

Samir Mitragotri, Ph.D.

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Education

- Ph.D. 1996 Massachusetts Institute of Technology, Chemical Engineering, Cambridge, MA
B.S. 1992 University of Bombay (ICT), Chemical Engineering, Mumbai, INDIA

Summary of Research Interests and Expertise

Prof. Mitragotri has made groundbreaking contributions to the field of biological barriers and drug delivery. His research has advanced fundamental understanding of biological barriers and has led to the development of new materials as well as technologies for diagnosis and treatment of various ailments including diabetes, cardiovascular diseases, skin diseases and infectious diseases, among others. Many of his technologies have advanced to human clinical studies and products. At the same time, fundamental understanding developed through his research has advanced the understanding of the biology of barriers in the human body. His research has made particular impact on the following areas:

Skin and Transdermal drug delivery: Prof. Mitragotri has established a fundamental knowledge base of transport properties of skin. He also developed mathematical models of skin permeation and analytical tools to study biophysics of skin structure-function relationship (*PNAS*, 2005). Further, he has developed novel technologies to enable transdermal delivery of proteins, peptides and siRNA which otherwise have to be injected using needles. He has pioneered a large number of technologies including low-frequency ultrasound, pulsed microjet injector, high throughput skin experimentation, skin penetrating peptides and ionic liquids for transdermal delivery of proteins, peptides and nucleic acids. Professor Mitragotri's research has made it possible to painlessly deliver macromolecules using transdermal patches, which was previously considered not feasible. He pioneered an ultrasound-based technique to deliver insulin and vaccines through the skin (FDA-approved product for delivering local anesthesia, and human clinical trials for nanoparticle delivery for treating acne). He also developed an ultrasound-based method to harvest skin's fluid for non-invasive glucose monitoring in diabetic patients (product in late clinical trials). Using ultrasound and a novel surfactant blend, he developed a method to solubilize tissues without protein denaturation, a finding he used for non-invasive diagnostics of allergies (*PNAS*, 2010). First product based on this core technology is currently marketed. Prof. Mitragotri was first to apply combinatorial discovery approaches for transdermal delivery (*Nat. Biotech.*, 2004). He invented a tool (INSIGHT) that allowed, for the first time, discovery of rare formulations to deliver macromolecules (technique now used in industry for discovery of topical formulations). Recently, Prof. Mitragotri discovered a novel peptide, designed for the first time, to simultaneously enhance delivery of siRNA across the skin barrier and cell membranes for the treatment of various skin disorders (*PNAS*, 2011) (technology validated in human clinical study for hyaluronic acid delivery). He also designed a novel ionic liquid as a broad spectrum topical antibiotic effective against bacteria, viruses and fungi, and simultaneously capable of delivering drugs into skin (*PNAS*, 2014).

Intestine and Oral drug delivery: Prof. Mitragotri has developed fundamental understanding of trans-epithelial transport in the intestine. He has also established an understanding of the effect of penetration enhancers on permeation across the intestinal epithelium (*Pharm Res.*, 2008). Further, he developed novel technologies, in particular intestinal patches, for oral delivery of proteins such as insulin and calcitonin (*JCR*, 2004, 2013).

Immune System and Targeted drug delivery: Prof. Mitragotri has developed unique bio-inspired nanoparticles of novel physical, chemical and biological properties to understand the fundamental principles of body's immune barrier (*PNAS*, 2006, 2007, 2010, and 2013a). Using these particles, he also developed new technologies for the treatment of cancer and cardiovascular diseases (*PNAS*, 2013b). He developed novel particles that mimic red blood cells (*PNAS*, 2009) and platelets (*ACS Nano*, 2014); his platelet-mimicking particles, designed as potential therapeutic agents to stop bleeding in patients suffering from traumatic blood loss, performed well in preclinical models (*ACS Nano*, 2014). He has also developed hybrid systems that make use of synthetic nanoparticles hitchhiking on natural cells for targeted delivery of drugs (*ACS Nano*, 2013).

Academic Appointments

07/17-	Hiller Professor of Bioengineering and Hansjorg Wyss Professor of Biologically Inspired Engineering, SEAS, Harvard University
07/17-	Core Faculty Member, Wyss Institute, Harvard University
07/07-06/17	Professor, Department of Chemical Engineering, UCSB
14/07-06/17	Professor, Technology Management Program, UCSB, affiliated faculty
13/7-06/17	Duncan and Suzanne Mellichamp Chair in Systems Biology and Bioengineering
12/6-06/17	Professor of Biology, College of Creative Studies, UCSB
11/01-01/17	Founding Director, Center for Bioengineering, UCSB
07/07-06/17	Professor, Biomolecular Science and Engineering, UCSB
13/10-15/06	Director, Translational Medicine Research Laboratories, UCSB
06/05-06/07	Associate Professor, Department of Chemical Engineering, UCSB
00/01-05/06	Assistant Professor, Department of Chemical Engineering, UCSB

Other Current Appointments (university/academic)

- Founding Editor-in-Chief, *Bioengineering & Translational Medicine*, an AIChE and SBE journal (2015-present)
- Associate Editor, *Journal of Controlled Release* (2011-present)
- Scientific Advisory Board member, Wadhvani Research Center for Bioengineering, IIT Bombay (2015-present)
- NIH Gene and Drug Delivery Study Section member (2014-present)
- BioTAP (UCSB's Technology Translation Program, Founder, co-Director) (2012-2017)
- Annual Meeting Programming Committee (Controlled Release Society, 2016)
- International Advisory Board of the 11th International Conference "Medical Applications of Novel Biomaterials and Nanotechnology" of CIMTEC 2016
- Editorial Boards of the following journals
 - Journal of Drug Targeting

- Technology
- Therapeutic Delivery
- Experimental Medicine and Biology
- Cancer Nanotechnology
- Journal of Laboratory Automation
- Regenerative Engineering and Translational Medicine

Other Current Appointments

- Pfizer Inc. (Technical Advisory Board member, 2014-2016)
- L'Oreal (Scientific Advisory Board member, 2013-present)
- Entrega Inc. (Scientific Advisory Board member, 2011-present)
- EnduRx Inc (Scientific Advisory Board member, 2011-present)
- Skinential Biosciences (Board member, 2010-present)
- Liquideon, LLC (Founder, Board member, 2016-present)
- CageBio Inc. (Founder, Board member, 2016-present)
- CTX Technologies (Scientific Advisory Board, 2015-present)

Awards and Honors

2017	Distinguished Global Indian, Amity University
2017	Clemson Award by Society for Biomaterials
2017	Academy Lectureship, Missouri Science and Technology
2017	Thomson Reuters Highly Cited Researcher
2016	Elected Member, National Academy of Medicine (NAM)
2016	Nagai Foundation, Tokyo Distinguished Lectureship
2016	B.S. Joshi Distinguished Professor, Institute of Chemical Technology, Mumbai
2016	Chair, Indo-US Frontiers of Engineering
2016	Tom Watson Memorial Lecturer, University of Sydney
2015	NR Kamath Chair Professor for Institutional Excellence, IIT Bombay
2015	Thomson Reuters Highly Cited Researcher
2015	Elected Fellow, American Association of Pharmaceutical Scientists (AAPS)
2015	Elected Fellow, Biomedical Engineering Society (BMES)
2015	Andreas Acrivos Professional Progress Award, AIChE
2015	Britton Chance Distinguished Lecture at University of Pennsylvania
2015	BMM award for Excellence in Science and Technology
2015	Distinguished Endowed Lectureship, Charotar Univ. of Science and Technology, India
2015	Elected Fellow, Controlled Release Society (CRS)
2015	Member, National Academy of Engineering (NAE)
2014	Elected Fellow, National Academy of Inventors (NAI)
2014	Distinguished Alumnus Award, Institute of Chemical Technology
2014	Distinguished Bioengineering Speaker, University of California, Riverside
2013	Bold Aspiration Lecturer, University of Kansas
2012	Elected Fellow, American Association of Advancement of Science (AAAS)
2012	AIChE area 15 Plenary award

2012	AIChE area 1c Plenary Speaker
2011	Edison award for innovation, Gold Medal
2010	Edison award for Innovation, Silver Medal
2009	Kothari Visiting Professor, Institute of Chemical Technology, Mumbai, India
2009	Elected Fellow, American Institute of Medical and Biological Engineering (AIMBE)
2009	Edison award for Innovation, Bronze Medal
2008	Controlled Release Society Young Investigator Award
2008	Alan MacDiarmid Best Paper Award in Interdisciplinary Research by Society of Experimental Biology and Medicine
2005	Allan P. Colburn Award by American Institute of Chemical Engineers
2004	Controlled Release Society Outstanding Pharmaceutical Research Award
2004	Hendrick C. Van Ness Award Lecturer, Rensselaer Polytechnic Institute
2004	Pfizer-Capsugel Award for Innovation in Oral Delivery
2004	Popular Science Best of new award
2003	Global Indus Technovator Award
2003	Chancellor's Award for Excellence in Undergraduate Research
2001	Outstanding Faculty Award, UCSB
2001	Junior Faculty Research Incentive Award, UCSB
2001	3M Young faculty award
2001	Culpepper Biomedical Pilot Initiative award
2000	CRS-Dow Corning Outstanding Research Award
2000	International Research Promotion Council Young Scientist Award
1999	Technology Review Young Innovator Award (TR100)
1996	Harvard Health Letter top ten advances of the year
1995	Ebert Prize by the American Pharmaceutical Association

Translation of Technologies from the Lab

Prof. Mitragotri's inventions are being/have been actively translated into clinical products.

- Ultrasound-mediated Transdermal Delivery (sonophoresis): Professor Mitragotri's research in sonophoresis was translated by Sontra Inc., which developed and launched an ultrasonic drug delivery system (SonoPrep™) for topical anesthesia, and it has been used in humans including children. Sontra evolved into Echo Therapeutics, which is developing methods for needle-free drug delivery and glucose monitoring (Symphony™ tcGM). Symphony™ has been clinically validated in Type I and Type II diabetic patients.
- High-Throughput Transdermal Formulation Discovery: Professor Mitragotri's high throughput screening platform technology (INSIGHT) was translated by Fqubed Inc., which merged with Nuvo Research Inc. Nuvo currently markets products for pain management (Pennsaid^R and Synera^R) to treat the signs and symptoms of osteoarthritis of the knee and local anesthesia respectively. Nuvo spun-off a company, Tioga Research Inc. to further advance INSIGHT and other high throughput screening platforms.
- Pulsed Microject Injector: Professor Mitragotri's needle-free pulsed microject injectors were translated by Stratagent Lifesciences, which merged with Corium. Corium currently markets

clonidine and fentanyl transdermal patches and is in Phase I human clinical studies for an Alzheimer's patch. It is also in advanced stages of development of a microneedle technology which has been validated in Phase 1 human clinical studies for PTH for osteoporosis and is currently in Phase 2a.

- Painless Skin-based Diagnostics Systems: Professor Mitragotri's vision of simple and painless diagnostics is being realized by Seventh Sense Biosystems, which has developed TAP™, a painless wearable device for acquisition of small blood samples for diagnostics. It has received a CE mark approval. Seventh sense has partnered with Novartis, Siemens and Labcorp in 2014 to advance the technology. Seventh sense is anticipating a product launch for human use in 2016.
- Surfactant-based Biomarker Recovery from Skin: Professor Mitragotri's technology for cell and tissue solubilization for biomarker recovery is being translated by Skinential Inc. The company currently markets Clearista™ for human use for the treatment of solar Lentigo.
- Intestinal Patches for Oral Delivery of Biologics: Prof. Mitragotri's intestinal patch technology for oral delivery of biologics is being translated by Entrega Bio. Entrega announced a partnership with Google in 2014 to develop a novel diagnostic platform.
- Skin Permeating Peptides for Transdermal Delivery: Professor Mitragotri's technology of skin penetrating and cell permeating peptide (SPACE peptide) is being translated for pharmaceutical and personal care applications by CTX Technologies. CTX is developing two products Khalay™ for skin rejuvenation and Cyclopsorb™ for psoriasis. Khalay™ has been validated in humans in a clinical study. CTX announced a partnership with Zomedica in 2016.
- Transdermal Delivery of Nanoparticles: Prof. Mitragotri's ultrasound-based technology for transdermal delivery of nanoparticles is being translated by Sebacia Inc. for acne treatment. Sebacia has validated the delivery technology in a human clinical study.
- Ionic Liquids: Prof. Mitragotri's ionic liquid technology for antimicrobial and skin applications is being translated by Liquideon LLC and CageBio Inc.

Department, Campus and Professional Service

- Prof. Mitragotri is very active in serving the department and campus through active participation in various committees over the years:
 - Faculty search
 - Undergraduate program committee
 - Undergraduate Laboratory
 - Graduate program committee
 - Graduate student admissions
 - Campus fellowships
 - Senate Faculty Awards
 - Neuroscience Research Institute, UCSB Advisory

- Prof. Mitragotri serves as a member of Cancer Research Coordination Committee (CRCC), a University of California systemwide committee overseeing funding of seed grants to support cancer research.
- Prof. Mitragotri is the founding director of UCSB's Center for Bioengineering (CBE). CBE is the epicenter of research and education at the interface between engineering sciences and biology as well as biomedicine. The Center is founded to improve the existing pathways and build new avenues to advance fundamental scientific discoveries and technological innovations in the general area of Bioengineering at UCSB including the launch of a new Department of Bioengineering. Under Prof. Mitragotri's leadership, CBE has launched the following programs for undergraduate and graduate education in Bioengineering (bioengineering.ucsb.edu):
 - Undergraduate concentration in Bioengineering
 - Graduate Emphasis in Bioengineering
- Professor Mitragotri served as the director of UCSB and Cottage Hospital's Translational Medicine Research Laboratories (TMRL) from 2013-2015. TMRL aims to nucleate and nurture collaborations between UCSB researchers and clinicians to enhance clinical translation of biomedical technologies.
- Professor Mitragotri is Co-director of the Biotechnology Acceleration Program. In a collaborative program coordinated with technology and Industry Alliance, this initiative aims to assist UCSB's inventors to translate their technologies in the field of Bioengineering by providing necessary support in terms of intellectual property protection, strategic advice and support from industry experts to nurture early stage technologies.
- Professor Mitragotri has also actively participated in professional organizations. He has helped organize the following meetings:
 - Co-chair of 12th UC Systemwide Bioengineering symposium (2011)
 - Co-chair of the area of Bionanotechnology at AIChE (2007-2010)
 - Biomaterial session at the MRS Fall meeting (2009)
 - Advanced colloids at the MRS Spring meeting (2011)
 - MRS Symposium on Nanomedicine (2015)
- Professor Mitragotri has edited special issues or has served as an editor of the following journals:
 - *Advanced Drug Delivery Reviews*
 - *Pharmaceutical Research*
 - *Current Opinions in Colloid and Interfacial Sciences*
 - *Advanced Materials*
 - *PNAS*
- Professor Mitragotri has served as a reviewer for numerous grant agencies and journals.

Publications (Total citations > 22,000, h-index of 80, Google Scholar)

1. Li, D., Zhuang, J., He H., Jiang, S., Banerjee A., Lu Y., Wu W., Mitragotri S., Gan L., Qi, J., The contribution of nanoparticle geometry in transport and absorption upon oral administration *in vivo*, *submitted*.
2. Iwao, Y., Banerjee, A., Ibsen K., Zakrewsky, A., and Mitragotri, S., “Transdermal Protein Delivery using Choline and Geranate (CAGE) Deep Eutectic Solvent”, *Adv. Healthcare Mat.*, *in press*.
3. Anselmo AA, Prabhakarandian P, Pant K., and Mitragotri S., Clinical and Commercial Translation of Advanced Nanoparticle Systems: Challenges and Opportunities, *in press*, *Translational Materials Research*.
4. Zhang, M., Nowak, M., Malo de Molina P., Abramovitch, M., Santizo, K., Mitragotri, S., Helgeson, ME, Templating nano-organohydrogel nanogels from oil-in-water-in-oil double nanoemulsions, *in revision*.
1. Banerjee, A., Wong J., Rohan Gogoi, R., Mitragotri, S., Intestinal Micropatches for Oral Insulin Delivery, *J. Drug Target.*, *in press*.
2. Anselmo, A. and Mitragotri, S., Designing Drug-Delivery Nanoparticles, *Chem. Eng. Prog.*, September 2016.
3. Niu, J., Lunn, DJ., Pusuluri, A., Yoo, J., O’Malley, M., Mitragotri, S., Soh, T. and Hawker, CJ, Engineering live cell surfaces with functional polymers via cytocompatible controlled radical polymerization, *Nature Chemistry*, Adv. Online Pub., 2017.
4. Zakrewsky, M. and Mitragotri, S., “Therapeutic RNAi robed with ionic liquid moieties as a simple, scalable prodrug platform for treating skin disease”, *J. Control. Rel.*, 42:80-88 2016.
5. Wibroe, P., Anselmo, AC, Gupta V., Nilsson, P., Urbanics, R., Szebeni, J., Mitragotri, S., Mollnes, T., Moghimi, SM, “Bypassing polymeric nanoparticle-mediated adverse injection reactions through particle shape control and erythrocyte ‘hitch-hiking’”, *Nature Nanotechnology*, *in press*.
6. Banerjee A., Qi, J., Gogoi R., and Mitragotri, S., “Effect of Particle Shape on Transport across the Intestinal Epithelium”, *J. Control. Rel.*, 238:176-85, 2016.
7. Mitragotri, S., “Introduction to Editorial Board Members: Nicholas Peppas”, *Bioeng. Trans. Med.*, Volume 1, issue 1, 10.1002/btm2.10011, 2016.
8. Decuzzi P. and Mitragotri, S., “Introduction to special issue on “Nanoparticles in medicine: targeting, optimization and clinical applications”, *Bioeng. Trans. Med.*, Vol 10.1002/btm2.10012, 2016.
9. Anselmo A.C. and Mitragotri S., “Impact of Particle Elasticity on Particle-Based Drug Delivery Systems”, *Advanced Drug Delivery Reviews*, S0169-409X(16)30010-2, 2016.

10. Vargas-Morales O., Zern B., Anselmo AC, Gupta V., Zakrewsky M., Mitragotri S., and Muzykantov V., "The Effect of Polymeric Nanoparticles on Biocompatibility of Carrier Red Blood Cells, Daniel Pan", *PLoSone*, 11(3):e0152074, 2016.
11. Villa C., Anselmo AC., Mitragotri S., and Muzykantov V., "Red blood cells: Supercarriers for drugs, biologicals, and nanoparticles and inspiration for Advanced Delivery Systems", *Adv. Drug. Del Rev.*, S0169-409X(16)30058-8, 2016.
12. Anselmo A.C. and Mitragotri S., "A Chemical Engineering Perspective on Targeted Nanoparticle Delivery: A Unit Process Approach", *AIChE J.*, 966–974, 2016.
13. Camacho K., Menegatti S., Vogus D., Pusluri A., Fuchs Z., Jarvis M., Zakrewsky M., Evans M., and Mitragotri S., "DAFODIL: A novel liposome-encapsulated synergistic combination of doxorubicin and 5FU for low dose chemotherapy.", *J. Control. Rel.*, 229:154-62, 2016.
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16. Camacho K., Menegatti S., and Mitragotri S., "Low molecular weight Polymer-drug Conjugates for Synergistic Anticancer Activity of Camptothecin and Doxorubicin Combinations", *Nanomedicine*, 11(9):1139-51, 2016.
17. Banerjee A., Lee J.H., and Mitragotri S., "Intestinal Mucoadhesive Devices for Oral Delivery of Insulin", *Bioeng. Trans. Med.*, epub, 2016.
18. Zakrewsky M., Muraski J.A., and Mitragotri S., "Energy-Dependent Internalization of SPACE™ Peptide for Rapid Drug Delivery into the Cytoplasm of Human Epidermal Keratinocytes", *Regen. Eng. and Trans. Med.*, in press, 2016.
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26. Kumar S., Chen M., Anselmo A.C., Muraski J.A., and Mitragotri S., “Enhanced Epidermal Localization of Topically Applied Steroids using SPACE Peptide”, *Drug Delivery and Translational Research*, 5(5): 523-530, 2015.
27. Anselmo A.C., Zhang M., Kumar S., Vogus D., Menegatti S., Helgeson M., and Mitragotri S., “Elasticity of Nanoparticles Influences their Blood Circulation, Phagocytosis Endocytosis and Targeting”, *ACS Nano*, 9(3): 3169-3177, 2015.
28. Mitragotri S. and Hanes J., “Journal of Drug Targeting Life Time Achievement Award for Prof. Robert Lager”, *Journal of Drug Targeting*, 23(7-8): 579, 2015.
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30. Anselmo A.C. and Mitragotri S., “A Review of Clinical Translation of Inorganic Nanoparticles”, *AAPS J.*, 17(5): 1041-1054, 2015.
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- Endothelium: Synergy Between Physical, Chemical and Biological Approaches”, *Biomaterials*, 68: 1-8, 2015.
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 41. Anselmo A. and Mitragotri S., “Cell-mediated delivery of nanoparticles: taking advantage of circulatory cells to target nanoparticles”, *J. Control. Rel.*, 190: 531-541, 2014.
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2. US Patent 9,328,324 System, method and devices for tissue-based diagnosis
3. US Patent 9,308, 181, Topical formulations, systems and methods
4. US Patent 8,945,482, System, method and device for tissue-based diagnosis
5. US Patent 8,870,810, Method and apparatus for enhancement of transdermal transport
6. US Patent 8,791,062, Skin permeating and cell entering (SPACE) peptides and methods of use thereof
7. US Patent 8,642,664 Composition for solubilizing tissue and cells comprising N-tetradecyl-N,N-dimethyl-3-ammonio-1-propanesulfonate and polyoxyethylene (10) cetyl ether
8. U.S. Patent, 8,609,041, Apparatus for solubilizing tissue
9. U.S. Patent, 8,518,871, Skin permeating and cell entering (SPACE) peptides and methods of use thereof
10. U.S. Patent, 8,513, 304 Topical Formulations
11. U.S. Patent, 8,389,582 Composition for solubilizing tissue comprising 3-(decyl dimethyl ammonio) propane sulfonate and tetraethylene glycol dodecyl ether
12. U.S. Patent, 8,343,962, Topical Formulation
13. U.S. Patent, 8,287,483, Method and apparatus for enhancement of transdermal transport
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20. U.S. patent, 6,620,123, Method and apparatus for producing homogenous cavitation to enhance transdermal transport
21. U.S. patent, 6,589,173, Ultrasound system for disease detection and patient treatment

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25. U.S. patent, 6,041,253, Effect of electric field and ultrasound for transdermal drug delivery
26. U.S. patent, 6,018,678, Transdermal protein delivery or measurement using low-frequency sonophoresis
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29. U.S. patent, 5,814,599, Transdermal delivery of encapsulated drugs
30. 2016346327 Synthetic Platelets
31. 20160263225 Ionic Liquids for Transdermal Drug Delivery.
32. 20160235392, System, Method and Devices for Tissue-based Diagnosis.
33. 20160101056, MUCOADHESIVE DEVICES FOR DELIVERY OF ACTIVE AGENTS
34. 20160030726, METHODS OF DELIVERING NANOSHELLS INTO SEBACEOUS GLANDS
35. 20160015890 SYSTEM AND METHOD OF VARIABLE DOSE GLUCAGON DELIVERY
36. 20160000881 Oral Drug Devices and Drug Formulations
37. U.S. Patent application 20150344834 System, Method and Devices for Tissue-Based Diagnosis
38. U.S. Patent application 20150297723, TOPICAL FORMULATIONS FOR TREATING SKIN CONDITIONS
39. U.S. Patent application 20150275174, COMPOSITIONS FOR SOLUBILIZING CELLS AND/OR TISSUE
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41. US Patent application 20150174076, MUCOADHESIVE DEVICES FOR DELIVERY OF ACTIVE AGENTS
42. U.S. Patent application 20150025221, Skin Permeating and Cell Entering (SPACE) Peptides and Methods of Use Thereof
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44. US. Patent Application 20140161871, SKIN PERMEATING AND CELL ENTERING (SPACE) PEPTIDES AND METHODS OF USE THEREOF
45. US Patent Application 20140107560 Compositions for solubilizing cells and/or tissue
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47. US. Patent Application 20130274352, Oral Drug Devices and Drug Formulations
48. U.S. Patent application 2013115169, Red Blood Cell-mimetic particles and methods for making use thereof
49. US Patent application 20130079404 Topical Formulation

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53. U.S. Patent application 20120045504, ORAL DRUG DEVICES AND DRUG FORMULATIONS
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56. U.S. Patent application 20110212485, SYSTEM, METHOD AND DEVICE FOR TISSUE-BASED DIAGNOSIS
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65. U.S. Patent application 20080112886, ENGINEERING SHAPE OF POLYMERIC MICRO- AND NANOPARTICLES
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72. U.S. Patent application 20050049474, Preparation for transmission and reception of electrical signals
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- homogenous cavitation to enhance transdermal transport
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 86. 3062819 IONIC LIQUIDS FOR TRANSDERMAL DRUG DELIVERY
 87. 3056559 COMPOSITIONS FOR SOLUBILIZING CELLS AND/OR TISSUE
 88. 2968889 METHODS OF DELIVERING NANOSHELLS INTO SEBACEOUS GLANDS
 89. 2861220 MUCOADHESIVE DEVICES FOR DELIVERY OF ACTIVE AGENTS
 90. 2014210189 SYSTEM, METHOD AND DEVICE FOR TISSUE-BASED DIAGNOSIS
 91. 2756061 COMPOSITIONS FOR SOLUBILIZING CELLS AND/OR TISSUE
 92. 2915358 MUCOADHESIVE DEVICES FOR DELIVERY OF ACTIVE AGENTS
 93. 2638162 SKIN PERMEATING AND CELL ENTERING (SPACE) PEPTIDES AND METHODS OF USE THEREOF
 94. 2811113 SKIN PERMEATING AND CELL ENTERING (SPACE) PEPTIDES AND METHODS OF USE THEREOF
 95. 2419085 IMPROVED ORAL DRUG DEVICES AND DRUG FORMULATIONS
 96. 2396654 Composition and method for tissue-based diagnosis
 97. 2162158 COATED HYALURONIC ACID PARTICLES
 98. 2061434 ENGINEERING SHAPE OF POLYMERIC MICRO-AND NANOPARTICLES
 99. 2687983 COATED HYALURONIC ACID PARTICLES
 100. 1853176 AGENTS AND METHODS FOR ENHANCEMENT OF TRANSDERMAL TRANSPORT
 101. 2598751 AGENTS AND METHODS FOR ENHANCEMENT OF TRANSDERMAL TRANSPORT
 102. 1680223 APPARATUS AND METHODS FOR EVALUATING THE BARRIER PROPERTIES OF A MEMBRANE
 103. 2534359 APPARATUS AND METHODS FOR EVALUATING THE BARRIER PROPERTIES OF A MEMBRANE
 104. 2530407 PENETRATION ENHANCER COMBINATIONS FOR TRANSDERMAL DELIVERY
 105. 1496831 PREPARATION FOR TRANSMISSION AND RECEPTION OF

ELECTRICAL SIGNALS

106. 1441695 SWITCHABLE SURFACES
107. 2482641 PREPARATION FOR TRANSMISSION AND RECEPTION OF ELECTRICAL SIGNALS
108. 1139886 METHODS AND APPARATUS FOR ENHANCEMENT OF TRANSDERMAL TRANSPORT
109. 1139880 METHOD AND APPARATUS FOR PRODUCING HOMOGENOUS CAVITATION TO ENHANCE TRANSDERMAL TRANSPORT
110. 1045714 SONOPHORETIC ENHANCED TRANSDERMAL TRANSPORT
111. 2355184 METHODS AND APPARATUS FOR ENHANCEMENT OF TRANSDERMAL TRANSPORT
112. 2355187 METHOD AND APPARATUS FOR PRODUCING HOMOGENOUS CAVITATION TO ENHANCE TRANSDERMAL TRANSPORT
113. 2317777 SONOPHORETIC ENHANCED TRANSDERMAL TRANSPORT
114. 0925088 ULTRASOUND ENHANCEMENT OF TRANSDERMAL TRANSPORT
115. 0781150 ENHANCED TRANSDERMAL TRANSPORT USING ULTRASOUND
116. 2200984 ENHANCED TRANSDERMAL TRANSFER USING ULTRASOUND
117. WO/2016/033314 SKIN PENETRATING PEPTIDES (SPPS) AND METHODS OF USE THEREFOR
118. WO/2015/191629 SYSTEM AND METHOD OF VARIABLE DOSE GLUCAGON DELIVERY
119. PCT (WO/2015/117158) SYNTHETIC PLATELETS
120. PCT (WO/2015/066647) IONIC LIQUIDS FOR TRANSDERMAL DRUG DELIVERY
121. PCT (WO/2015/026552) MUCOADHESIVE DEVICES FOR DELIVERY OF ACTIVE AGENTS
122. PCT (WO/2014/160404) IMPROVED ORAL DRUG DEVICES AND DRUG FORMULATIONS
123. PCT (WO/2014/145784) METHODS OF DELIVERIGN NANOSHELLS INTO SEBACEOUS GLANDS
124. PCT (wo/2014/123543) SKIN PERMEATING AND CELL ENTERING (SPACE) PEPTIDES AND METHODS OF USE
125. PCT (WO/2013/188819) MUCOADHESIVE DEVICES FOR DELIVERY OF ACTIVE AGENTS
126. PCT (WO/2013/172832), COMPOSITIONS FOR SOLUBILIZING CELLS AND/OR TISSUE
127. PCT WO/2012/064429 - SKIN PERMEATING AND CELL ENTERING (SPACE) PEPTIDES AND METHODS OF USE THEREOF
128. PCT WO/2011/069082 - RED BLOOD CELL-MIMETIC PARTICLES AND METHODS FOR MAKING AND USE THEREOF
129. PCT (WO 2010/120892) Improved oral drug devices and drug formulations
130. PCT (WO 2010/093861) System, method and device for tissue-based diagnostics
131. PCT (WO 2009/048681) Methods of Tissue-based diagnostics
132. PCT (WO 2008/147817) Coated Hyaluronic Acid Particles
133. PCT (WO 2008/031035) Engineering shape of polymeric micro- and nanoparticles
134. PCT (WO 2007/102090) Topical formulation

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136. PCT (WO 2006/091297) Molecules to enhance percutaneous delivery and methods for discovery therefore
137. PCT (WO 2005/012549) Apparatus and methods for evaluating the barrier properties of a membrane
138. PCT (WO 2005/009510) Penetration enhancer combinations for transdermal delivery
139. PCT (WO 2004/032970) Carriers attached to blood cells
140. PCT (WO 2003/090366) Preparation for transmission and reception of electrical signals
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149. PCT (WO 1998/000194) Ultrasound enhancement of transdermal transport
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Unpublished patent applications are not listed.

Invited Presentations

1. Mitragotri S., Blankschtein D., and Langer R., "Potential Use of Ultrasound For Transdermal Delivery Of Therapeutic Proteins", Becton Dickinson Research Center, Research Triangle Park, Raleigh, NC, September, 1995.
2. Mitragotri S., Blankschtein D., and Langer R., "Ultrasound-Mediated Transdermal Insulin Delivery", Juvenile Diabetic Association Meeting, Athens, March, 1996.
3. Mitragotri S., "Transdermal Drug Delivery", IEEE Transaction of Ultrasound and Ferroelectrics, Boston Chapter, February 1996.
4. Mitragotri S., "Ultrasonic Drug Delivery", Symposium on Pressure Waves in Medicine, Massachusetts General Hospital, Boston, October, 1996.
5. Mitragotri, S., "Ultrasound-Mediated Drug Delivery and Diagnostics", Department of Mechanical Engineering, Division of Acoustic Research, Massachusetts Institute of Technology, February, 1996.

6. Mitragotri, S., "Ultrasound-Assisted Transdermal Drug Delivery", Department of Chemical Engineering and Chemistry, Rutgers University, March 1997.
7. Mitragotri S., "Ultrasound: A Novel Method of Painless Drug Delivery", V.M. Medical College, Solapur, India, July 1997.
8. Mitragotri S., "New Methods in Drug Delivery", National Chemical Laboratory, Pune, India, July, 1997.
9. Mitragotri, S., Pishko, M., Kost, J., and Langer R., "Ultrasound-Mediated Transcutaneous Glucose Monitoring", in Hot Topics in Neonatology, Washington DC, December 1997.
10. Mitragotri S., "Non-Invasive Blood Diagnostics Using Ultrasound", Seminars in Biomedical Engineering, Department of Chem. Eng., Massachusetts Institute of Technology, February 1998.
11. Mitragotri, S. and Kost, J., "Non-Invasive Diagnostics Using Ultrasound" Chiron Diagnostics, April 1, 1999.
12. Mitragotri, S. and Kost, J., "Ultrasound for Enhancing Skin Permeability, Annual Meeting of UIA, June 1999.
13. Kost, J., Mitragotri, S., and Langer, R., "Ultrasound for Non-Invasive Drug Delivery and Diagnostics" 4th U.S. Japan Symposium, Maui, 1999.
14. Mitragotri, S., "Applications of Ultrasound in Drug Delivery", Hisamitsu Pharmaceutical, Japan, February, 2000.
15. Mitragotri S., "Enhancement of Transdermal Drug Delivery and Diagnostics Using Ultrasound" Seminars in Biomedical Engineering, MIT, October 1999.
16. Mitragotri S., "Non-Invasive Methods of Drug Delivery and Diagnostics", Seminars in Biochemistry and molecular biology, University of California Santa Barbara, May 2000.
17. Mitragotri S., "Ultrasound-Mediated Transdermal Drug Delivery and Diagnostics", Materials Research Laboratory, University of California Santa Barbara, May 2000.
18. Mitragotri S., "Sonophoresis" University of Fukuoka, School of Medicine, Japan, February 2000.
19. Mitragotri, S., "Ultrasound for Drug Delivery", Symposium in Transdermal Drug Delivery, Kyushu, Japan, February, 2000.
20. Mitragotri S., "New Directions in Drug Delivery" DARPA, June 2000.
21. Mitragotri S., "Enhancement of Skin Permeability for Transdermal Drug Delivery" Washington University, April 2001.

22. Mitragotri S., "Ultrasound-mediated Skin Permeabilization for Drug Delivery and Diagnostics", Department of Chemical Engineering, University of California, Davis, April 2001.
23. Mitragotri S., "Reversible Skin Permeabilization for Transdermal Drug Delivery and Diagnostics" Bioengineering Seminar, UCSB, April 2000.
24. Mitragotri, S., "Transdermal Glucose Extraction using Ultrasound", Diabetes Technology Meeting, November 2001.
25. Mitragotri, S., "New Methods of Drug Delivery", California Nanosystems Institute, August 2001.
26. Mitragotri, S., "Drug Delivery", Research Internships in Science and Engineering, University of California, Santa Barbara, October 2001.
27. Mitragotri, S., "Ultrasound-Mediated Transdermal Drug Delivery", Engineering Design Course, Department of Mechanical Engineering, UCSB, October 2001.
28. Mitragotri, S., "Advanced Drug Delivery Systems", Research Internships in Science and Engineering, UCSB, November 2001.
29. Mitragotri, S., "Applications of Ultrasound in Local Drug Delivery", ISIS Pharmaceuticals, Carlsbad, CA, November 2001.
30. Mitragotri, S., "Transdermal Drug Delivery using Ultrasound", ALZA Corporation, Palo Alto, April 2002.
31. Mitragotri, S., "Fundamental Investigations of Mechanisms of Jet Injectors", Pharmacia Corporation, Kalamazoo, May 2002.
32. Mitragotri, S., "Transdermal Drug Delivery using Ultrasound", Biomolecular Science and Engineering, Bioengineering Career Opportunities and Insights into the Interface between Biotechnology and Engineering, UCSB, May 2002.
33. Mitragotri, S., "A Fundamental Analysis of Transdermal Transport of Small Hydrophobic Solutes based on Scaled Particle Theory", American Association of Pharmaceutical Scientists, Annual Meeting, November 12, 2002.
34. Mitragotri, S., "Ultrasound-Mediated Transdermal Drug Delivery", American Association of Pharmaceutical Scientists, Annual Meeting, November 13, 2002.
35. Tezel, A. and Mitragotri, S., "Ultrasound-Mediated Skin Permeabilization", Acoustical Society of America, Cancun, December 2-6, 2002.
36. Mitragotri, S., "Combinatorial Screening of Cosmetic Agents", Avon corporation, November 8, 2002.

37. Mitragotri, S., "Current Status of Transdermal Insulin Delivery", Diabetes Technology Meeting, Atlanta, November 2, 2002
38. Mitragotri, S., "High Throughput Discovery of Transdermal, Topical, and Cosmetic Applications", Unilever, November 5, 2002.
39. Mitragotri, S., "Novel Methods of Drug Delivery: New Solutions to Old BioTransport Problems", Pharmacology Seminars, UCSB, February 21, 2003.
40. Mitragotri, S., "Intestinal Patches for Oral Drug Delivery", alza Corporation, December 2002.
41. Mitragotri S., "Nanoscale Transport in Biological Systems", BioTechnica Conference, Monterey April 2003.
42. Mitragotri, S., "Friendly Methods of Drug Delivery", Innovation Conference, Center for Entrepreneurship, UCSB, April 25, 2003.
43. Mitragotri, S., "Ultrasound-Mediated Transdermal Drug Delivery", Inamed Corporation, June 2003.
44. Tezel, A. and Mitragotri, S., "Ultrasound-Mediated Transdermal Drug Delivery", Gordon Research Conference, August 2003.
45. Mitragotri, S., "Transdermal Insulin Delivery", Diabetes symposium, Santa Barbara, CA, November, 2003.
46. Mitragotri, S., "Transdermal Drug Delivery", Cornell University, October 27, 2003.
47. Mitragotri, S., "Down with the Skin Barrier", University of Colorado, Boulder, October 16, 2003.
48. Mitragotri, S., "Bringing Down the Skin Barrier", University of California, San Diego, May 2004.
49. Mitragotri, S., "New Methods of Drug Delivery", Chancellor's Community Breakfast, Santa Barbara, June, 2004
50. Mitragotri S., "Breaching the Skin Barrier: Transdermal Delivery of Protein and Peptide Drugs", Rensselaer Polytechnic Institute, October, 2004.
51. Mitragotri, S., "Designing New Methods of Drug Delivery: Understanding, Mimicking, and Fighting the Body's Transportation System", Rensselaer Polytechnic Institute, October, 2004.
52. Mitragotri, S., "New Methods of Drug Delivery", Expanding Pathways to Science, Engineering, and Mathematics, UCSB, August 10, 2004.

53. Mitragotri, S., "High Throughput Screening of Transport across Biological Barriers", Amgen, July 27, 2004.
54. Mitragotri, S., "Fundamental Investigation of Drug Delivery by Jet Injections", Bioject Inc. August 12, 2004.
55. Mitragotri, S., "Oral Insulin Delivery using Intestinal Patches", GREAT Symposium, October 2004.
56. Mitragotri, S., "Transdermal Delivery of Protein and Peptide Drugs", Department of Chemical Engineering, Tulane University, Spring 2005.
57. Mitragotri, S. "Fundamental Mechanisms of drug Delivery by Jet Injections", Needle-free autoinjector conference, February 2005, London.
58. Mitragotri, S., "Oral Delivery of Macromolecules using Intestinal Patches", Amgen, February 2005.
59. Mitragotri, S., "Breaking the Skin Barrier", Department of bioengineering, University of Pennsylvania, April 2005.
60. Mitragotri, S., "High Throughput Screening of Chemical Penetration Enhancers", Gordon Research Conference, August 2005
61. Mitragotri, S., "Transdermal Drug Delivery", CHEMCON, December 2005, India.
62. Mitragotri, S., "Transdermal Drug Delivery", NGEN Partners meeting, May 2005.
63. Mitragotri, S. "Biomedical Nanodevices", AIChE plenary session, Cincinnati, 2005.
64. Mitragotri, S., "Transdermal Delivery of Proteins using Ultrasound", AAPS Biotechnology Symposium, June 21, 2006.
65. Mitragotri, S., "High Throughput Screening of Skin Formulations", Skin and Formulations, Versailles, October, 2006.
66. Mitragotri, S., "Transdermal Delivery of Macromolecules" Department of Chemical Engineering, University of California, Riverside, February 3, 2006.
67. Mitragotri, S., "Needle-free Liquid Jet Injectors", AAPS Annual Meeting San Antonio, October 2006.
68. Mitragotri, S., "Transdermal Drug Delivery: Chemical Enhancers", Symposium honoring Bob Langer, Boston, July 2006.

69. Mitragotri, S., "Transdermal Delivery of Drugs and Vaccines", Department of Bioengineering, University of California, Irvine, June 2006.
70. Mitragotri, S., "Engineering Nanoparticles for Drug Delivery: Does Shape Matter?", BioDiscovery Symposium, UCSB, May 9, 2006.
71. Mitragotri, S., "Polymeric Particles for Drug Delivery: Does Shape Matter?", Department of Chemical Engineering, Tulane University, September 2006
72. Mitragotri, S., "Polymeric Particles for Drug Delivery: Does Shape Matter?", Department of Chemical Engineering, Georgia Institute of Technology, September 2006.
73. Mitragotri, S., "New Methods for Macromolecule Delivery", 3M Corporation, Minneapolis, October 2006.
74. Mitragotri, S., Mitragotri, S., "Designer Shapes of Polymeric Particles", International Fine Particle Research Institute, June 2006.
75. Mitragotri, S., "Future Medical Therapies: Painless Alternatives to Needle Injections", Staff Lecture, UCSB, May 2006.
76. Paliwal S. and Mitragotri, S., "Biological Effects of Ultrasound", Acoustical Society of America, Annual meeting, November 2006.
77. Mitragotri, S., "Spectroscopic Evaluation of Skin Properties", Johnson & Johnson, July 2006.
78. Paliwal S. and Mitragotri, S. "Ultrasound-mediated Transdermal Drug Delivery", International Conference on Bio and Pharmaceutical Technology, San Diego, 2006.
79. Mitragotri, S., "Designer Shapes of Polymeric Particles", International Fine Particle Research Institute, June 2006.
80. Paliwal S. and Mitragotri, S., "Biological Effects of Ultrasound", Acoustical Society of America, Annual meeting, November 2006.
81. Paliwal S. and Mitragotri, S. "Ultrasound-mediated Transdermal Drug Delivery", International Conference on Bio and Pharmaceutical Technology, San Diego, 2006.
82. Mitragotri, S., "Transdermal Vaccination", AAPS Biotech meeting, San Diego, June 2007.
83. Mitragotri, S., "High Throughput Screening of Skin Formulations", AAPS Annual meeting, November 2007.
84. Mitragotri, S., "Engineering Shape of Polymeric Particles for Drug Delivery", AIChE Annual meeting, November 2007.

85. Mitragotri, S., "Engineering Shape of Polymeric Particles", Chemical Engineering Department, Caltech, November 2007.
86. Mitragotri, S., "Engineering Shape of Polymeric Particles for Drug Delivery", Departmental Seminar, University of Michigan, Chemical Engineering, December 2007.
87. Mitragotri S., "Controlling Morphology of Polymeric Particles", Chemical Engineering, Stanford University, February 2008.
88. Paliwal S., Ogura M. and Mitragotri S., "Ultrasound-assisted Skin Diagnostics", Acoustical Society of America, November 2007.
89. Mitragotri, S., "High throughput Screening of Skin Formulations", Transdermal Drug Delivery World Symposium, Japan, November 2007.
90. Mitragotri S., "Needle-free Methods of Drug Delivery", Hisamitsu Pharmaceuticals, Japan, November 2007.
91. Mitragotri, S., "Polymer Particles for Drug Delivery", Departmental Seminar, Johns Hopkins University, Chemical Engineering, March 2008.
92. Mitragotri, S., "Design of non-Spherical Particles for Drug Delivery", International Particle Conference, Orlando, May 2008.
93. Mitragotri, S., "Drug Delivery with Polymeric Carriers: Does Shape Really Matter?" ACS meeting, San Francisco, March 2008.
94. Mitragotri, S., "Needle-free Liquid Jet Injectors", Medical Devices, Minneapolis, April 2008
95. Mitragotri, S., "Drug Delivery with Needle-free Liquid Jet Injectors", Controlled Release Society, July 2008.
96. Mitragotri, S., "New Developments in Drug Delivery Methodologies", Alza Corporation, June 2008.
97. Mitragotri, S., "Strategies to permeabilize the stratum corneum" National Institute for Infectious Diseases, May 2008.
98. Mitragotri, S., "Transdermal Drug Delivery: Modes of Enhancing Skin Permeability", Pfizer Symposium on Transdermal Drug Delivery, June 2008.
99. Mitragotri, S., "Designing Carriers for Drug Delivery: Does Shape Matter?", GGPF, San Jose, June 2008.
100. Mitragotri, S., "New Developments in Drug Delivery", Frontiers of Engineering, National Academy of Engineering Symposium, September 2008.

101. Mitragotri, S., "New Paradigms in Drug Delivery", Department of Chemical Engineering, Auburn University, Fall 2008.
102. Mitragotri, S., "Innovations in Transdermal Drug Delivery", LTS Symposium in Transdermal Drug Delivery, Germany October 2008.
103. Mitragotri, S., "Liquid Jet Injections for Drug Delivery", Bristol Myers Squibb, July 2008.
104. Mitragotri S., "New Methods of Drug Delivery", GlaxcoSmithKline, July 2008.
105. Mitragotri, S., "Polymeric Carriers for Drug Delivery", Abbott Vascular, June 2008.
106. Mitragotri, S., "New Directions in Drug Delivery", Indian Pharmaceutical Congress, December 2008.
107. Mitragotri, S., "Physical Methods of transdermal Drug Delivery", Skin Formulation Meeting, Versailles, March 2009.
108. Mitragotri, S., "Designing Carriers for Drug Delivery", Department of Chemical Engineering, Pennsylvania State University, February 2009.
109. Mitragotri, S., "Designing Carriers for Drug Delivery", Department of Pharmacy, University of Kansas, November, 2008.
110. Mitragotri, S., "Nanotechnology and Drug Delivery", AIChE Annual Meeting, November 2008.
111. Mitragotri, S., "Polymeric Carriers for Drug Delivery", Arizona State University, Spring 2009.
112. Mitragotri, S., "New Methods of Drug Delivery", Palo Alto Research Center, January 2009.
113. Mitragotri, S., "Design of Particles for Drug Delivery", Department of Bioengineering, University of California, Santa Diego, January 2009.
114. Mitragotri, S., "Delivery of Nucleic Acids to Skin", Pachyonychia Congenita Project Meeting, Montreal, May 2009.
115. Mitragotri, S., "New Challenges in Drug Delivery", Department of Chemical Engineering, Oklahoma State University, March 2009.
116. Mitragotri, S., "Enhancement of Drug Transport across Skin and Mucosal Membrane", Gordon Conference on Barrier Properties of Mammalian Skin, New Hampshire, August 2009.
117. Mitragotri, S., "Designer Biomaterials: Physical Answers to Biological Questions", Gordon Conference on Biomaterials, New Hampshire, July 2009.

118. Mitragotri, S., "Design of Particles for Drug Delivery", Department of Chemical Engineering and Materials Science, University of Minnesota, April 2009.
119. Mitragotri, S., "New Methods of Vaccination", BIO 2009, Atlanta 2009.
120. Mitragotri, S., "Innovations in Drug Delivery", New Jersey Institute of Technology, Spring 2009.
121. Mitragotri, S., "Impact of Shape on Drug Delivery Carriers", Drug Delivery Symposium, Salt Lake City, February 2009.
122. Mitragotri, S., Innovations in Drug Delivery, Genentech, June 2009.
123. Mitragotri, S., Nanoparticles for Drug Delivery, COMS2009, Copenhagen, September 2009.
124. Mitragotri S., "Tissue Based Diagnostics", Venture Acceleration Initiative Growth and Innovation Seminar, February 2009.
125. Mitragotri, S., "Responsive Nanobiomaterials for Drug Delivery", NanoDDS 2009, Indianapolis, October 2009.
126. Mitragotri, S., "Biomaterials for Drug Delivery: Shape Effects", Keynote lecture, Symposium on Microbubble & Microencapsulation for Drug Delivery , University College, London, April 2010.
127. Mitragotri, S., "Design of Micro- and Nanoparticles for Drug Delivery", 11th European Conference on Drug Delivery, The Netherlands, April 2010.
128. Mitragotri, S., "Nano- and Micro-scale Polymer Carriers for Drug Delivery", Department of Chemical Engineering, University of Tennessee, Knoxville, October 2009
129. Mitragotri, S. "Transdermal Drug Delivery: Methods to Make Skin Permeable", 8th International Workshop on Biological Barriers, Saarland University, Germany, March 2010.
130. Mitragotri, S. "Enhancement of Transdermal Drug Delivery by Chemical Enhancers", Biophysical Society Annual meeting, San Francisco, February 2010.
131. Mitragotri, S., "New Technologies for Oral Drug Delivery", Annual Meeting of Controlled Release Society, Portland, July 2010.
132. Mitragotri, S., "Next Generation Drug Therapies: Beyond Simple Pills and Injections", Institute of Chemical Technology, Mumbai, December 2009.
133. Mitragotri, S., "New drug delivery systems: From the laboratory to the clinic", National Chemical Laboratories, Pune, India, December 2009.
134. Mitragotri S., "Nanoparticle-based drug delivery", University of Washington, Seattle, November, 2010.

135. Mitragotri, S., "Engineering Shape of Nanoparticles for Drug Delivery", Gordon Conference on Drug Delivery Carriers for Medicine, New Hampshire, August 2010.
136. Mitragotri, S., "Nanoparticles for Drug Delivery", Burnham Institute of Medical Research Retreat, January 2010.
137. Mitragotri S., "Nanoparticles for drug delivery" Department of Chemical and Biological Engineering, University of Southern Florida, Fall 2010
138. Mitragotri, S., "Shape engineered nanoparticles for drug delivery", Particles 2010, Florida, May 2010.
139. Mitragotri, S., "Nanoparticles for Drug Delivery", Department of Chemical Engineering, University of South Florida, Fall 2010.
140. Mitragotri, S., "Sampling of Biomolecules from Skin", DTRA workshop on dermal toxicity, January 2010.
141. Mitragotri, S., "Interactions of Nanoparticles with Cells and Tissues: Role of Asymetry", Controlled Release Society annual meeting, July 2010.
142. Mitragotri, S., "Designer Nanoparticles for Drug Delivery", University of Pittsburgh, March 9, 2010.
143. Mitragotri, S., "New Methods of Drug Delivery", University of Cincinnati, May 12, 2010.
144. Mitragotri, S., "Nanomaterials for Drug Delivery", Department of Chemical Engineering, Texas Tech University, April 2010.
145. Mitragotri S., "Shape-specific Polymer Particles for Drug Delivery", MRS Spring Symposium, 2011.
146. Doshi N. and Mitragotri S., "Macrophages Recognize Size and Shape of Targets", ACS Annual Meeting, August 2010.
147. Mitragotri S., "Designer materials for Drug Delivery", Institute of Biochemical Engineering, ETH, Zurich, September 2010.
148. Mitragotri, S., "Transdermal Drug Delivery", Department of Pharmaceutics, Florida A&M University, October 2010.
149. Mitragotri, S., "Drug Delivery and Biomaterial Technologies", Corning Life Sciences, October 2010.

150. Mitragotri, S., "Design of Nanoparticles for Drug Delivery", Department of Pharmaceutics, University of Utah, November 2010.
151. Mitragotri S., "Engineering Shape of Polymer Particles for Drug Delivery", University of Pennsylvania, December 2010.
152. Mitragotri S., "Nanoparticles for targeted delivery to breast cancer", Genentech, November 2010.
153. Mitragotri s., "Advanced Nanoparticles for Drug Delivery", UCSB-Karolinska workshop on Nanomedicine, January 2011, Los Angeles.
154. Mitragotri, S., "Nanoparticles for Drug Delivery", National Institute of Pharmaceutical Education and Research, February 28, 2011.
155. Mitragotri, S., "Advances in Transdermal Drug Delivery", National Institute of Pharmaceutical Education and Research, March 1, 2011.
156. Mitragotri S., "Nanotechnology and Drug Delivery", Koch Institute, MIT, April 21, 2011.
157. Mitragotri, S., "Physical Properties of Drug Delivery Carriers: Impact on Biology", Northeastern University, April 22, 2011.
158. Mitragotri, S., "Designer Nanoparticles for Drug Delivery: Lessons Learned from Nature", Golden Gate Particle Forum, April 28, 2011.
159. Mitragotri, S., "Advanced Nanoparticle Design for Biomedical Applications", Nanotech, Boston, June 2011.
160. Mitragotri, S., "Reduction of RES Clearance by Engineering Shape", Helsinki, September 2011.
161. Mitragotri S., "Designer Nanoparticles for Drug Delivery", European Conference on Biomaterials, Dublin, September, 2011.
162. Mitragotri S., "Nanoparticles for Drug Delivery", Turkey, September 2011.
163. Mitragotri, S., "Biomaterials Development and Delivery", Allergan Medical, October 2011, Goleta.
164. Mitragotri S., "Recent Advances in Nanomedicine", Indo-US joint Symposium on Nanomedicine, November 2011, Mumbai, India.
165. Mitragotri S., "Drug Delivery Technologies", Institute of Chemical Technologies, November 2011, Mumbai, India.
166. Mitragotri, S., "Nanoscale Antibody-Drug Conjugates", Genentech, December 2011.

167. Mitragotri S., "Targeted Drug Delivery", University of Illinois, Chicago, Department of Pharmaceutical Sciences, January, 2012
168. Mitragotri S., "Injectable Drug Delivery Systems", Baxter Therapeutics, January 2012.
169. Mitragotri, S. "Technologies for the Design of Enhancers and Enhancer Combinations", L'Oreal, January 2012.
170. Mitragotri, S., "Designer Materials for Drug Delivery", Department of Bioengineering, University of California, Riverside, February 2012.
171. Mitragotri, S., "Transdermal Drug Delivery", Annual meeting of the Controlled Release Society, Indian Chapter, February 2012.
172. Mitragotri, S., "Engineering Particle Morphology for Drug Delivery", Seoul, South Korea, March 2012.
173. Mitragotri, S., "Advanced Nanoparticle Designs for Drug Delivery", IADDS, Taipei, Taiwan, April 2012.
174. Mitragotri S., "Nanomedicine: Design of Nanoparticles", Department of Chemical and Biological Engineering, University of Kentucky, April 2012.
175. Mitragotri S., "Transdermal Delivery of Nucleic Acids", American Society of Gene Therapy, Philadelphia, May 2012.
176. Mitragotri, S., "Role of Morphology in Biomaterial-Cell Interactions", Annual meeting of the Controlled Release Society, June 2012, Quebec, Canada.
177. Mitragotri, S., "Nanoparticles for Drug Delivery", Department of Chemical Engineering, University of Illinois, Urbana Champaign, August, 2012.
178. Mitragotri, S., "Needle-free Injectors", LTS Symposium, Bonn, September, 2012.
179. Mitragotri, S., "Novel Drug Delivery Systems", University of North Carolina, Department of Pharmacy, September 2012.
180. Mitragotri, S., "Technologies for Vaccination", Novartis Vaccines, Raleigh, September, 2012.
181. Mitragotri, S., "Technology Transfer from Academia to Industry", PODD, October Boston 2012.
182. Mitragotri, S., "Biointerface in Drug Delivery", Plenary lecture (Area 1c), AIChE, October 2012.
183. Mitragotri, S., "Clinical Translation of Transdermal Drug Delivery Technologies", AIChE, October 2012.

184. Anselmo, A., Gupta, A. and Mitragotri, S., “Lung Targeting Nanoparticles via Hitchhiking on Erythrocytes”, Plenary lecture Area 15b, AIChE, October 2012.
185. Mitragotri, S., “Fundamentals of Nanoparticle-Cell Interactions”, Department of Mechanical Engineering, University of Houston, Texas.
186. Mitragotri, S., “Antibody-Drug Nanoconjugates for Targeting Breast Cancer”, Genentech, November, 2012.
187. Mitragotri, S., “Bioinspired Strategies for Drug Carrier Design”, EMBS Micro and Nanotechnology in Medicine Conference, Maui, December 2012.
188. Mitragotri, S., “Needle-free Methods of Drug Delivery”, Cambridge Health Institute Conference, Palm Springs, January 2013.
189. Mitragotri, S., “Oral Drug Delivery Technologies”, 2013 Drug Delivery Symposium, Salt Lake City, February 3-6, 2013.
190. Mitragotri, S., “Nanoscale Antibody-Drug Conjugates”, Genentech, March 4, 2013.
191. Mitragotri, S., “Engineered Drug Delivery Systems”, Department of Biomedical Engineering, University of Texas, Austin, March 2013.
192. Mitragotri, S., “Opportunities in Drug Delivery”, Bold Aspirations Lecturer, University of Kansas, April 2013.
193. Mitragotri, S., “Engineered Drug Delivery Systems”, Department of Chemical Engineering, Georgia Institute of Technology, April 2013.
194. Mitragotri, S., “Impact of Morphological Features on Bioactive Interfaces”, Nano-engineered bioactive interfaces, Strasbourg, France, May 2013.
195. Mitragotri, S., “Designer Nanoparticles for Drug Delivery”, Particle Symposium, University of Massachusetts, Amherst, May 2013.
196. Mitragotri, S., “Drug Delivery Nanoparticles”, Department of Bioengineering, University of California, San Diego, May 2013
197. Mitragotri, S., “Antibody Shape Enhances Specificity of Antibody-coated Nanoparticles”, Amgen, May 2013.
198. Mitragotri, S., “Antibody-Drug Nanoconjugate”, IBC Bioconjugate Conference, San Diego, June 2013.
199. Mitragotri, S., “Transdermal Drug Delivery”, 12th Annual World Pharma Congress, Philadelphia June 2013.

200. Mitragotri, S., “Bioinspired Strategies for Drug Carriers”, Wyss Institute, Harvard University, June 6, 2013.
201. Mitragotri, S., “Engineered Drug Delivery Systems”, Bioengineering Division, Nanyang Technological University, August 2013.
202. Mitragotri, S., “Drug-Device Combination Systems”, Abbvie, August 1, 2013.
203. Mitragotri, S., “Drug Delivery Technologies: Engineering Solutions to Clinical Translation”, Abbvie, August 2, 2013
204. Mitragotri, S., “Nanoparticles for Drug Delivery”, Department of Chemical Engineering, National University of Singapore, August 2013.
205. Mitragotri, S., “Engineered Nanoparticles for Drug Delivery”, Polaris Workshop: Nanosystems for Medicine: fundamentals, synthesis & application, Porto, Portugal, October 2013.
206. Mitragotri, S., “Micro- and Nanoparticles for Drug Delivery”, International Pharmaceutical Congress, November 2013, Sao Palo.
207. Mitragotri, S., “Current Status and Future Prospects in Transdermal and Topical Delivery”, Allergan Medical, Inc., November 2013.
208. Mitragotri S., “Nanoparticles for Drug Delivery”, International Conference on Biological and Engineering Systems, Singapore, December 2013.
209. Mitragotri, S., “Engineering Solutions to Address Challenges in Drug Delivery”, Nanyang Institute of Technology in Health and Medicine, December 6, 2013.
210. Mitragotri, S., “Devices for Drug Delivery”, PepTalk Cambridge Health Institute, January 2014.
211. Mitragotri, “Targeted Delivery of Nanoparticles”, University of Pennsylvania, January 30, 2014
212. Mitragotri, S., “Technologies for Transdermal Drug Delivery”, Indian Pharmaceutical Congress, January, 23, 2014.
213. Mitragotri, S., “Transdermal Drug Delivery Systems”, Biological Barriers workshop, University of Saarland, February 2014.
214. Mitragotri, S., “Technologies for Delivering siRNA”, TIDES-Asia, February, 2014.
215. Mitragotri, S., “Advances in Transdermal Drug Delivery Systems”, Hisamitsu Inc., February 2014.

216. Mitragotri, S., “Nanoparticles Targeting to Brain Endothelium”, Stroke Conference, American Heart Association, February 12, 2014.
217. Mitragotri, S., “Recent Advances in Transdermal Delivery”, Hisamitsu Inc., February 26, 2014.
218. Mitragotri, S., “Innovations in Topical siRNA Delivery”, GRL international symposium on oligonucleotide therapeutics, Seoul, February 28, 2014.
219. Mitragotri, S., “Transdermal Drug Delivery: Current Status and Future Potential”, Amgen, March 2014.
220. Mitragotri, S., “Recent Advances in Oral Drug Delivery”, Amgen, March 2014.
221. Mitragotri, S., “Nanoparticles to Control Cellular Interactions”, MRS symposium on Biomaterials for Biomolecule Delivery and Understanding Cell-Niche Interactions, Spring 2014.
222. Mitragotri, S., “Advances in Nanomedicine”, University of Missouri at Kansas City, March 18, 2014.
223. Mitragotri, S., “Cell-mimetic Synthetic Capsules, Keystone Symposia on Cell Fate and Function, Olympic Valley, California, April 2014.
224. Mitragotri, S., “Needle-free Delivery of Macromolecules”, AAPS National Biotechnology Conference, May 2014.
225. Mitragotri, S., “Delivery of Macromolecules”, Distinguished Bioengineering Lecture, University of California, Riverside, 2014.
226. Mitragotri S., “Soft Protein Capsules for Drug Delivery”, ACS Colloids Symposium, Philadelphia, June 2014.
227. Mitragotri, S., “Nanoparticle-Membrane Interactions”, Biomembrane Days, Berlin, September 2014.
228. Mitragotri, S., “Nanoparticles for Drug Delivery”, Department of Chemical Engineering, Johns Hopkins University, September, 2014.
229. Mitragotri, S., “Advanced Methods of Active Delivery into Skin”, L’Oreal, September, 2014.
230. Mitragotri S., “Targeted Drug Delivery to Lungs”, NHLBI Symposium, Bethesda, September 2014.
231. Mitragotri, S., “New Concepts in Transdermal Drug Delivery”, New Jersey Symposium on Dermal Drug Delivery, October, 2014.

232. Mitragotri, S., “Advances in Drug Delivery Systems”, Plenary lecture, Pharmaceutical Manufacturing Division, AIChE Annual Meeting, October 2014.
233. Mitragotri, S., “Technologies to Enable Peptides overcome the Skin Barrier: New Paradigms”, AAPS meeting, November 2014.
234. Mitragotri S., “New Paradigms in Delivery of Nanoparticles”, University of Nebraska Medical Center, November 2014.
235. Mitragotri, S., “Recent Advanced in Drug Delivery using Nanoparticles”, Korean Society of Pharmaceutical Science and Technology, November 26, 2014.
236. Mitragotri, S., “Advances in Pharmaceutical Nanotechnology”, Pusan National University, November 27, 2014.
237. Mitragotri, S., “Recent Advances in Nanoparticle Drug Delivery”, IEEE-EEMB Symposium on Micro-nano Technology, Hawaii, December 2014.
238. Mitragotri, S., “New Directions in Therapeutic Development”, Mellichamp Chair Investiture Lecture, December 1, 2014.
239. Mitragotri, S., “Innovations in Drug Delivery”, University of Toronto, Chemical Engineering, January 2015.
240. Mitragotri, S., “Colloidal Drug Delivery Systems”, Gordon Conference on Mammalian Skin, Supramolecular Assembly, Italy, 2015
241. Mitragotri, S., “Clinical and Commercial Translation of Drug Delivery Systems”, Peck Symposium on Drug Delivery, Indianapolis, February, 2015.
242. Mitragotri, S., “Materials for Drug Delivery”, Materials Research Outreach Program, February, 2015.
243. Mitragotri, S., “Targeted Drug Delivery Systems”, Department of Biomedical Engineering, Texas A&M University, April 2015.
244. Mitragotri, S., “Emerging Technologies in Transdermal Drug Delivery”, FDA Workshop, May 2015.
245. Mitragotri, S., “Engineering Antibody-Target Interactions through Nanotechnology”, DTRA June 2015.
246. Mitragotri, S., “Innovations in Drug Delivery”, IIT Bombay. July 16-17, 2015.
247. Mitragotri, S., “Bio-inspired, Bio-Engineered and Bio-mimetic Drug Delivery Systems” National Chemical Laboratories, Pune, July 2015.

248. Mitragotri, S, "Clinical Translation of Nanomedicine", Controlled Release Society Annual meeting, July 2015.
249. Mitragotri, S, "Rational Design of Nanomaterials", MRS Spring Symposium, 2015.
250. Mitragotri, S., "Ionic Liquids for Transdermal Delivery", Gordon Research Conference on Barrier Properties of Mammalian Skin, August 2015.
251. Mitragotri, S., "Biomimetic Strategies for Drug Delivery", Department of Bioengineering, Rice University, September 2015.
252. Mitragotri, S., "Drug combinations for Cancer Treatment", Distinguished Cancer Center Seminar Series, University of Oklahoma Medical Center, September, 2015.
253. Mitragotri, S., Britton Chance Distinguished Lecture at University of Pennsylvania, September 2015.
254. Mitragotri, S., "Advances in Transdermal Drug Delivery Systems", Charotar University of Science and Technology, September 2015.
255. Mitragotri, S., "Oral Delivery of Macromolecules", Charotar University of Science and Technology, September 2015.
256. Mitragotri, S., "Innovations in Nanomedicine", Charotar University of Science and Technology, September 2015.
257. Mitragotri, S., "Biomimetic Soft Materials" Wyss Institute, Harvard University, September, 2015.
258. Mitragotri, S., "Transdermal Drug Delivery Systems", Department of Biomedical Engineering, Carnegie Mellon University, February 2016.
259. Mitragotri, S., "Nanotechnology-based Drug Delivery Systems", Keynote lecture NanoDDS, Johns Hopkins University, September 2016.
260. Mitragotri, S., "Ionic Liquids for Transdermal and Topical Drug Delivery", Gordon Research Conference on Drug Delivery, July 2016.
261. Mitragotri, S., "Biological Barriers to Drug Delivery", Department of Chemical Engineering, Iowa State University, February 2016.
262. Mitragotri, S., "Non-Invasive Drug Delivery Systems", Department of Chemical and Biological Engineering, University of California, Boulder, Spring, 2017.
263. Mitragotri, S., "Nanotechnology for Drug Delivery", Department of Chemical Engineering, University of Wisconsin, Madison, December, 2014.

264. Mitragotri S., “Biophysical Considerations of Transdermal Drug Delivery”, NSF Symposium: Skin for Engineers, Miami, January 2016.
265. Mitragotri S., “A Chemical Engineer’s view of Drug Delivery”, AIChE UCSB Chapter, February 2016.
266. Mitragotri, S., “Ionic Liquids for Transdermal Drug Delivery”, Perspectives in Penetration Permeation, France, March 2016.
267. Mitragotri, S., “Nanoparticles for Drug Delivery”, Mechanisms and barriers in Nanomedicine, Colorado, July 2016.
268. Mitragotri S., “Novel Systems for Systemic and Targeted Drug Delivery”, Department of Chemical Engineering, Stanford University, December, 2015.
269. Mitragotri S., “Innovative Systems for Systemic and Targeted Drug Delivery”, College of Pharmacy, University of North Carolina, December, 2015.
270. Mitragotri S., “Systemic and Targeted Drug Delivery”, Department of Biomedical Engineering, Duke University, January 2016.
271. Mitragotri S., “Nanoparticles for Targeted Drug Delivery”, University College London, April 2016.
272. Mitragotri S., “Recent Innovations in Drug Delivery Systems”, DDS Symposium Shizuoka University, September 2016.
273. Mitragotri, S., “Advances in Transdermal Drug Delivery Systems”, Japanese Drug Delivery Symposium, May 2017.
274. Mitragotri, S., “Oral Delivery of Biologics”, BIO 2016, San Francisco, 2016.
275. Mitragotri, S., “Transdermal Drug Delivery Systems”, Tom Watson Memorial Oration, University of Sydney, August 2016.
276. Mitragotri, S., “Nanoparticle-based Drug Delivery Systems”, Department of Pharmacy, University of Sydney, August 2016.
277. Mitragotri, S., “Synthetic-Natural Hybrid Nanoparticle Systems for Drug Delivery”, MRS Fall Meeting, 2016.
278. Mitragotri, S., “Ionic Liquids for Topical and Transdermal Delivery of Drugs”, International Conference on Dermal Drug Delivery by Nanocarriers, Berlin, March 2016.
279. Mitragotri, S., “Biological Barriers in Drug Delivery”, AIChE, San Francisco, November 2016.

280. Mitragotri, S., "Micro- and Nanoparticles for Drug Delivery", Nanotechnology in Medicine: From Molecules to Humans, Vienna, July 2016.
281. Mitragotri, S., "Overcoming Biological Barriers", Indian Institute of Technology, Bombay, June 23, 2016
282. Mitragotri S., "Understanding and Overcoming Biological Barriers for Drug Delivery", Dr. Reddy's Laboratory, June 2016.
283. Mitragotri, S., "Making Smart Medicines", Institute Lecture, Indian Institute of Technology, Bombay, July 2016.
284. Mitragotri, S., "Advanced Nanoparticles for Targeted Drug Delivery", North Dakota State University, September 2016.
285. Mitragotri, S., "Overcoming Biological Barriers for Drug Delivery", Department of Biomedical Engineering, University of Maryland, September 2016.
286. Mitragotri, S., "Overcoming Biological Barriers for Drug Delivery", Distinguished Seminar, Department of Chemical Engineering, Syracuse University, November, 2016.
287. Mitragotri, S., "Understanding and Overcoming Biological Barriers for Drug Delivery", University of Washington, Spring 2017.
288. Mitragotri, S., "Overcoming Biological Barriers for Drug Delivery", Department of Biomedical Engineering, University of Illinois Chicago, Spring 2017.
289. Mitragotri, S., "Translation of Drug Delivery Technologies", Bioengineering and Translational Medicine Symposium, San Francisco, November 2016.
290. Mitragotri, S., "Methods for Local and Systemic Drug Delivery", Oregon State University, June, 2017.
291. Mitragotri, S., "Drug Combinations for Cancer Treatment", Korean Institute for Science and Technology, June 2018.
292. Mitragotri. S., "Bio-inspired Methods of Drug Delivery", Department of Biomedical Engineering, University of Southern California, Spring, 2017.
293. Mitragotri, S., "Clinical Translation of Drug Delivery Systems", Department of Chemical Engineering, University of Utah, February, 2017.
294. Mitragotri, S., "Innovations in Transdermal Drug Delivery", KIST Symposium, Seoul, Korea, December 2016.

295. Mitragotri, S., "Biological Barriers to Drug Delivery Systems", Missouri Science and Technology, April 2017.
296. Mitragotri, S., "Clinical Translation of Drug Delivery Systems", Missouri Science and Technology, April 2017.
297. Mitragotri, S., "Unmet Needs in Drug Delivery", Indian Institute of Technology, Bombay, February 25, 2016.
298. Mitragotri, S., "Transdermal Drug Delivery using Ionic Liquids", Zing Conference, February, 2016.
299. Mitragotri, S., "Nanoparticles for Drug Delivery", New York University, March 2017.
300. Mitragotri, S., "Advanced Drug Delivery Systems", Amity University, India, January 2017
301. Mitragotri, S., "Analysis of Skin Penetration Enhancers", Tata Consulting, India, January 2017.
302. Mitragotri, S., "Synthetic-Natural Hybrid Systems for Drug Delivery", Gordon Conference on Cancer Nanotechnology, June 2017.
303. Mitragotri, S., "Synthetic-Natural Hybrid Systems for Drug Delivery", Department of Bioengineering, University of California, San Diego, February 2017.
304. Mitragotri, S., "Making Tomorrow's Medicines", LEAP lecture, Reliance Inc., February 28, 2017.
305. Mitragotri S., "Role of Drug Delivery in Meeting Unmet Medical Needs", Sun Pharmaceutical Inc., March 2, 2017.
306. Mitragotri S., "Closed-loop Insulin Delivery and Non-Invasive Glucose Monitoring", Diabetes Education Meeting, Mumbai, February 26, 2017.

Contributed Presentations

1. Mitragotri, S., Edwards, D., Blankschtein, D., Langer, R., "Quantitative Prediction of Ultrasonically Enhanced Transdermal Drug Delivery", *Proceed. Intern. Symp. Control. Rel. Bioact. Mater.*, 1995.
2. Mitragotri, S., Blankschtein, D., Langer, R., "Ultrasound-Mediated Transdermal Drug Delivery: Mechanisms and Applications", AICHE Meeting, Miami, November, 1995.
3. Mitragotri, S., Blankschtein, D., Langer, R., "Transdermal Drug Delivery Using Low-Frequency Sonophoresis", 3rd US-Japan Symposium on Drug Delivery, Maui, December, 1995.

4. Johnson, M., Mitragotri, S., Patel, A., Blankschtein, D., Langer, R., "Synergistic Effect of Ultrasound and Chemical Enhancers on Transdermal Drug Delivery", 3rd US-Japan Symposium on Drug Delivery, Maui, December, 1995.
5. Kost, J., Pliquet, U., Mitragotri, S., Yamamoto, A., Langer, R., Weaver, J., "Synergistic Effect of Ultrasound and Electroporation on Transdermal Drug Delivery", *Proceed. Intern. Symp. Control. Rel. Bioact. Mater.*, 23, 1996.
6. Mitragotri, S., "Ultrasound-Mediated Transdermal Drug Delivery and Diagnostics" Department of Chemical Engineering, City University of New York, March 1998.
7. Mitragotri S., "Transdermal Drug Delivery: Enhancement and Mathematical Modeling, Department of Biomedical Engineering, Rice University, March 1998.
8. Mitragotri S., "Sonophoresis: Ultrasound-Mediated Transdermal Drug Delivery", Department of Biomedical Engineering, University of Michigan, February 1998.
9. Kost J., Mitragotri, S., and Langer R., "Non-invasive Blood Diagnostics and Drug Delivery Using Ultrasound", Annual Meeting of the Acoustical Society of America, 1998.
10. Farrell, J., Theis, S., Mitragotri S., Kost J., and Langer R., "Mechanisms of Ultrasound-Mediated Transdermal Drug Delivery", Annual meeting of the Acoustical Society of America, 1998.
11. Kost, J., Mitragotri S., Gabbay, R., and Langer R., "Ultrasound-Induced Transdermal Transport for Non-Invasive Diagnostics", The First France-Israel Bi-National Workshop on Biosensors and Biochips, October, 1998.
12. Kost J., Mitragotri, S., Gabbay, R., and Langer R., "Sonophoresis for Drug Delivery and Diagnostics", Sixth International Conference in Perspectives in Percutaneous Penetration, Leiden, 1998.
13. Mitragotri, S., "Transdermal Drug Delivery and Diagnostics", Department of Mathematics, Massachusetts Institute of Technology 1998.
14. Mitragotri S., Kost J., and Langer R., "Non-Invasive Blood Diagnostics Using Ultrasound", AIChE, Miami, FL, Nov. 1998.
15. Kost, J., Mitragotri, S., Gabbay, R., and Langer, R., "Ultrasound-Enhanced Transdermal Transport for Drug Delivery and Diagnostics", Tri-National American-Turkish-Israeli Conference-Work Program", march 9-12, 1999, Haifa, Israel.
16. Mitragotri S., Ray, D., Farrell, J., Tang, H., Kost, J., and Langer R., "Synergistic Effect of Ultrasound and SLS on Transdermal Transport", Controlled Release Society, 1999, Boston, MA.

17. Yu, B., Chen, C., So, P., Blankschtein D., Mitragotri, S., and Langer, R., "Two Photon Microscopy for Studying Transdermal Drug Transport Enhancement" Controlled Release Society, 1999, Boston, MA.
18. Mitragotri S., Kost, J., and Langer, R., "Non-Invasive Measurement of Blood Glucose Levels Using Ultrasound, AIChE Annual Meeting, Dallas, 1999.
19. Tang, H. Mitragotri, S., Blankschtein, D., and Langer, R., "Experimental Models in Low-Frequency Sonophoresis" 4th U.S. Japan Symposium, Maui, 1999.
20. Tang, H. Mitragotri, S., Blankschtein, D., and Langer, R., "Mathematical Modeling of Low-Frequency Sonophoresis" 4th U.S. Japan Symposium, Maui, 1999.
21. B Yu, C Dong, PTC So, S Mitragotri, D Blankschtein and RS Langer, Two Photon Imaging of Transdermal Transport Processes, Perspectives in Percutaneous Penetration, La Grande Motte, 2000.
22. Mitragotri, S., Tang, H., Blankschtein, D., and Langer, R., "Role of Convection in Ultrasound-Mediated Transdermal Drug Delivery", Annual Meeting of AIChE.
23. Tang, H., Mitragotri, S., Blankschtein, D., and Langer, R., "Mathematical Modeling of Ultrasound-Mediated Transdermal Drug Delivery", Annual Meeting of AIChE, 2000.
24. Tezel, A., Sens, S., and Mitragotri, S., "Mechanisms of Ultrasound-Mediated Skin Permeabilization", 2nd UC Bioengineering Symposium, Santa Barbara, May 2001.
25. Schramm, J. and Mitragotri, S., "Mechanisms of Microjet-Mediated Drug Delivery", 2nd UC Bioengineering Symposium, Santa Barbara, May 2001.
26. Tezel, A., Sens, S., and Mitragotri, S., "Synergistic Effect of Ultrasound and Surfactants on Skin Permeability", 2nd UC Bioengineering Symposium, Santa Barbara, May 2001.
27. Tezel, A., Sens, S., and Mitragotri, S., "Mechanisms of Ultrasound-Mediated Transdermal Drug Delivery", AIChE Annual Meeting, November 2001.
28. Tezel, A., Sens, S., and Mitragotri, S., "Ultrasound-Mediated Transdermal Drug Delivery", AIChE Annual Meeting, November 2001.
29. Tezel, A., Sens, S., and Mitragotri, S., "Characterization of Transdermal Transport Pathways Created by Low-Frequency Ultrasound", Southern California Biomedical Meeting, January 2002.
30. Karande, P. and Mitragotri, S., "Enhancement of Transdermal Drug Transport by Chemical Enhancers", Southern California Biomedical Meeting, January 2002.
31. Shen, Z. and Mitragotri, S., "Intestinal Patches for Oral Drug Delivery", Southern California Biomedical Meeting, January 2002.

32. Karande, P. and Mitragotri, S., "High Throughput Screening of Transdermal Formulations", 3rd UC Bioengineering Symposium, Berkeley, May 2002.
33. Tezel, A. and Mitragotri, S., "Mathematical Modeling of Transdermal Transport during Low-Frequency Sonophoresis", 3rd UC Bioengineering Symposium, Berkeley, May 2002.
34. Schramm, J. and Mitragotri, S., "Drug Delivery with Jet Injectors", 3rd UC Bioengineering Symposium, Berkeley, May 2002.
35. Shen, Z. and Mitragotri, S., "Intestinal Patches for Oral Drug Delivery", 3rd UC Bioengineering Symposium, Berkeley, May 2002.
36. Mitragotri, S., Tezel, A., and Sens, A., "A Microporous Model for Describing the Effect of Low-Frequency Ultrasound on Skin Permeability", Annual Meeting of AIChE, Indianapolis, November 2002.
37. Mitragotri, S., Shen, Z., and Chambers, E., "In Vitro and In Vivo Evaluation of a Novel Intestinal Patch System for Oral Drug Delivery", Annual Meeting of AIChE, Indianapolis, November 2002.
38. Mitragotri, S., "Transdermal Insulin Delivery", Diabetes Therapeutics and Technology Meeting, November 2002.
39. Schramm, J. and Mitragotri, S., "Drug Delivery by Jet Injection", Diabetes Therapeutics and Technology Meeting, November 2002.
40. Shen, Z. and Mitragotri, S., "Oral Insulin Delivery using Intestinal Patches", Diabetes Therapeutics and Technology Meeting, November 2002.
41. Lahann, J., Mitragotri, S., Tran, T., and Langer, R., "Reversible Switching of Surfaces", ACS Spring Meeting, New Orleans, March 2003.
42. Kost, J., Mitragotri, S., Elstrom, T., Warner, N., and Kellogg, S., "Ultrasonic Skin Permeation Device for Transdermal Glucose Monitoring", La Jolla Conference, February 2003.
43. Karande, P., Jain, A., and Mitragotri S., "High Throughput Discovery of Binary Enhancer Formulations for Transdermal Applications", 30th Annual Meeting and Exposition of Controlled Release Society, Glasgow Scotland, July 2003.
44. Shen, Z. and Mitragotri S., "Oral Delivery of Insulin using Intestinal Patches", 30th Annual Meeting and Exposition of Controlled Release Society, Glasgow Scotland, July 2003.
45. Tezel, A., Shen, Z., and Mitragotri, S., "Epidermal Immunization using Low-Frequency Ultrasound", AIChE Annual Meeting, San Francisco, November 2003.

46. Tezel, A. and Mitragotri, S., "Interactions of Inertial Cavitation Bubbles with Stratum Corneum during Low-Frequency Sonophoresis", AIChE Annual Meeting, San Francisco, November 2003.
47. Dinh, T., Dinh, N., Theofanous, T., and Mitragotri, S., "SimCell: Discrete Nanoscale Transport in Biological Systems", AIChE Annual Meeting, San Francisco, November 2003.
48. Chambers, E. and Mitragotri, S., "Prolonged Circulation of Nanoparticles using Erythrocyte Adhesion", AIChE Annual Meeting, San Francisco, November 2003.
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50. Dinh, T., Dinh, N., Mitragotri, S., and Theofanous, T., "Mathematical Description of Discrete Nanoscale Intercellular Transport", American Physical Society, 2003.
51. Chambers, E. and Mitragotri, S., "Erythrocyte-Mediated Prolonged Circulation of Polymeric Nanoparticles", 31st Annual Meeting and Exposition of Controlled Release Society, Hawaii, 2004.
52. Paliwal, S., Tezel, A., Shen, Z., and Mitragotri, S., "Low-Frequency Ultrasound as a Transcutaneous Immunization Adjuvant for Generation of Peripheral and Mucosal Immunity", 31st Annual Meeting and Exposition of Controlled Release Society, Hawaii, 2004.
53. Jain, A., Karande, P., and Mitragotri, S., "Discovery of Transdermal Peptide Formulations by High Throughput Screening", 31st Annual Meeting and Exposition of Controlled Release Society, Hawaii, 2004.
54. Whitehead, K., Shen, Z., and Mitragotri, S., "Intestinal Patches for Oral Protein Delivery: Applications for Insulin Delivery", 31st Annual Meeting and Exposition of Controlled Release Society, Hawaii, 2004.
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57. Karande, P., Jain, A., and Mitragotri, S., "Investigations of Interactions of Chemicals with stratum using FTIR", Annual Meeting of AIChE, 2004.
58. Schramm, J. and Mitragotri, S., "Interactions of Liquid Jets with Skin", Annual Meeting of AIChE, 2004.

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60. Whitehead, K., Shen, Z., and Mitragotri, S., "Oral Delivery of Insulin using Intestinal Patches", Annual Meeting of AIChE, 2004.
61. Paliwal, S., Sundaram, J., and Mitragotri, S., "Induction of Selective Cytotoxicity towards Skin and Prostate Cancer Cells using Ultrasound and Quercetin", Annual Meeting of AIChE, 2004.
62. Pangarkar, C., Dinh, T., and Mitragotri, S., "Quantitative Analysis of Intracellular Trafficking of Synthetic Gene Vectors", Annual Meeting of AIChE, 2004.
63. Dokka, S., Tezel, A., Kelley, S., Hardee, G., and Mitragotri, S., "Topical Delivery of Oligonucleotides using Low-Frequency Sonophoresis", AAPS Annual Meeting, 2004.
64. Whitehead, K., Shen, Z., and Mitragotri, S., "Oral Insulin Delivery with Intestinal Patches", Diabetes Technology and Therapeutics Meeting, Philadelphia, October, 2004.
65. Smith-King, D., Newsam, J., and Mitragotri, S., "High Throughput Screening of Skin Formulations", American Association of Dermatology Annual Meeting, January 2005.
66. Pangarkar, C., "Perinuclear Accumulation of Non-Viral Vectors", Nanotech conference, Anaheim, May 2005
67. Dinh, A.-T. "A Model for Intracellular Trafficking of Viruses" Nanotech conference, Anaheim, May 2005.
68. Dinh, A.-T. "An Agent-based Simulation for Gene Therapy Vectors" Conference in Computational Biology, March 2005.
69. Paliwal S. and Mitragotri, S., "Ultrasound-mediated Delivery of Chemotherapeutic Drugs to Brain Tumors", 32nd Annual Meeting and Exposition of Controlled Release Society, Miami, 2005.
70. Karande P., Jain, A., and Mitragotri, S. "Chemical Penetration Enhancers for Transdermal Drug Delivery: How to Strike a Balance between Potency and Safety?", 32nd Annual Meeting and Exposition of Controlled Release Society, Miami, 2005.
71. Champion, J. and Mitragotri, S. "Phagocytosis of Polymeric Particles: Does Size Really Matter?", Gordon Research Conference on Phagocytes, June 2005.
72. Karande P., Jain A., and Mitragotri, S., "Design Principles of Chemical Penetration Enhancers for Transdermal Drug Delivery, Gordon Research Conference, August 2005.
73. Karande P., Jain A., and Mitragotri, S., "Design Principles of Chemical Penetration Enhancers for Transdermal Drug Delivery, AIChE, November 2005.

74. Chambers, E. and Mitragotri, S., “Long-circulating Nanoparticles”, AIChE, November 2005.
75. Pangarkar, C., Dinh, A-T., and Mitragotri, S., “Dynamics and Spatial Orientation of Endosomes”, AIChE, November 2005.
76. Champion, J. and Mitragotri, S. “Engineering Particle Geometry for Drug Delivery Applications”, AIChE, November 2005.
77. Champion, J. and Mitragotri, S. “Role of Particle Shape in Phagocytosis”, Material Research Society Spring meeting, April 2006.
78. Champion, J. and Mitragotri, S. “Role of Particle Shape in Phagocytosis”, Gordon Research Conference on Drug Carriers, August 2006.
79. Champion, J. and Mitragotri, S. “Particle Shape Determines Phagocytosis by Macrophages”, Annual meeting of Controlled Release Society, July 2006.
80. Dinh, T., Theofanous, T., and Mitragotri, S., “Spatial Patterns of Intracellular Organelles”, Gordon Conference on Theoretical Biology, August 2006.
81. Pangarkar, C., Dinh, T. and Mitragotri, S. “Optimization of Synthetic Gene Carriers based on Simulations on Intracellular Trafficking”, Gordon Research Conference on Drug Carriers, August 2006.
82. Champion J. and Mitragotri, S. “Recognition of Particle Size by Macrophages”, IFPRI meeting, Santa Barbara, June 2006.
83. Pangarkar, C., Dinh, T. and Mitragotri, S., “Quantitative Approach to Understand and Describe the Endocytic Pathway”, Gordon Research Conference on Lysosomes, July 2006.
84. Dinh, T., Pangarkar, C., and Mitragotri, S., Transport and Spatial Pattern of Intracellular Organelles, AIChE annual meeting, 2006.
85. Paliwal, S. and Mitragotri, S., Cellular Stress Disrupts Intracellular Transport Machinery, AIChE annual meeting, 2006.
86. Karande, P., Stevens, D., Kahn Pham, T., and Mitragotri, S., Vaccination Using Topical Formulations, AIChE annual meeting, 2006.
87. Champion J. and Mitragotri, S., Recognition of the Size of Polymer Drug Carriers by Macrophages, AIChE annual meeting, 2006.
88. Champion J. and Mitragotri, S., Role of Particle Shape in Drug Delivery, AIChE annual meeting, 2006.

89. Whitehead, K., and Mitragotri, S., Improving the Oral Delivery of Macromolecules through the Study of Permeation Enhancers, AIChE annual meeting, 2006.
90. Pangarkar, C., Dinh, T., and Mitragotri, S., Towards Quantitative Understanding of Mass Transfer in the Endocytic Pathway, AIChE annual meeting, 2006.
91. Pangarkar, C., Dinh, T., Theofanous, T., and Mitragotri, S., Searching for Optimal Properties of Synthetic Gene Vectors Via Simulations of Intracellular Transport Processes Chinmay Pangarkar, AIChE annual meeting, 2006.
92. Paliwal, S. and Mitragotri, S., Low Frequency Sonophoresis: Ultrastructural Basis for Stratum Corneum Permeability Assessed Using Quantum-Dots, AIChE annual meeting, 2006.
93. Dinh, T., Pangarkar, C., Theofanous, T., and Mitragotri, S., Simcell: Simulation of Discrete Nanoscale Transport in Cells, AIChE annual meeting, 2006.
94. Arora, A., Hakim, I., Rathnasigham, R., Srinivasan, R., Fletcher, D., and Mitragotri, S., Needle-Free Transdermal Drug Delivery Using Pulsed Piezoelectric Microjets, AIChE annual meeting, 2006.
95. Whitehead K., Karr, N., and Mitragotri, S., “Chemical Enhancers for Oral Drug Delivery”, Annual meeting of Controlled Release Society, July 2007.
96. Newsam J., Karande, P., and Mitragotri, S., High Throughput Screening of Skin Formulations, Skin Formulation Meeting, Versailles, France, March 2009.
97. N. Doshi, B. Prabhakarpandian, A. Rea-Ramsey, K. Pant, S. Sundaram, S. Mitragotri: Vascular Dynamics of Non-Spherical Particles: A Study using Synthetic Microvascular Network, Controlled Release Society Meeting, Copenhagen, July 2009.
98. Mitragotri, S., “Nanomaterials for Drug Delivery: Physical Answers to Biological Questions”, Nano Today, Singapore, July 2009.
99. Newsam J., Karande, P., and Mitragotri, S., High Throughput Screening of Skin Formulations, Skin Formulation Meeting, Versailles, France, March 2009.
100. Mitragotri, S., “Engineering Physical Properties of Biomaterial Interfaces”, European Federation of Biophysics and Biointerfaces, June 2009.
101. Doshi, N., Pandian, P. Rea-Ramsey, A., Pant, Sundaram, S., and Mitragotri, S., “Engineering Particle Geometry for Target Specific Adhesion using Simplified Synthetic Microvascular Networks”, Annual meeting of AIChE 2009.
102. Doshi, N., Zahr, A., Bhaskar, S., Lahann, J., and Mitragotri, S., “Biomimetic Particles for Drug Delivery”, Annual meeting of ACS, August 2009.

103. Doshi, N., Zahr, A., Bhaskar, S., Lahann, J., and Mitragotri, S., “Synthetic Red Blood Cells for Drug Delivery Applications”, Annual meeting of AIChE 2009.
104. Doshi, N. and Mitragotri, S., “Engineering particle shape to evade interactions with the mononuclear phagocyte system”, Annual meeting of AIChE 2009.
105. Yoo J. and Mitragotri, S., “Shape-shifting Particles”, Annual meeting of AIChE 2009.
106. Doshi, N., Pandian, P. Rea-Ramsey, A., Pant, Sundaram, S., and Mitragotri, S., “Vascular Dynamics of Non-Spherical Particles: A Study using Synthetic Microvascular Networks”, Annual meeting of AAPS 2009.
107. Yoo J. and Mitragotri, S., “Cellular uptake of drug delivery carriers with different shapes”, Annual meeting of AAPS 2009.
108. Arora A. and Mitragotri, S., “Developing Safe Microbicides using High Throughput Screening of Chemicals” Annual meeting of AAPS 2009.
109. Hsu S. and Mitragotri, S., “Peptides as Penetration Enhancers of Transdermal Drug Delivery”, Annual meeting of AAPS 2009.
110. Doshi, N., Zahr, A., Bhaskar, S., Lahann, J., and Mitragotri S., “Polymeric Particles that Mimic Blood Cells”, CRS annual meeting, July 2010.
111. Doshi, N. and Mitragotri, S., “Macrophages Recognize Size and Shape of Nanoparticles”, CRS annual meeting, July 2010.
112. Mitragotri, S., “Physics of Host-Pathogen Interaction in macrophage”, 7th Innate Immunity Conference, Greece, July 2010.
113. Doshi, N. and Mitragotri, S., “Cell-mimetic Particles”, AIChE Annual Meeting, Salt Lake City, November 2010.
114. Doshi, N. and Mitragotri, S., “Needle-shaped Polymer Particles Disrupt Cell Membranes”, AIChE Annual Meeting, Salt Lake City, November 2010.
115. Kolhar, P. and Mitragotri, S., “siRNA Delivery using Needle-shaped Polymer Particles”, AIChE Annual Meeting, Salt Lake City, November 2010.
116. Kolhar, P. and Mitragotri, S., “siRNA Delivery using Needle-shaped Polymer Particles”, NanoDDS conference, Omaha, Nebraska, October 2010.
117. Doshi, N. and Mitragotri, S., “Synthetic RBC-mimetic particles”, NanoDDS conference, Omaha, Nebraska, October 2010.

118. Ogura, M., Paliwal S., and Mitragotri S., “One-step Acquisition of Biomolecules from Skin”, ISTU conference, Tokyo, Japan, June 2010.
119. Doshi, N., Swiston A., Cohen R., Rubner, M. and Mitragotri, S. “Cell-based Drug Delivery Systems using Backpacks”, Controlled Release Society Annual meeting, Baltimore, 2011.
120. Kolhar, P. and Mitragotri S., “Needle-shaped Particles for Intracellular Delivery”, Release Society Annual meeting, Washington DC, 2011.
121. Hsu, T and Mitragotri, S., “Transdermal Delivery of Drugs using Peptides”, Release Society Annual meeting, Washington DC, 2011.
122. Kolhar P. and Mitragotri S., “Internalization and Organization of Particles in Cells”, 12th Annual UC Systemwide Bioengineering Symposium, Santa Barbara, CA 93106.
123. Gilbert J., Doshi, N. Cohen R., Rubner M. and Mitragotri S., “Cellular Backpacks for Drug Delivery”, 12th Annual UC Systemwide Bioengineering Symposium, Santa Barbara, CA 93106.
124. Kolhar P., Doshi, N. and Mitragotri S., “Polymer Nanoneedles for siRNA Delivery”, 12th Annual UC Systemwide Bioengineering Symposium, Santa Barbara, CA 93106.
125. Berman, S., Kellogg, S and Mitragotri, S., “Clearance of Particles from Wounds”, Annual meeting of AAPS, November, 2011.
126. Chaturvedula, A., Dipali, S., Paliwal S. and Mitragotri, S., “Delivery of Acyclovir and Docosanol into Skin”, Annual meeting of AAPS, November, 2011.
127. Gilbert, J., Anselmo, A., Swiston, A., Doshi, N., Cohen, R. and Rubner, M., “Polymer Backpacks for Cell-Mediated Drug Delivery”, MRS Annual Meeting Fall 2011.
128. Gupta V. and Mitragotri, S., “Oral Delivery of Proteins and Peptides”, Controlled Release Society Annual Meeting, Quebec City, July 2012.
129. Barua, S., Kolhar, P., and Mitragotri, S., “Anisotropic drug delivery carriers”, AIChE, October 2012.
130. Lovejoy, K., Zekrewsky, M., Del Sesto, R., Mitragotri, S., and Fox, D., “Ionic Liquids for Transdermal Delivery of Antibiotics”, International Conference on Ionic Liquids, Vilamoura, April 2013.
131. Kern, T., Lovejoy, K., Zekrewsky, M., Del Sesto, R., Mitragotri, S., and Fox, D., “Ionic Liquids for Treating Biofilms”, ACS Annual Symposium, April 2013.
132. Anselmo, AC., Gupta, V., Zern, B., Pan, D., Muzykantov, V., and Mitragotri, S., “Delivering Nanoparticles to Organs other than Liver and Spleen through Hitchhiking on Red Blood Cells”, NanoDDS, San Diego, October 2013.

133. Anselmo AC, Gupta V, Mitragotri S, “Delivering Nanoparticles to Lungs and Brain Via Hitchhiking On Red Blood Cells”, AIChE Annual Meeting, Nov. 4-8, 2013; San Francisco, CA. USA.
134. Kolhar P, Anselmo AC, Gupta V, Pant K, Prabhakarandian B, Ruoslahti E, Mitragotri S, “Using Shape Effects to Enhance Nanoparticle Targeting to Lungs and Brain”, AIChE Annual Meeting, Nov. 4-8, 2013; San Francisco, CA. USA.
135. Anselmo AC, Mitragotri S, “Layer-By-Layer Synthesis of Polymeric Carriers for Drug Delivery”, AIChE Annual Meeting, Nov. 4-8, 2013; San Francisco, CA. USA.
136. Gilbert JB, Anselmo AC, Mitragotri C, Rubner MF and Cohen RE, “Cell-Mediated Drug Delivery With Phagocytosis Resistant Polymeric Backpacks”, AIChE Annual Meeting, Nov. 4-8, 2013; San Francisco, CA. USA.
137. Barua S and Mitragotri S, “Synergistic Sub-Cellular Targeting Using Rod-Shaped Nanoparticles”, AIChE Annual Meeting, Nov. 4-8, 2013; San Francisco, CA. USA.
138. Zakrewsky M, Lovejoy K, Kern TL, Miller TE, Le V, Del Sesto R, Fox DT, and Mitragotri S, “Application of Novel Ionic Liquids for Cutaneous Drug Delivery”, AIChE Annual Meeting, Nov. 4-8, 2013; San Francisco, CA. USA.
139. Camacho KM and Mitragotri S, “Liposomal Co-encapsulation of 5-Fluorouracil and Doxorubicin for Synergistic Anticancer Activity”, AIChE Annual Meeting, Nov. 4-8, 2013; San Francisco, CA. USA.
140. Bhatnagar S, Chen M, Mitragotri S, and Coussios C –C, “The effect of cavitation nuclei in a protein loaded gel for ultrasound-assisted transdermal delivery”, ISTU, April 2014.
141. Anselmo A. and Mitragotri, S., Blood-Cell Inspired Drug Delivery Systems for Improved Delivery of Polymeric Carriers, AIChE Annual meeting, 2014.
142. Anselmo AC., Modery-Pawłowski, C., Menegatti, S., Kumar, S., Tian, L., Chen, M., and Mitragotri, S., Platelet-like Nanoparticles As Synthetic Hemostats, AIChE Annual meeting, 2014.
143. Kumar, S., Anselmo, AC, Banerjee, A., and Mitragotri, S., “Shape-Dependent Modulation of Immune Response to Pathogens”, AIChE Annual meeting, 2014.
144. Anselmo, AC., Gilbert, G., Kumar S., Gupta, V., Cohen, R., Rubner, M., and Mitragotri, S., “Delivering Cellular Backpacks to Lungs via Hitchhiking on Monocytes”, AIChE Annual meeting, 2014.
145. Zakrewsky, M. and Mitragotri, S., “Ionic Liquids as Topical Microbial Agents, Society for Biomaterials Annual Meeting, April 2015.

146. Camacho, K. and Mitragotri, S., “Drug Combinations for Cancer Treatment”, Gordon Research Conference on Cancer Nanotechnology, June 2015.
147. Banerjee A and Mitragotri, S., “Oral Insulin Delivery using Intestinal Patches”, AAPS Annual meeting, November 2015.
148. Kathryn M. Camacho¹, Stefano Menegatti, Douglas R. Vogus, Anusha Pusuluri, Zoe Fuchs, Maria Jarvis, Michael Zakrewsky, Michael Evans, Renwei Chen and Samir Mitragotri, Liposome-Encapsulated Synergistic Drug Combinations for Low Dose Chemotherapy, AIChE annual meeting 2016.
149. Stefano Menegatti, Nino Ruocco, Sunny Kumar, Michael Zakrewsky, Joshua De Oliveira, Matthew E. Helgeson, Gary Leal and Samir Mitragotri, Self-Fluorescent Hyaluronic Acid-Based Gel for Dermal Applications, De Novo Design of Skin-Penetrating Peptides for Enhanced Transdermal Delivery of Peptide Drugs, AIChE annual meeting 2016.
150. Stefano Menegatti, Michael Zakrewsky, Sunny Kumar, Joshua De Oliveira and Samir Mitragotri, De Novo Design of Skin-Penetrating Peptides for Enhanced Transdermal Delivery of Peptide Drugs, AIChE annual meeting 2016.
151. David J. Smith, L. Gary Leal, Samir Mitragotri and M. Scott Shell, A Molecular Thermodynamic Model for Nanoparticle-Membrane Interactions, AIChE annual meeting 2016.
152. Douglas R. Vogus, Michael A. Evans, Stefano Menegatti and Samir Mitragotri, Engineering Polymer Drug Conjugates to Synergistically Schedule Chemotherapeutics, AIChE annual meeting 2016.
153. Mengwen Zhang, Paula Malo de Molina, Samir Mitragotri and Matthew E. Helgeson, Formation of Multi-Nanoemulsions for Colloidal Synthesis, AIChE annual meeting 2016.

Courses Taught

UCSB

ChE 1A-Engineering and the Scientific Method
 ChE 119-Current Events in Chemical Engineering
 ChE 120A-Transport Processes
 ChE 120B - Transport Processes
 ChE 125-Principles of Bioengineering
 ChE 180A-Chemical Engineering Laboratory
 ChE 180B-Chemical Engineering Laboratory
 BMSE 252-Principles of Bioengineering

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Mentoring

Graduate Students and Post-docs Supervised

Jagannathan Sundaram (2002, Amgen), Ahmet Tezel (2004, Novartis), Joy Schramm (2004), Pankaj Karande (2005, faculty at RPI), Elizabeth Chambers (2006, Clorox), Anh-Tuan Dinh (2006, Archimedes), Chinmay Pangarkar (2006, Theranos), Julie Champion (2007, faculty at Georgia Tech), Kathryn Whitehead (2007, faculty at CMU), Sejal Hall (2008, Novartis), Anubhav Arora (2009, Noven), Sumit Paliwal (2009, Novartis), Nishit Doshi (2010, Theranos), Tracy Hsu (2011, Gilead), Poornima Kolhar (2012, Theranos), Chris Brunquell (2012, University of Connecticut), Aaron Anselmo (2015, MIT), Kathryn Camacho (2015, BMS), Michael Zakrewsky (2016, Gilead), Douglas Vogus (current), Anusha Pusuluri (current), Mengwen Zhang (current), Maximillan Nowak (current), Maria Jarvis (current), Tyler Brown (Current), David Smith (current), Apporva Sarode (current), Michael Evans (current), Debra Wu (current), Kevin Peng (current), Anvay Ukidwe (current), Dr. Elisabeth Kaltonbock (2002), Dr. Zancong Shen (2003, Ardea Biosciences), Dr. Amit Jain (2005, Corium Pharmaceuticals), Dr. Yogesh Katore (2006, faculty at VNS Institute of Pharmacy, Bhopal, India), Dr. Eiichi Torisaka (2008), Dr. Alisar Zahr (2008, Johnson & Johnson), Dr. Linden Bolisay (2010, L'Garde), Dr. Yasunari Michinaka (2010, Hisamitsu), Dr. Monica James-Smith (2010, Lubrizol), Dr. Makoto Ogura (2010, Hisamitsu), Dr. Jinwook Yoo (2010, faculty at College of Pharmacy, Pusan National University, South Korea), Rikke Benjamensen (2010, Technical University of Denmark), Dr. Zhimin Zhou (2011, Chinese Academy of Sciences), Maarten Bakker (2013, Eindhoven University), Dr. Paul Tumeh (2012, UCLA Medical School), Sunali Bhatnagar (2013, Oxford University), Dr. Vivek Gupta (2013, faculty at Keck Graduate Institute), Tomoyuki Mitoma (2014, Higuchi), Dr. Byeonghee Hwang (2013, faculty at Incheon National University), Francesca Cavalieri (2014), Dr. Sutapa Barua (2014, faculty at Missouri Science and Technology), Dr. Ming Chen (2014), Dr. Sunny Kumar (2014, Allergan), Dr. Stefano Menegatti (2015, faculty at NC State), Dr. Amrita Banerjee (current), Kazuhiro Ayogi (2014, Nitto-Denko), Renwei Chen (current), Vinu Krishnan (current), Jianping Qi (2016), Yasunori Iwao (2016), Marta Broto (2016), Andres Da Silva (2016).

Undergraduate Student Projects

Philip Le (2000), Marc Soares (2000), Brian Kluck (2001), Ashley Sanders (2002), Emile Plise (2001), Joe Tucherer (2001), Elizabeth Mallon (2000), Nicarter Gordon (2000), Maria Casanon (2002), Ruben Ayala (2001), Justin Cisar (2001), Michael Hedvat (2002), Vivian Shen (2001), Adam Hartwick (2001), Ana Mistic (2002), Courtney Still (2002), Penny Letts (2001), Tamara Murray (2001), Ocean Feniger

(2001), Nitasha Bakhru (2002), May Brickey (2001), Veronica Mora (2001), Armondo Jimenez (2001), Seth Sanford (2001), Kathy Bange (2001), Eve Lee (2001), Richard Keeler (2001), Beison Ramirez (2001), Haydee Rodriguez (2001), Brian Piorek (2002), Paul Andersen (2002), Kelly Smith (2002), Berlyn Mellein (2002), Luis Diaz (2002), Nocol Balquidra (2002), Jefferey Katrencik (2002), Lauren Fix (2002), Celia Chen (2002), Araceli Rojo (2002), Maricela Casteneda (2002), Steve Bush (2002), Jeff Oneil (2002), Cecelio Morello (2002), Drew Lassen (2002), Amanda Walker (2003), Ashwinin Ashokkumar (2003), Tawni Koutchesfahani (2003), Tiffany Coleman (2003), Arthur Wojcicki (2003), Kaitleen Ergun (2003), Nicholas Williams (2003), Thien Khahn Pham (2003), Moon Jean Ho (2004), Vincent Kispersky (2004), Thomas Minner (2004), Varun Bharadwaj (2004), Heather Becker-Brungard (2005), Natalie Karr (2005), Casey Schmidt (2006), Santosh Gupta (2006), Alejandro Sanchez (2006), Gabriel Martinez (2006), Zareen Zapadia (2006), Chang (2009), Brian Ilker (2009), Ari Pritchard-Bell (2009), Lindsay Palmer (2008), Natalie Karr (2008), Shayla Brooks (2008), David Wilson (2008), Alex Morales (2008), Jordanne Gregorio (2008), Ricardo Alamillo (2009), Nancy Annunziato (2009), Brittney Hellner (2008), Marjorie Fernandez (2008), Steven Pease (2008), Holly Bovey (2008), David Gebauer (2008), Jordanne Wang (2011), Michael Grambow (2011), Martin Manley (2011), Michele Corrigan (2011), Martin Bryant (2011), Nathan Dias (2011), Daniel Schiffels (2011), Jessica Hoy (2011), Yuan Pan (2011), Dana Rutherford (2011), Vivian Le (2012), Joohee Lee (2012), Michael Lam (2012), Aaron Whitelach (2012), Mayra Perez (2012), Amberneil Roy (2012), Zoë Fuchs (2013), Dilpreet Kaur (2013), Austin Pearce (2013), Analisa Ragusa (2013), Vanessa Wagner (2013), Zoe Fuchs (2015), Joshua de Oliveira (2014) , Sachi Dholakia (2014), Brigid Ehrlich (2014), Rohan Gogoi (2015), Nathaniel Mosk (2014), Marshall Pittman (2014), Ami Thakrar (2014), Jessica Wong (2014), Sateja Paradkar (2015), Sanjana Apte (2015), Rohit Bhatt (2015), Jennifer Lee (2015), Michael Arnold (2015), Elaine Bunyan (2015), Gauree Chendke (2015), Francis Cunningham (2015), Ileana Garcia (2015), Ravinderdeep Gill (2015), Sam Kretchmar (2015), Valerie Lensch (2015), Omar Lujano (2016), Juan Diego Carval (2016), Josh Garcia (2016), Mayuri Kararaneni (2016), Sam Kretchmar (2016), Daanish Kulkarni (2016), Jenna Ott (2016), Alexis Baillie (2016), Alexandra Barajas (2016), Han Woo Suh (2016), Yossuf Sibih (2016)