer Immunotherapeutics Group
2006	Organizer, "Synthetic Biology Workshop", LSS Comp Sys Bioinformatics Conference
2006	Session Chair, "Microbial Metabolic Engineering I and II", ACS National Meeting
2006	Session Chair, "Molecular Tools for the Metabolic Engineering", Society of Industrial Microbiology Annual Meeting
2006	Judge, TR35 (Technology Review's Top 35 Young Innovators)
2006	Invited Summer School Instructor, "Quantitative approaches to gene regulatory systems", Center for Theoretical Biological Physics, University of California, San Diego
2006-2010	Member, Institute for Biological Engineering
2005-2009	Member, Scientific Advisory Board, Codon Devices
2005-2009	Member, Kavli Nanoscience Institute (Caltech)

2005-2008	Session Chair, “Synthetic Systems Biology”, AIChE Annual Meeting
2004-present	Steering Committee, Synthetic Biology Conference Series
2004-2008	Faculty Mentor, Caltech iGEM team
2004-2009	Member, American Chemical Society
2004-2007	Member, RNA Society
2004-2009	Member, Center for Biological Circuit Design (Caltech)
2003, 2009	Participant, DARPA-sponsored ISAT study group on “Synthetic Biology”
2001-present	Ad Hoc Reviewer, Nature, Science, Cell, PNAS, Nature Biotech, Nature Chem Biol, Mol Sys Biol, Nuc Acids Res, RNA, Met Eng, PLoS Comp Biol, Chem Biol
2000	Co-organizer/Mentor, NSF-sponsored MarBEC summer undergraduate research program
1997-2009	Member, American Institute of Chemical Engineers

Selected Honors

2011	Finalist, Agilent Early Career Professor Award
2010	Finalist, Agilent Early Career Professor Award
2009	World Technology Award in Biotechnology (Individual)
2008	Alfred P. Sloan Foundation Fellow
2006	National Science Foundation CAREER Award
2005	Beckman Young Investigator Award
2004	TR100, Technology Review’s Top 100 Young Innovators of the World
2001-2003	National Institute of Health Postdoctoral Fellowship
2001	Graduated Summa Cum Laude
2000-2001	UC Dissertation Year Fellowship
2000-2001	Shell Doctoral Fellowship
1999-2000	Chemical Engineering Departmental Citation for Outstanding Teaching
1998	DOW Prize for Excellence in Teaching
1998-1999	University Award for Outstanding Graduate Student Instructor
1997-2000	National Science Foundation Fellowship
1997	Tau Beta Pi Fellowship (Declined)
1997	Eugene Cota-Robles Fellowship (Declined)
1997	Graduated Summa Cum Laude
1997	Salutatorian
1997	Emma Josephine Bradely Bovard Student Award
1997	School of Engineering’s Outstanding Service and Student Awards
1996	Golden Key Peat Marwick Junior Scholarship
1996	Unocal Scholarship
1996	Excellence Award in Biochemistry
1995	Southern California Section AIChE Outstanding Junior Award
1994	Outstanding Achievement Award in General Chemistry
1993-1997	Trustee Scholar and Merit Research Awards

Patents

1. Win MN, Galloway KE, Smolke CD. 2012. Modular aptamer-regulated ribozymes. Patent No. 8,158,595. (issued)
2. Liang JC, Smolke CD. 2012. Developing a high-throughput, high-efficiency, quantitative fluorescence-based screening strategy to generate genetic elements with specified regulatory activities. App. No. 13/350,597. (pending)
2. Chen YY, Jensen MC, Smolke CD. 2010. Genetic control of mammalian cells with synthetic RNA regulatory systems. App. No. 12/708,506. (pending)

3. Culler SJ, Smolke CD. 2010. Protein-responsive RNA control devices and uses thereof. App. No. 12/943,350. (pending)
4. Beisel CL, Smolke CD. 2010. Integrated ligand-responsive miRNAs. App. No. 12/753,778. (pending)
5. Beisel CL, Win MN, Smolke CD. 2008. Higher order cellular information processing devices. App. No. 12/283,614. (pending)
6. Beisel CL, Win MN, Smolke CD. 2008. General composition framework for ligand-controlled regulatory systems. App. No. 12/284,154. (pending)
7. Greenwood-Goodwin M, Chen YY, Brown A, Smolke CD. 2008. Selection of nucleic acid-based sensor domains within nucleic acid switch platform. App. No. 12/218,628. (pending)
8. Hawkins KM, Smolke CD. 2007. Compositions and methods for producing benzyloquinoline alkaloids. App. No. 11/875,814. (pending)
10. Hawkins KM, Smolke CD. 2006. Engineered yeast cells and uses thereof. App. No. 11/439,876. (pending)
11. Bayer TS, Smolke CD. 2005. Aptamer regulated nucleic acids and uses thereof. App. No. 11/243,889. (pending)

Refereed Publications

1. Wei K, Chen YY, Smolke CD. 2012. Translation of ribozyme-based gene expression control devices from yeast to mammalian cells. *Under review*.
2. Liang JC, Chang AL, Kennedy AB, Smolke CD. 2012. A high-throughput, quantitative, cell-based screen for efficient tailoring of RNA device activity. *Nuc. Acids Res. In press*.
3. Michener JK, Smolke CD. 2012. High-throughput enzyme evolution in *Saccharomyces cerevisiae* using a synthetic RNA switch. *Metab. Eng. In press*.
4. Chang AL, Wolf JJ, Smolke CD. 2012. Synthetic RNA switches as a tool for temporal and spatial control over gene expression. *Curr. Opin. Biotech.* <http://dx.doi.org/10.1016/j.copbio.2012.01.005>
5. Chen YY, Galloway KE, Smolke CD. 2012. Synthetic biology: advancing biological frontiers by building synthetic systems. *Genome Biol.* 13: 240.
6. Siddiqui M, Thodey K, Trenchard I, Smolke CD. 2012. Advancing secondary metabolite biosynthesis in yeast with synthetic biology tools. *Yeast FEMS Research.* 12: 144-70.
7. Michener JK, Thodey K, Liang JC, Smolke CD. 2012. Applications of genetically-encoded biosensors for the construction and control of biosynthetic pathways. *Metab. Eng.* 14: 212-22.
8. Chen YY, Smolke CD. 2011. From DNA to targeted therapeutics: bringing synthetic biology to the clinic. *Science Transl. Med.* 3: 106ps42.
9. Liang JC, Bloom RJ, Smolke CD. 2011. Engineering biological systems with synthetic RNA molecules. *Mol. Cell.* 43: 915-26.
10. Babiskin AH, Smolke CD. 2011. Synthetic RNA modules for fine-tuning gene expression levels in yeast by modulating RNase III activity. *Nuc. Acids Res.* 39: 8651-64.
11. Smolke CD, Silver PA. 2011. Informing biological design by integration of systems and synthetic biology. *Cell.* 144:855-9.
12. Babiskin AH, Smolke CD. 2011. Engineering ligand-responsive RNA controllers in yeast through the assembly of RNase III tuning modules. *Nuc. Acids Res.* 39: 5299-311.
13. Babiskin AH, Smolke CD. 2011. A synthetic library of RNA control modules for predictable tuning of gene expression in yeast. *Mol. Sys. Biol.* 7: 471.
14. Beisel CL, Culler SJ, Hoff KG, Smolke CD. 2011. Design of small molecule-responsive miRNAs based on structural requirements for Drosha processing. *Nuc. Acids Res.* 39: 2981-94.
15. Culler SJ, Hoff KG, Smolke CD. 2010. Reprogramming cellular behavior with RNA controllers responsive to endogenous proteins. *Science.* 330: 1251-5. *Perspective: Cell biology. The case for RNA.* 330: 1185-6.
16. Chen YY, Jensen MC, Smolke CD. 2010. Genetic control of mammalian T-cell proliferation with synthetic RNA regulatory systems. *Proc. Natl. Acad. Sci. USA.* 107: 8531-6.

17. Culler SJ, Hoff KG, Voelker RB, Berglund JA, Smolke CD. 2010. Feature Article: Functional selection and systematic analysis of intronic splicing elements identifies active sequence motifs and associated splicing factors. *Nuc. Acids Res.* 38: 5152-65.
18. Hoff KG, Culler SJ, Nguyen PQ, McGuire RM, Silberg JJ, Smolke CD. 2009. *In vivo* fluorescent detection of Fe-S clusters coordinated by human GRX2. *Chem. Biol.* 16: 1299-308. *Commentary: Lights on iron-sulfur clusters.* 16: 1213-4.
19. Beisel CL, Smolke CD. 2009. Design principles for riboswitch function. *PLoS Comp. Biol.* 5: e1000363.
20. Win MN, Liang JC, Smolke CD. 2009. Frameworks for programming biological function through RNA parts and devices. *Chem. Biol.* 16: 298-310.
21. Bayer TS, Hoff KG, Beisel CL, Lee JJ, Smolke CD. 2009. Synthetic control of a fitness tradeoff in yeast nitrogen metabolism. *J. Biol. Eng.* 3: 1.
22. Hoff KG, Goodlitt R, Li R, Smolke CD, Silberg JJ. 2009. Fluorescence detection of a protein-bound 2Fe2S cluster. *Chembiochem.* 10: 667-70.
23. Beisel CL, Bayer TS, Hoff KG, Smolke CD. 2008. Model-guided design of ligand-regulated RNAi for programmable control of gene expression. *Mol. Sys. Biol.* 4: 224. *News and Views: Small hairpin RNA as a small molecule sensor.* 4: 227.
24. Hawkins KM, Smolke CD. 2008. *Cover article: Production of benzylisoquinoline alkaloids in Saccharomyces cerevisiae.* *Nat. Chem. Biol.* 4: 564-73. *News and Views: From yeast to alkaloids.* 4: 524-5.
25. Win MN, Smolke CD. 2008. Higher-order cellular information processing with synthetic RNA devices. *Science.* 322: 456-60. *Perspective: Cell biology. RNA computing in a living cell.* 322: 387-8.
26. Win MN, Smolke CD. 2007. *From the cover: A modular and extensible RNA-based gene-regulatory platform for engineering cellular function.* *Proc. Natl. Acad. Sci. USA.* 104: 14283-8. *Commentary: Targeted cleavage: tuneable cis-cleaving ribozymes.* 104: 14881-2.
27. Win MN, Klein JS, Smolke CD. 2006. Codeine-binding RNA aptamers and rapid determination of their binding constants using a direct coupling surface plasmon resonance assay. *Nuc. Acids Res.* 34: 5670-82.
28. Pflieger BF, Pitera DJ, Smolke CD, Keasling JD. 2006. Combinatorial engineering of intergenic regions in operons tunes expression of multiple genes. *Nat. Biotech.* 24: 1027-32.
29. Hawkins KM, Smolke CD. 2006. The regulatory roles of the galactose permease and kinase in the induction response of the GAL network in *Saccharomyces cerevisiae*. *J. Biol. Chem.* 281: 13485-92.
30. Bayer TS, Smolke CD. 2005. Programmable, ligand-controlled riboregulators of eukaryotic gene expression. *Nat. Biotech.* 23: 337-43. *News and Views: Plug and play with RNA.* 23: 306-7.
31. Smolke CD, Keasling JD. 2002. Effect of gene location, mRNA secondary structures, and RNase sites on expression of two genes in an engineered operon. *Biotech. Bioeng.* 80: 762-76.
32. Smolke CD, Keasling JD. 2002. Effect of copy number and mRNA processing and stabilization on transcript and protein levels from an engineered dual-gene operon. *Biotech. Bioeng.* 78: 412-24.
33. Smolke CD, Khlebnikov A, Keasling JD. 2001. Effects of transcription induction homogeneity and transcript stability on expression of two genes in a constructed operon. *Appl. Micro. Biotech.* 57: 689-96.
34. Smolke CD, Martin VJJ, Keasling JD. 2001. Controlling the metabolic flux through the carotenoid pathway using directed mRNA processing and stabilization. *Metab. Eng.* 3: 313-21.
35. Smolke CD, Carrier TA, Keasling JD. 2000. Coordinated, differential expression of two genes through directed mRNA cleavage and stabilization by secondary structures. *Appl. Environ. Microbiol.* 66: 5399-405.

Non-Refereed Publications

1. Smolke CD, Tyo KE. 2012. Synthetic biology: emerging methodologies to catalyze the metabolic engineering design cycle. *Metab. Eng.* 14: 187-8.

2. Thodey KT, Smolke CD. 2011. Bringing it together with RNA. *Science*. 333: 412-3.
3. Smolke CD. 2009. Building outside of the box: iGEM and the BioBricks Foundation. *Nat. Biotech.* 27:1099-102.
4. Smolke CD. 2009. Cell Biology. It's the DNA that counts. *Science*. 324: 1156-7.
5. Win MN, Smolke CD. 2007. RNA as a versatile and powerful platform for engineering genetic regulatory tools. *Biotechnology and Genetic Engineering Reviews*. 24: 311-46.
6. Baker D, Church G, Collins J, Endy D, Jacobson J, Keasling J, Modrich P, Smolke C, Weiss R. 2006. Engineering life: building a Fab for biology. *Scientific American*. 294: 44-51.
7. Martin VJJ, Smolke CD, Keasling JD. 2002. Redesigning cells for the production of complex organic molecules. *ASM News*. 68: 336-43.

Books and Book Chapters

1. Liang JC, Smolke CD. 2012. Rational design and tuning of ribozyme-based devices. In: Hartig J, editor. *Methods in Molecular Biology*. 848: 439-54.
2. Win MN, Liang JC, Smolke CD. 2010. Frameworks for programming RNA devices. In: Mayer G, editor. *The Chemical Biology of Nucleic Acids*. U.K.: John Wiley & Sons, Ltd. pp. 323-38.
3. Win MN, Smolke CD. 2009. Regulating gene expression through engineered RNA technologies. In: Smolke CD, editor. *Handbook for Metabolic Pathway Engineering: Tools and Applications*. San Diego: CRC Press.
4. Smolke CD, Martin VJJ, Keasling JD. 2004. Tools for metabolic engineering in *Escherichia coli*. In: Baneyx F, editor. *Protein Expression Technologies: Current Status and Future Trends*. U.K.: Horizon Scientific Press.

Edited Works in Print

1. Smolke CD, Tyo KE, editors. 2011. Special Issue on Synthetic Biology: Metabolic Engineering Journal, Volume 14.
2. Smolke CD, editor. 2009. *Handbook for Metabolic Pathway Engineering: Fundamentals (volume I)*. San Diego: CRC Press.
3. Smolke CD, editor. 2009. *Handbook for Metabolic Pathway Engineering: Tools and Applications (volume II)*. San Diego: CRC Press.

Selected Invited Presentations

- Smolke, CD. 2012. Designing synthetic regulatory RNAs: tools for temporal and spatial control of biological systems. *KSBMB Annual Meeting*, Seoul, South Korea. (Invited Speaker)
- Smolke, CD. 2012. Designing synthetic regulatory RNAs: tools for temporal and spatial control of biological systems. *KAIST Department of Chemistry Seminar Series*, Daejeon, South Korea. (Invited Speaker)
- Smolke, CD. 2012. Designing synthetic regulatory RNAs: tools for temporal and spatial control of biological systems. *Case Western Reserve Department of Genetics Seminar Series*, Cleveland, OH. (Invited Speaker)
- Smolke, CD. 2012. Designing synthetic regulatory RNAs: new tools for temporal and spatial control of biological systems. *Novartis Seminar*, Cambridge, MA. (Invited Speaker)
- Smolke, CD. 2012. Metabolic controllers and their applications to advancing metabolic network design in yeast. *ASBMB Annual Meeting*, San Diego, CA. (Invited Speaker)
- Smolke, CD. 2012. Synthetic regulatory RNAs: new tools for temporal and spatial control of biological systems. *EMBO Introduction to Synthetic Biology Course*, Buenos Aires, Argentina. (Invited Speaker)
- Smolke, CD. 2012. Designing synthetic regulatory RNAs: new tools for temporal and spatial control of biological systems. *Neustar Seminar*, Mountain View, CA. (Invited Speaker)

- Smolke, CD. 2012. Designing synthetic regulatory RNAs: new languages for programming biological systems. *Joint Genome Institute 7th Annual User Meeting*, Walnut Creek, CA. (Invited Speaker)
- Smolke, CD. 2012. Programming cellular behavior with RNA controllers. *Indo-America Frontiers of Engineering Symposium*, Washington DC. (Invited Speaker)
- Smolke, CD. 2012. Design of (small) regulatory RNAs for synthetic biology. *Keystone Symposium on Gene Silencing for Small RNAs*, Vancouver, Canada. (Invited Speaker)
- Smolke CD, 2012. Designing synthetic regulatory RNAs: new tools for temporal and spatial control in biological systems. *Duke University Bioengineering Seminar Series*, Raleigh, NC. (Invited Speaker)
- Smolke CD, 2012. Designing synthetic regulatory RNAs: tools for temporal and spatial control in biological systems. *University of Washington Genome Sciences Seminar Series*, Seattle, WA. (Invited Speaker)
- Smolke CD, 2011. Synthetic RNA controllers for programming cell fate and function. *City of Hope Leading Edge Lecture Seminar*, Duarte, CA. (Invited Speaker)
- Smolke CD, 2011. Synthetic RNA controllers for programming cell fate and function. *University of Minnesota Chemical Biology Colloquium*, Minneapolis, MN. (Invited Speaker)
- Smolke CD, 2011. Designing with RNA: new tools for building input/output devices. *CSHL-Asia Design and Synthesis of Biological Systems*, Shanghai, China. (Invited Speaker)
- Smolke CD, 2011. Programming cellular behavior with RNA controllers. *Cell Symposium on Regulatory RNAs*, Chicago, IL. (Invited Speaker)
- Smolke CD, 2011. Molecular controllers and their application to advancing metabolic network design in yeast. *ESF-EMBO Symposium on Synthetic Biology of Antibiotic Production*, Sant Feliu de Guixols, Spain. (Invited Speaker)
- Smolke CD, 2011. Synthetic RNA controllers for programming cell fate and function. *Penn Genomics Frontier Institute Seminar*, Philadelphia, PA. (Invited Speaker)
- Smolke CD, 2011. Programming and probing cellular behavior with RNA controllers. *Yale Systems Biology Symposium*, New Haven, CT. (Plenary Speaker)
- Smolke CD, 2011. Synthetic RNA controllers for programming cell fate and function. *70th Harden Conference*, Manchester, England. (Plenary Speaker)
- Smolke CD, 2011. Synthetic RNA controllers for programming cell fate and function. *BioX Undergraduate Seminar Series*, Stanford, CA. (Invited Speaker)
- Smolke CD, 2011. Synthetic biology: the next generation of biotechnology. *NSF Wireless Molecular Computing Workshop*, Arlington, VA. (Invited Speaker)
- Smolke CD, 2011. Synthetic biology: the next generation of biotechnology. *12th Annual Engineering eDay*, Stanford, CA. (Invited Speaker)
- Smolke CD, 2011. Molecular tools for advancing metabolic network design. *Gordon Research Conference in Enzymes, Coenzymes, and Metabolic Pathways*, Waterville Valley, NH. (Invited Speaker)
- Smolke CD, 2011. Molecular controllers and their application in building integrated genetic systems. *BAL Seminar*, Berkeley, CA. (Invited Speaker)
- Smolke CD, 2011. Synthetic RNA controllers for programming cell fate and function. *IRIC Technological Advances in RNA Therapy Symposium*, Montreal, Canada. (Plenary Speaker)
- Smolke, CD. 2011. Building genetic languages for programming cells. *Synthetic Biology 5.0*, Stanford, CA. (Keynote Speaker)
- Smolke, CD. 2011. Synthetic genetic languages for probing and programming cells. *Department of Defense Engineering Biology Workshop*, Berkeley, CA. (Invited Speaker)
- Smolke, CD. 2011. Programming living systems with RNA. *NASA Synthetic Biology Seminar Series*, Mountain View, CA. (Invited Speaker)
- Smolke, CD. 2011. Programming living systems with RNA. *9th annual iNANO meeting*, Aarhus, Denmark. (Invited Speaker)
- Smolke CD, 2010. Molecular controllers and their application in building integrated genetic systems. *Genomatica Seminar*, San Diego, CA. (Invited Speaker)

- Smolke CD. 2010. RNA parts and devices and their implementation in integrated genetic systems. *TARPOL International Summer School on Synthetic Biology*, Basel, Switzerland. (Invited Speaker)
- Smolke CD. 2010. Programming cellular behavior with RNA controllers. *BIOSS Signalling Meets Synthetic Biology Symposium*, Freiburg, Germany. (Plenary Speaker)
- Smolke CD. 2010. Programming cellular behavior with RNA controllers. *National University of Mexico Frontiers in Genomics Seminar*, Cuernavaca, Mexico. (Invited Speaker)
- Smolke CD. 2010. Programming cellular behavior with RNA controllers. *University of Virginia Department of Biomedical Engineering Departmental Seminar*, Charlottesville, VA. (Invited Speaker)
- Smolke CD. 2010. Molecular controllers for programming and probing cells. *Amyris Seminar*, Emeryville, CA. (Invited Speaker)
- Smolke CD. 2010. Synthetic Biology: the next generation of biotechnology. *The Commonwealth Club: Jaw Droppers*, San Francisco, CA. (Invited Speaker)
- Smolke CD. 2010. Molecular controllers for programming and probing cells. *Genencor Seminar*, Palo Alto, CA. (Invited Speaker)
- Smolke CD. 2010. Programming cellular behavior with RNA controllers. *RoSBNet Synthetic Biology Workshop*, Oxford, England. (Keynote Speaker)
- Smolke CD. 2010. Engineering RNA controllers for programming cellular behavior. *FEBS 35th Congress*, Goteborg, Sweden. (Invited Speaker)
- Smolke CD. 2010. Programming living systems with RNA. *DNA 16*, Clearwater Bay, Kowloon Hong Kong. (Keynote Speaker)
- Smolke CD. 2010. Molecular tools for advancing metabolic network design. *Metabolic Engineering VIII*, Jeju Island, Korea. (Plenary Speaker)
- Smolke CD. 2010. Programming cellular behavior with RNA controllers. *Agilent Technologies Seminar*, Santa Clara, CA. (Invited Speaker)
- Smolke CD. 2010. Frameworks for designing RNA controllers. *EC-US Workshop on Standards in Biotechnology*, Segovia, Spain. (Invited Speaker)
- Smolke CD. 2010. Programming cellular behavior with RNA controllers. *14th Human Genome Meeting*, Montpellier, France. (Plenary Speaker)
- Smolke CD. 2010. Programming cellular behavior with RNA control devices. *University of Iowa Department of Chemical and Biochemical Engineering Departmental Seminar*, Iowa City, IA. (Invited Speaker)
- Smolke CD. 2010. Molecular controllers supporting new disease treatment strategies. *National Institutes of Health Workshop on Synthetic Biology and Biomedicine*, Washington DC. (Invited Speaker)
- Smolke CD. 2010. Programming cellular behavior with RNA control devices. *Kyoto University Symposium on Synthetic Biology*, Kyoto, Japan. (Plenary Speaker)
- Smolke CD. 2010. Synthetic genetic languages for probing and programming cells. *Max Planck Institute for Terrestrial Microbiology Symposium on Synthetic Cells*, Marburg, Germany. (Plenary Speaker)
- Smolke CD. 2010. Programming cell-fate decisions with RNA controllers. *Clontech Seminar*, Mountain View, CA. (Invited Speaker)
- Smolke CD. 2010. Programming cell-fate decisions with RNA control devices. *University of Southern California Department of Chemical Engineering and Materials Science Distinguished Lecture Series*, Los Angeles, CA. (Invited Speaker)
- Smolke CD. 2009. Programming genetic systems. *American Society of Cell Biology Annual Meeting*, San Diego, CA. (Invited Speaker)
- Smolke CD. 2009. Programming cell-fate decisions with RNA control devices. *University of California at Berkeley Bioengineering Departmental Seminar*, Berkeley, CA. (Invited Speaker)
- Smolke CD. 2009. Programming cell-fate decisions with RNA control devices. *Institute of Systems and Synthetic Biology Symposium*, London, England. (Plenary Speaker)

- Smolke CD. 2009. Engineering molecular information processing devices to program cellular function. *University of Illinois Urbana-Champaign Chemical Engineering Departmental Seminar*, Urbana-Champaign, IL. (Invited Speaker)
- Smolke CD. 2009. Engineering molecular information processing devices to program cellular function. *Evolution and Design of Biomolecular Systems*, Majorca, Spain. (Plenary Speaker)
- Smolke CD. 2009. Engineering molecular information processing devices to program cellular function. *International Conference on Systems Biology*, Stanford, CA. (Invited Speaker)
- Smolke CD. 2009. Technologies and tools for programming genetic systems. *National Academy of Science Symposium on Synthetic Biology*, Washington DC. (Plenary Speaker)
- Smolke CD. 2009. Programming RNA devices to control cellular information processing. *IRIC Symposium – Systems Biology in Immunology and Cancer*, Montreal, Canada. (Plenary Speaker)
- Smolke CD. 2009. Advancing synthetic metabolic network design through embedded sensing-actuation devices. *Biochemical Engineering Conference XVI*, Burlington, VT. (Plenary Speaker)
- Smolke CD. 2009. Advancing synthetic metabolic network design through embedded sensing-actuation devices. *Summit on Systems Biology*, Richmond, VA. (Plenary Speaker)
- Smolke CD. 2009. Engineering molecular information processing devices to program cellular behavior. *Michigan State University Science at the Edge Seminar*, Lansing, MI. (Invited Speaker)
- Smolke CD. 2009. Programming RNA devices to control cellular information processing. *Los Alamos National Laboratory Center for Nonlinear Studies Seminar*, Los Alamos, NM. (Invited Speaker)
- Smolke CD. 2009. Programming RNA devices to control cellular information processing. *Stanford University Chemical Engineering Departmental Seminar*, Stanford, CA. (Invited Speaker)
- Smolke CD. 2009. Programming RNA devices to control cellular information processing. *Columbia University Chemical Engineering Departmental Seminar*, New York, NY. (Invited Speaker)
- Smolke CD. 2009. Programming RNA devices to control cellular information processing. *IET BioSysBio Conference*, Cambridge, England. (Plenary Speaker)
- Smolke CD. 2009. Sensing-actuation and optimization technologies. *DARPA ISAT Study Group on Synthetic Biology*, Stanford, CA. (Invited Speaker)
- Smolke CD. 2009. Programming RNA devices to control cellular information processing. *AAAS Symposium in Synthetic Life*, Chicago, IL. (Invited Speaker)
- Smolke CD. 2008. Engineering frameworks in biology: examples in RNA programming. *Engineering Principles in Biological Systems CSHL Meeting*, Cold Spring Harbor Labs, NY. (Plenary Speaker)
- Smolke CD. 2008. Genetically encoded technologies for programming integrated biosensing and bioactuation devices in living systems. *DTRA Seminar*, Fort Belvoir, VA. (Invited Speaker)
- Smolke CD. 2008. Programming RNA devices to control cellular information processing. *Davidson College Seminar*, Davidson, NC. (Invited Speaker)
- Smolke CD. 2008. Programming RNA information processing and control devices. *Synthetic Biology 4.0*, Clearwater Bay, Kowloon Hong Kong. (Keynote Speaker)
- Smolke CD. 2008. Programming RNA devices to control cellular information processing. *National Institute for Materials Science Symposium*, Kyoto, Japan. (Plenary Speaker)
- Smolke CD. 2008. Foundational technologies for programming integrated biosensing and bioactuation devices in living systems. *NSF-MEXT Young Researchers Exchange Program in Nanotechnology*, Tokyo, Japan. (Plenary Speaker)
- Smolke CD. 2008. Programming RNA devices to control cellular information processing. *SynBERC Fall Retreat*, Cambridge, MA. (Invited Speaker)
- Smolke CD. 2008. Programming RNA devices to control cellular information processing. *Beckman Young Investigator Symposium*, Newport Beach, CA. (Invited Speaker)
- Smolke CD. 2008. Emerging technologies: synthetic biology. *Gordon Research Conference in Governing Emerging Technologies*, Big Sky, MT. (Plenary Speaker)
- Smolke CD. 2008. Engineering biological circuits to program living cell behavior. *Caltech Summer Research Connection*, Pasadena, CA. (Invited Speaker)

- Smolke CD. 2008. Programming RNA devices to control cellular information processing. *NSF Emerging Technologies Workshop*, Amherst, MD. (Invited Speaker)
- Smolke CD. 2008. Programming RNA devices to control cellular information processing. *20th International Congress of Genetics*, Berlin, Germany. (Invited Speaker)
- Smolke CD. 2008. Programming RNA devices to control cellular information processing. *Penn Bioengineering Departmental Seminar*, Philadelphia, PA. (Invited Speaker)
- Smolke CD. 2008. Engineering biological circuits to program living cell behavior. *Caltech Associates Program*, Pasadena, CA. (Invited Speaker)
- Smolke CD. 2008. Programming RNA devices to control cellular information processing. *ASBMB Annual Meeting*, San Diego, CA. (Invited Speaker)
- Smolke CD. 2008. A framework for programming integrated RNA devices. *University of Chicago Committee on Genetics Annual Symposium: Synthetic Biology*, Chicago, IL. (Plenary Speaker)
- Smolke CD. 2008. Programming RNA devices to control cellular information processing. *EPFL ISIC Seminar Series*, Lausanne, Switzerland. (Invited Speaker)
- Smolke CD. 2008. Foundational advances in RNA engineering for constructing integrated biosensing and bioactuation devices in living systems. *Sensors and Smart Structures Technologies for Civil, Mechanical, and Aerospace Systems*, San Diego, CA. (Keynote Speaker)
- Smolke CD. 2008. A framework for programming integrated RNA devices. *Harvard University Woodward Lectures in the Chemical Sciences/Organic Chemistry*, Harvard, MA. (Invited Speaker)
- Smolke CD. 2008. Foundational advances in RNA engineering applied to control biosynthesis. *DOE-GTL-MEWG Workshop*, Bethesda, MD. (Invited Speaker)
- Smolke CD. 2008. A framework for programming system behavior through integrated RNA devices. *Princeton University Quantitative and Computational Biology Seminar*, Princeton, NJ. (Invited Speaker)
- Smolke CD. 2007. Foundational advances in RNA engineering for constructing integrated biosensing and bioactuation devices in living systems. *NSF Biosensing and Bioactuation Workshop*, College Park, MD. (Invited Speaker)
- Smolke CD. 2007. Foundational advances in RNA engineering applied to control biosynthesis and T-cell proliferation. *University of Washington Biochemistry Departmental Seminar*, Seattle, WA. (Invited Speaker)
- Smolke CD. 2007. A framework for programming integrated RNA devices. *Joining Forces Symposium: Single Cell Analytics*, ETH Zurich, Switzerland. (Plenary Speaker)
- Smolke CD. 2007. Foundational advances in RNA engineering applied to control biosynthesis. *Brown University Chemistry Departmental Seminar*, Providence, RI. (Invited Speaker)
- Smolke CD. 2007. A framework for engineering integrated RNA devices. *Brown University Synthetic Biology Seminar*, Providence, RI. (Invited Speaker)
- Smolke CD. 2007. Foundational advances in RNA engineering applied to control biosynthesis. *University of Calgary Biological Sciences Departmental Seminar*, Calgary, Canada. (Invited Speaker)
- Smolke CD. 2007. A framework for programming system behavior through integrated RNA devices. *International Conference on Systems Biology*, Irvine, CA. (Invited Speaker)
- Smolke CD. 2007. Engineering RNA devices as general tools in programming cellular function. *Biomedical Engineering Society Annual Meeting*, Los Angeles, CA. (Invited Speaker)
- Smolke CD. 2007. A framework for programming integrated RNA devices. *UC Berkeley Chemical Engineering Departmental Seminar*, Berkeley, CA. (Invited Speaker)
- Smolke CD. 2007. A framework for programming integrated RNA devices. *MBI Metabolic Engineering Workshop*, Columbus, OH. (Invited Speaker)
- Smolke CD. 2007. A framework for programming integrated RNA devices. *Massachusetts Institute of Technology Biological Engineering Departmental Seminar*, Cambridge, MA. (Invited Speaker)
- Smolke CD. 2007. Foundational advances in RNA engineering applied to control biosynthesis and T-cell proliferation. *Caltech Alumni College*, Pasadena, CA. (Invited Speaker)

- Smolke CD. 2007. A framework for programming integrated RNA devices. *Systematic Biology Symposium*, Edinburgh, Scotland. (Plenary Speaker)
- Smolke CD. 2007. Foundational advances in RNA engineering applied to the control of microbial biosynthesis. *SIM Annual Meeting*, Denver, CO. (Invited Speaker)
- Smolke CD. 2007. Molecular tools for optimizing pathway engineering applied to alkaloid production in yeast. *Plant Metabolic Engineering Gordon Conference*. Tilton, NH. (Plenary Speaker)
- Smolke CD. 2007. RNA devices as general tools for advancing molecular medicine. *City of Hope Cancer Immunotherapeutics Seminar*. Duarte, CA. (Invited Speaker)
- Smolke CD. 2007. Foundational advances in RNA engineering applied to control biosynthesis and T-cell proliferation. *Arizona State University Biodesign Center Seminar*. Tempe, AZ. (Invited Speaker)
- Smolke CD. 2007. Engineering RNA devices as general tools in programming cellular function. *Nucleic Acids Gordon Conference*. Newport, RI. (Plenary Speaker)
- Smolke CD. 2007. Foundational advances in RNA engineering applied to control biosynthesis and T-cell proliferation. *Stanford Bioengineering Departmental Seminar*. Stanford, CA. (Invited Speaker)
- Smolke CD. 2007. Programmable molecular sensors as general tools for optimizing flux through synthetic metabolic networks. *ASM Annual Meeting*, Toronto, Canada. (Invited Speaker)
- Smolke CD. 2007. Engineering RNA devices as communication and control systems. *Design Principles for Biological Systems, Banbury Center Meeting*, Cold Spring Harbor Laboratory, NY. (Plenary Speaker)
- Smolke CD. 2007. Advances in building RNA devices for programming cellular function. *Pierce College Frontiers in Science Seminar Series*, CA. (Invited Speaker)
- Smolke CD. 2007. Engineering RNA devices as communication and control systems. *UC Berkeley SynBERC Seminar*, Berkeley, CA. (Invited Speaker)
- Smolke CD. 2007. *De novo* synthesis of circuit elements: novel RNA devices. *Tianjin University-sponsored iGEM Workshop*, Tianjin, China. (Invited Speaker)
- Smolke CD. 2007. Engineering RNA devices for probing and programming cellular systems. *California State University Los Angeles Chemistry and Biochemistry Departmental Seminar*, Los Angeles, CA. (Invited Speaker)
- Smolke CD. 2007. Engineering RNA devices as general tools for programming cellular function. *Institute of Biological Engineering Annual Conference*, Saint Louis, MO. (Invited Speaker)
- Smolke CD. 2007. Engineering RNA devices as general tools in cellular engineering applications. *IBC Life Sciences Synthetic Biology Conference: Transforming Life Science Research and Discovery*, Boston, MA. (Plenary Speaker)
- Smolke CD. 2007. Design principles for building RNA devices. *Massachusetts Institute of Technology Synthetic Biology Working Group Lunch Seminar*, Cambridge, MA. (Invited Speaker)
- Smolke CD. 2007. Engineering RNA devices for programming and probing cellular systems. *Wayne State Medical University Molecular Medicine and Genetics Departmental Seminar*, Detroit, MI. (Invited Speaker)
- Smolke CD. 2007. Engineering molecular sensors for probing and programming cellular systems. *Harvard Medical School Systems Biology Departmental Seminar*, Boston, MA. (Invited Speaker)
- Smolke CD. 2007. Engineering molecular sensors for probing and programming cellular systems. *UCSF Systems Biology Departmental Seminar*, San Francisco, CA. (Invited Speaker)
- Win MN, Smolke CD. 2007. Engineering new molecular sensors and switches for programming cellular systems. *SBE 1st International Conference in Biomolecular Engineering*, Coronado Island, CA. (Invited Speaker)
- Smolke CD. 2006. Engineering molecular control systems for programming biological systems. *Workshop on the Computational Worldview and the Sciences*, Princeton, NJ. (Invited Speaker)
- Smolke CD. 2006. Engineering new molecules for programming cellular behavior. *Engineering Principles in Biological Systems*, Cold Spring Harbor Laboratory, NY. (Plenary Speaker)
- Smolke CD. 2006. Engineering new molecules for studying and programming cellular systems. *Japan-America Frontiers of Engineering Symposium*, Tsukuba, Japan. (Plenary Speaker)

- Smolke CD. 2006. Molecular sensors for optimizing production of alkaloid molecules in *Saccharomyces cerevisiae*. *Metabolic Engineering VI*, NH Leeuwenhorst, Noordwijkerhout, Netherlands. (Plenary Speaker)
- Smolke CD. 2006. Engineering new molecules for probing and programming cellular systems. *Rice University Bioengineering Departmental Seminar*, Houston, TX. (Invited Speaker)
- Smolke CD. 2006. Engineering nucleic acid-based sensors for programming and probing cellular systems. *LSS Computational Systems Bioinformatics Conference*, Stanford, CA. (Plenary Speaker)
- Smolke CD. 2006. Programmable nucleic acid sensors as general tools for optimizing flux through synthetic metabolic networks. *SIM Annual Meeting*, Baltimore, MD. (Invited Speaker)
- Smolke CD. 2006. Engineering new molecules for programming complex cellular systems. *15th International Workshop on Logic and Synthesis*, Vail, CO. (Plenary Speaker)
- Smolke CD. 2006. Engineering new molecules for studying and programming cellular systems. *Northwestern University Chemical and Biological Engineering Departmental Seminar*, Evanston, IL. (Invited Speaker)
- Smolke CD. 2006. Programmable molecular switches and sensors: applications in metabolic engineering and intelligent therapeutics. *Synthetic Biology 2.0*, Berkeley, CA. (Plenary Speaker)
- Smolke CD. 2006. Engineering new molecules for programming cellular systems. *Design Principles for Biological Systems, Banbury Center Meeting*, Cold Spring Harbor Laboratory, NY. (Plenary Speaker)
- Smolke CD. 2006. Programmable molecular switches and sensors: applications in metabolic engineering and intelligent therapeutics. *Massachusetts Institute of Technology Chemical Engineering Departmental Seminar*, Cambridge, MA. (Invited Speaker)
- Smolke CD. 2006. Ligand-regulated nucleic acid switches as programmable molecular sensors. *Workshop on Biological Large Scale Integration (BioLSI-2)*, Pasadena, CA. (Invited Speaker)
- Smolke CD. 2006. The application of programmable nucleic acid switches to cellular engineering strategies. *Regenerate World Congress on Tissue Engineering and Regenerative Medicine*, Philadelphia, PA. (Invited Speaker)
- Smolke CD. 2006. Engineering new molecules for studying and programming cellular systems. *Caltech Discovery Day*, Pasadena, CA. (Invited Speaker)
- Bayer TS, Hawkins KH, Kimura Y, Lee H, Lee J, Win M-N, Smolke CD. 2006. Spatial patterning and hardwired memory: engineering biomolecules as cellular input/output devices. *Institute of Biological Engineering Annual Meeting*, Tuscon, AZ. (Invited Speaker)
- Smolke CD. 2006. The National Academies Keck Futures Initiative: Genomics and Life Engineering Conferences. *Board of Directors and Beckman Center Advisory Board Meeting*, Irvine, CA. (Invited Speaker)
- Smolke CD. 2006. Strategies for programming cellular behavior through molecular sensors and switches. *Caltech Bioengineering Retreat*, Warner Springs, CA. (Invited Speaker)
- Smolke CD. 2005. Programmable molecular sensors and switches: applications in intelligent therapeutics, biosensors, and metabolic engineering. *Rensselaer Polytechnic Institute Chemical and Biological Engineering Departmental Seminar*, Troy, NY. (Invited Speaker)
- Smolke CD. 2005. Programmable molecular sensors and switches: applications in intelligent therapeutics, biosensors, and metabolic engineering. *Cargill Incorporated Seminar*, Minneapolis, MN. (Invited Speaker)
- Smolke CD. 2005. Smart nucleic acid devices for converting diverse biochemical inputs into programmed cell behavior. *National Academies Keck Futures Initiative Genomics Conference*, Irvine, CA. (Invited Participant and Poster)
- Smolke CD. 2005. From programmable nucleic acid devices to intelligent cells. *National Academy of Science Frontiers of Science Symposium*, Irvine, CA. (Invited Participant and Poster)
- Smolke CD. 2005. Programmable nucleic acid molecules. *National Academy of Engineering Frontiers of Engineering Symposium*, Albany, NY. (Invited Participant and Poster)

- Smolke CD. 2005. Programmable molecular sensors and switches: applications in metabolic engineering, intelligent therapeutics, and biosensors. *Lawrence Berkeley National Laboratory Synthetic Biology Seminar*, Berkeley, CA. (Invited Speaker)
- Smolke CD. 2005. Programmable molecular sensors and switches: devices for converting biochemical information into biological function. *Caltech Kavli Nanoscience Inaugural Symposium*, Pasadena, CA. (Invited Speaker)
- Smolke CD. 2005. Programmable molecular sensors and switches: applications in metabolic engineering, intelligent therapeutics, and biosensors. *Caltech Bioengineering Departmental Seminar*, Pasadena, CA. (Invited Speaker)
- Smolke CD. 2005. Programmable molecular sensors and switches: applications in metabolic engineering, intelligent therapeutics, and biosensors. *University of Southern California Chemical Engineering Departmental Seminar*, Los Angeles, CA. (Invited Speaker)
- Smolke CD. 2005. Engineering alkaloid biosynthesis in *Saccharomyces cerevisiae*: the application of programmable molecular switches to pathway optimization. *SIM Annual Meeting*, Chicago, IL. (Invited Speaker)
- Smolke CD. 2005. Programming dynamic cellular response with engineered molecular sensors. *NAKFI Life Engineering Symposium*, San Francisco, CA. (Plenary Speaker)
- Smolke CD. 2005. Programmable molecular sensors and switches: applications in ‘intelligent’ therapeutics and biosensors. *Caltech Alumni College*, Pasadena, CA. (Invited Speaker)
- Smolke CD. 2005. Programmable molecular sensors and switches: applications in ‘intelligent’ therapeutics and biosensors. *DARPA: Biological Input-Output Systems Program Meeting*, Arlington, VA. (Invited Speaker)
- Smolke CD. 2005. Programmable molecular sensors and switches: applications in intelligent therapeutics, biosensors, and metabolic engineering. *Stanford Chemical Engineering Departmental Colloquium*, Palo Alto, CA. (Invited Speaker)
- Smolke CD. 2005. Programming dynamic cellular response with molecular sensors. *Caltech Alumni Seminar Day*, Pasadena, CA. (Invited Speaker)
- Smolke CD. 2004. Programmable RNA regulators of gene expression: applications in cellular sensors, therapeutics, and metabolic circuits. *Caltech Biology Division Retreat*, Redondo Beach, CA. (Invited Speaker)

Selected Presentations

- Liang J, Chang A, Kennedy A, Smolke CD. 2011. High-throughput cell-based strategies for optimizing and generating new RNA component functions. *SBE 3rd International Conference in Biomolecular Engineering*, San Francisco, CA. (Oral presentation)
- Michener JK, Smolke CD. 2010. Riboswitch-guided enzyme engineering in *Saccharomyces cerevisiae*. *SynBERC Yeast Synthetic Biology Workshop*, San Francisco, CA. (Oral presentation)
- Galloway KE, Smolke CD. 2010. Control of cell fate in a model MAPK pathway via induced network topologies. *Systems Biology of Stem Cells Symposium*, Irvine, CA. (Poster)
- Chen YY, Smolke CD. 2010. Genetic control of T-cell proliferation with synthetic RNA regulatory systems. *Gordon Research Conference: Immunochemistry and Immunobiology*, Les Diablerets, Switzerland. (Poster)
- Michener JK, Smolke CD. 2009. Riboswitch-guided enzyme engineering in *Saccharomyces cerevisiae*. *Enzyme Engineering XX*, Groningen, Netherlands. (Poster; selected as a top poster and invited for an oral presentation)
- Michener JK, Smolke CD. 2009. Construction and control of biosynthetic pathways. *10th International Conference in Systems Biology*, Stanford, CA. (Poster)
- Chen YY, Smolke CD. 2009. Genetic control of mammalian T-cell proliferation with synthetic RNA-based regulatory systems. *IBE Annual Conference*, Santa Clara, CA. (Oral Presentation)

- Chen F, Hsiao V, Lim A, Ovadia R, Tischler D, Beisel CL, Michener JK, Smolke CD. 2009. Engineering multi-functional probiotic bacteria. *IBE Annual Conference*, Santa Clara, CA. (Oral Presentation)
- Win MN, Smolke CD. 2009. Programming synthetic RNA devices for cellular information processing. *SBE 2nd International Conference on Biomolecular Engineering*, Santa Barbara, CA. (Oral Presentation)
- Culler SJ, Hoff KG, Smolke CD. 2009. Engineering complex phenotypes by reprogramming alternative splicing. *SBE 2nd International Conference on Biomolecular Engineering*, Santa Barbara, CA. (Poster; received the Genentech first place award for best poster presentation)
- Culler SJ, Hoff KG, Smolke CD. 2009. Engineering complex phenotypes by reprogramming alternative splicing. *Caltech Graduate Student Council 1st Annual Graduate Student Poster Session*, Pasadena, CA. (Poster)
- Galloway KE, Smolke CD. 2008. Ligand-dependent regulation of transcriptional feedback and phenotype in a MAPK pathway via RNA control elements. *Engineering Principles in Biological Systems CSHL Meeting*, Cold Spring Harbor Laboratory, NY. (Oral Presentation)
- Michener JK, Smolke CD. 2008. Construction and control of biosynthetic pathways. *Engineering Principles in Biological Systems CSHL Meeting*, Cold Spring Harbor Laboratory, NY. (Poster)
- Chen F, Hsiao V, Lim A, Ovadia R, Tischler D, Beisel CL, Michener JK, Smolke CD. 2008. Engineering multi-functional probiotic bacteria. *iGEM Jamboree*, Cambridge, MA. (Oral Presentation; team awarded second runner up for grand prize)
- Hawkins KM, Smolke CD. 2008. Production of benzylisoquinolines in engineered yeast. *Synthetic Biology 4.0*, Clearwater Bay, Kowloon Hong Kong. (Oral Presentation)
- Chen YY, Smolke CD. 2008. T-cell proliferation control with synthetic RNA devices. *Synthetic Biology 4.0*, Clearwater Bay, Kowloon Hong Kong. (Poster)
- Beisel CL, Smolke CD. 2008. Design principles for riboswitch function. *Synthetic Biology 4.0*, Clearwater Bay, Kowloon Hong Kong. (Poster)
- Beisel CL, Smolke CD. 2008. Ligand-responsive miRNAs: toward probing and programming cellular state. *AIChE Annual Meeting*, Philadelphia, PA. (Oral Presentation)
- Beisel CL, Smolke CD. 2008. Design principles for riboswitch function. *AIChE Annual Meeting*, Philadelphia, PA. (Oral Presentation)
- Chen YY, Smolke CD. 2008. T-cell proliferation control with small molecule-responsive RNA-based regulatory systems. *AIChE Annual Meeting*, Philadelphia, PA. (Oral Presentation)
- Chen YY, Smolke CD. 2008. T-cell proliferation control with synthetic, small molecule-responsive RNA-based regulatory systems. *First Annual City of Hope Poster Session-Collaboration: A Catalyst for Progress*, Duarte, CA. (Poster)
- Culler SJ, Hoff KG, Voelker RB, Berglund A, Smolke CD. 2008. *In vivo* selection of intronic silencers reveals a diverse set of regulatory motifs with a range of splicing efficiencies. *Gordon Research Conference: Post-transcriptional Gene Regulation*, Waterville, ME. (Poster)
- D'Espaux L, Smolke CD. 2008. Programmable molecular sensors for the design of intelligent therapeutics targeted to breast cancer cells. *DOD Breast Cancer Research Program Era of Hope Meeting*, Baltimore, MD. (Poster)
- Chen YY, Smolke CD. 2008. Ligand-responsive, RNA-based gene regulatory systems in cellular therapeutics. *Caltech Chemical Engineering Economou Lecture*, Pasadena, CA. (Invited Speaker)
- Beisel CL, Smolke CD. 2007. Towards programming network connectivities: ligand-regulated shRNA switches. *AIChE Annual Meeting*, Salt Lake City, UT. (Oral Presentation)
- Bandyopadhyay T, Bugga P, Jiang D, Pak E, Xiao H, Brenner K, Levine J, Michener JK, Smolke CD. 2007. Engineering viruses for targeted cell death. *iGEM Jamboree*, Cambridge, MA. (Oral Presentation)
- Michener JK, Smolke CD. 2007. Synthetic regulatory circuits for dynamic control of metabolism. *International Conference on Systems Biology*, Irvine, CA. (Poster)
- Beisel CL, Bayer TS, Hoff KG, Smolke CD. 2007. Ligand-regulated shRNA switches as programmable network components. *International Conference on Systems Biology*, Irvine, CA. (Poster)

- Galloway KE, Smolke CD. 2007. RNA-based control systems and their application to a model MAPK pathway. *International Conference on Systems Biology*, Irvine, CA. (Poster)
- Culler SC, Smolke CD. 2007. A generalizable screen for synthetic cis-acting intronic regulators of alternative splicing. *Eukaryotic mRNA Processing CSHL Meeting*, Cold Spring Harbor Laboratory, NY. (Poster)
- Beisel CL, Smolke CD. 2007. An engineered platform for ligand-regulated RNA interference. *Caltech Chemical Engineering Economou Lecture*, Pasadena, CA. (Invited Speaker)
- Chen Y, Brown C, Jensen M, Smolke CD. 2007. T-cell proliferation control with synthetic, small molecule-controlled RNA-based regulatory systems. *ASGT Annual Meeting*, Seattle, WA. (Oral Presentation)
- Kelsic E, Smolke CD. 2006. Controlling intrinsic noise in gene expression via translational feedback. *Engineering Principles in Biological Systems*, Cold Spring Harbor Laboratory, NY. (Poster)
- Bayer TS, Smolke CD. 2006. Network motifs as adaptations for robustness. *Engineering Principles in Biological Systems*, Cold Spring Harbor Laboratory, NY. (Oral Presentation)
- Culler SC, Smolke CD. 2006. Engineering intronic regulators of alternative splicing for cancer detection and treatment. *AIChE Annual Meeting*, San Francisco, CA. (Oral Presentation)
- Hawkins KM, Smolke CD. 2006. Total microbial synthesis of benzyloquinoline alkaloids in *Saccharomyces cerevisiae*. *AIChE Annual Meeting*, San Francisco, CA. (Oral Presentation)
- Beisel CL, Smolke CD. 2006. Engineering ligand-regulated RNAi for probing and programming cellular systems. *AIChE Annual Meeting*, San Francisco, CA. (Oral Presentation)
- Beisel CL, Smolke CD. 2006. A novel tool for programming cellular behavior: ligand-controlled RNAi substrates. *Synthetic Biology 2.0*, Berkeley, CA. (Poster) *Award for best poster*
- Bayer TS, Smolke CD. 2006. Engineering robustness: reliable function in a random world. *Synthetic Biology 2.0*, Berkeley, CA. (Poster)
- Lee JJ, Bayer TS, Hoff KG, Smolke CD. 2006. Engineering around evolution: challenges of standardized parts. *Synthetic Biology 2.0*, Berkeley, CA. (Poster)
- Bayer TS, Hawkins KM, Kimura Y, Lee H, Lee J, Win MN, Smolke CD. 2005. Engineering hardwired DNA memory. *iGEM Jamboree*, Cambridge, MA. (Oral Presentation)
- Bayer TS, Smolke CD. 2005. Understanding signal processing with engineered nucleic acids. *International Conference Systems Biology*, Cambridge, MA. (Poster)
- Bayer TS, Smolke CD. 2005. From smart molecules to intelligent cells. *Life Engineering Symposium*, San Francisco, CA. (Poster)
- Smolke CD. 2005. Programmable ligand-controlled riboregulators of gene expression. *AIChE Annual Meeting*, Cincinnati, OH. (Oral Presentation)
- Smolke CD. 2005. Digital devices for the quantification and identification of large sets of biomolecules using engineered nucleic acid sensors. *AIChE Annual Meeting*, Cincinnati, OH. (Oral Presentation)
- Bayer TS, Smolke CD. 2005. Programmable nucleic acid regulators of gene expression. *DNA World Workshop*, Pasadena, CA. (Poster)
- Bayer TS, Lee J, Win MN, Smolke CD. 2004. Programmable RNA-based cellular sensors. *Synthetic Biology Jamboree*, Cambridge, MA. (Oral Presentation)