

Mark Andrew Eiteman

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Education

Ph.D., Chemical Engineering, University of Virginia, 1991
M.S., Chemical Engineering, University of Virginia, 1988
B.S., Chemical Engineering, Summa cum laude, Virginia Tech, 1986

Academic Positions

2016-2016 Distinguished Faculty Scholar, College of Engineering, University of Georgia, Athens
2016 Visiting Professor, IIT-Madras, Chennai, India. (June-July)
2014 Fulbright-Nehru Research Excellence Scholar, Anna University, Chennai, India. (August – December)
2002-2002 Professor, College of Engineering (formerly Department of Biological and Agricultural Engineering), University of Georgia, Athens
2002-1996-2002 Professor, Department of Microbiology, University of Georgia, Athens (courtesy appointment)
1996-2002 Associate Professor, Department of Biological and Agricultural Engineering, University of Georgia, Athens
1991-1996 Assistant Professor, Department of Biological and Agricultural Engineering, University of Georgia, Athens
1987-1991 National Science Foundation Graduate Fellow, Southeastern Region Chemical Engineering Fellow, Graduate Teaching Assistant, Department of Chemical Engineering, University of Virginia, Charlottesville

Instructional Responsibilities

(† new Course developed; directed research not included)

Computer Programming for Engineers† (AEN 402, ES 215, EGR 215, EGR 225)

An introduction to statistical methods, matrix methods and computer programming for sophomore engineering students.

Spring 1992, Winter 1993, Spring 1993, Fall 1993, Fall 1994, Winter 1995, Fall 1995, Winter 1996, Winter 1997

Introduction to Biological Engineering† (EGR 250, ENGR 2500)

An introduction to engineering and design for biological systems.

Fall 1995, Fall 1996, Fall 1997, Spring 1999, Spring 2000, Spring 2001, Spring 2002

Engineering Thermodynamics (ENGR 3140)

The science of energy analysis from an engineering perspective. Focus on forms of energy, transformations of energy, and energy flow and energy analysis of thermodynamic systems. Study applications in biological and traditional engineering systems.

Fall 2006

Mass Transport and Rate Phenomena† (BEN 380, EGR 380, ENGR 3520)

Mass transport and rate phenomena in the analysis of engineering problems in biological systems.

Winter 1994, Winter 1995, Winter 1996, Winter 1997, Winter 1998, Winter 1999, Fall 1999, Spring 2000, Fall 2001, Fall 2002, Fall 2003, Fall 2004, Fall 2005, Fall 2006, Fall 2007, Fall 2008, Fall 2009, Fall 2010, Fall 2011, Fall 2012, Fall 2013, Spring 2015, Spring 2016

Biochemical Engineering† (EGR 490/690, ENGR 4510/6510)

Design and analysis of enzymatic and microbial reaction systems.

Fall 1996, Fall 1997, Spring 1999, Spring 2000, Spring 2001, Spring 2002, Spring 2003, Spring 2004, Spring 2005, Spring 2006, Spring 2007‡, Spring 2008, Spring 2010, Spring 2011, Spring 2012, Spring 2013, Spring 2014, Spring 2015, Spring 2016

‡ Course taught as "Special Topics"

Design of Biochemical Separations Processes† (ENGR 4520/6520)

Unit operations used for biological processing including filtration, centrifugation, cell

Disruption, isolation, purification, and polishing.

Fall 2002, Fall 2003, Fall 2007, Fall 2009, Fall 2010, Fall 2011, Fall 2012, Fall 2013, Fall 2015, Fall 2016

Biochemical Engineering Capstone Design† (BCHE 4920)

Biochemical engineering design experience, including completion of a design project under the supervision of a project director. This course was shared in equal responsibility with one other faculty member.

Spring 2013, Spring 2014

Fermentation Engineering Laboratory† (BCHE 8210)

An advanced experiential study of fermentations, focused on multidisciplinary team projects.

Spring 2004

Advanced Microbial Physiology and Bioprocess Engineering† (BCHE 8980)

An advanced 1-hour course covering the close relationship between microbial physiology and bioprocess engineering.

Fall 2016

Recognitions and Outstanding Instructional Achievements

- Developed BioChemical Engineering degree proposal (2002), constructed its curriculum (2004-2010) and served as first coordinator for the B.S. BioChemical Engineering degree (2004-2012), leading the successful effort to achieve program's first accreditation (2012 site visit, 2013 accreditation).
- Teacher of the Year, recognition by Biological Engineering student Club, 1995-1996, 2000-2001
- Recognition for superior teaching, College of Agricultural and Environmental Sciences, 1997
- Mentor for Senior Design Project by Joe Plymale, 1995. This design project was awarded an Honorable Mention in the American Institute of Architects Georgia 1995 Sustainable Design Award Program, and was displayed at their meeting in Birmingham, United Kingdom in November, 1995

Books Edited or Co-edited

1. "Aqueous Biphasic Separations: Biomolecules to Metal Ions," R. D. Rogers and M. A. Eiteman, editors, Plenum Press, New York, 1995.

Chapters in Books

5. E. Altman, M. A. Eiteman, "The Potential for Using *Escherichia coli* and Other Organisms to Produce Recombinant Ingredients for the Cosmetic Industry," in *Microorganisms and Cosmetics*, Anthony O'Lenick Jr. (ed.) Allured Books, Carol Stream, IL, pp. 385-394, 2009.
4. M. A. Eiteman, "Predicting Partition Coefficients of Small Solutes Based on Hydrophobicity," in *Methods in Biotechnology*, volume 11: *Aqueous Two-Phase Systems: Methods and Protocols*, Rajni Hatti-Kaul (ed.) Humana Press, Totowa, NJ, pp. 107-118, 2000.
3. M. A. Eiteman, "Hydrophobic and Charge Effects in the Partitioning of Solutes in Aqueous Two-Phase Systems," in *Aqueous Biphasic Separations: Biomolecules to Metal Ions*, R. D. Rogers and M. A. Eiteman (eds.) Plenum Press, New York, pp. 31-48, 1995.
2. A. Veide, C. Hassinen, D. Hallén, M. Eiteman, B. Lassen, K. Holmberg, "Poly(ethylene Glycol)-Protein Interaction in Salt Containing Aqueous Solutions," in *Aqueous Biphasic Separations: Biomolecules to Metal Ions*, R. D. Rogers and M. A. Eiteman (eds.) Plenum Press, New York, pp. 133-140, 1995.
1. M. A. Eiteman, J. L. Gainer, "Prediction of Partition Coefficients for Peptides in Aqueous Two-Phase Systems," in *NATO-ASI Series: Chromatographic and Membrane Processes in Biotechnology*, July 15-27, 1990, C. A. Costa and J. Cabral (eds.) Kluwer Academic Publishers, pp. 323-334, 1991.

Refereed Journal Articles

(† indicates student for whom Dr. Eiteman served as Major professor, Graduate Advisory Committee member, or undergraduate research mentor)

88. E. Rajaraman†, A. Agarwal, J. Crigler, R. Seipelt-Thiemann, E. Altman, M. A. Eiteman, "Transcriptional analysis and adaptive evolution of *Escherichia coli* strains growing on acetate," *Applied Microbiology and Biotechnology*, 100:7777-7785 (2016)
doi: 10.1007/s00253-016-7724-0
87. X. Wu†, M. A. Eiteman, "Production of citramalate by metabolically engineered *Escherichia coli*," *Biotechnology and Bioengineering*, in press (2016)
86. Y. Fang†, H. Bullock, S. A. Lee, N. Sekar, M. A. Eiteman, W. B. Whitman, R. P. Ramasamy, "Detection of methyl salicylate using bi-enzyme electrochemical sensor consisting salicylate hydroxylase and tyrosinase," *Biosensors and Bioelectronics*, 85:603-610 (2016).
85. S. A. Lee, L. J. Wrona†, A. B. Cahoon, J. Crigler, M. A. Eiteman, E. Altman, "Isolation and characterization of bacteria that use furans as the sole carbon source," *Applied Biochemistry and Biotechnology*, 178(1):76-90 (2016)
doi:10.1007/s12010-015-1859-9
84. T. Xia†, Q. Han†, W. V. Costanzo†, Y. Zhu†, J. L. Urbauer, M. A. Eiteman, "Accumulation of D-glucose from pentoses by metabolically engineered *Escherichia coli*," *Applied and Environmental Microbiology*, 81(10):3387-3394 (2015)
doi:10.1128/AEM.04058-14
83. M. A. Eiteman, S. Ramalingam, "Microbial production of lactic acid," *Biotechnology Letters*, 37:955-972 (2015)
doi: 10.1007/s10529-015-1769-5
82. T. Xia†, E. Altman, M. A. Eiteman, "Succinate production from xylose-glucose mixtures using a consortium of engineered *Escherichia coli*," *Engineering in Life Sciences*, 15(1):65-72 (2015)
doi: 10.1002/elsc.201400113
81. X. Wu†, R. Altman, M. A. Eiteman, E. Altman " *Escherichia coli* adapted to elevated sodium concentrations leads to increased tolerance to cations and the ability to form lactic acid," *Applied and Environmental Microbiology*, 80(9):2880-2888 (2014)
doi: 10.1128/AEM.03804-13
80. S. D. Guetter†, M. A. Eiteman, "Production of biomass and filamentous hemagglutinin by *Bordetella bronchiseptica*," *Biosystems and Bioprocess Engineering*, 37(2):115-123 (2014)
doi: 10.1007/s00449-013-0977-4
79. A. S. Arya†, S. A. Lee, M. A. Eiteman, "Differential sensitivities of the growth of *Escherichia coli* to acrylate under aerobic and anaerobic conditions and its effect on product formation," *Biotechnology Letters*, 35:1839-1843 (2013)
doi: 10.1007/s10529-013-1282-7
78. X. Wu†, R. Altman, M. A. Eiteman, E. Altman, "Effect of overexpressing *nhaA* and *nhaR* on sodium tolerance and lactate production in *Escherichia coli*," *Journal of Biological Engineering*, 7:3 (2013)
doi: 10.1186/1754-1611-7-3
77. R. Prabhu†, E. Altman, M. A. Eiteman, "Lactate and acrylate metabolism by *Megasphaera elsdenii* under batch and steady state conditions," *Applied and Environmental Microbiology*, 78(24):8564-8570 (2012)
doi: 10.1128/AEM.02443-12
76. T. Xia†, M. A. Eiteman, E. Altman, "Simultaneous utilization of glucose, xylose and arabinose in the presence of acetate by a consortium of *Escherichia coli* strains," *Microbial Cell Factories*, 11, 77 (2012)
doi:10.1186/1475-2859-11-77
75. T. Zhu†, R. Cheng, S. A. Lee, E. Rajaraman†, M. A. Eiteman, T. D. Querec, E. R. Unger, L. Mao, "Continuous-flow ferrohydrodynamic sorting of particles and cells in microfluidic devices," *Microfluidics and Nanofluidics*, 13:645-654 (2012)
doi: 10.1007/s10404-012-1004-9
74. K. L. Cook, M. J. Rothrock, Jr., M. A. Eiteman, N. Lovanh, K. Sistani, "Evaluation of nitrogen retention and microbial populations in poultry litter treated with chemical, biological or adsorbent amendments," *Journal of Environmental Management*, 92:1760-1766 (2011)
doi: 10.1016/j.jenvman.2011.02.005
73. A. Lakshmanaswamy†, E. Rajaraman†, M. A. Eiteman, E. Altman, "Microbial removal of acetate selectively

- from sugar mixtures,” *Journal of Industrial Microbiology and Biotechnology*, 38(9):1477-1484 (2011)
doi: 10.1007/s10295-010-0932-1
72. M. J. Rothrock, Jr., K. L. Cook, J. G. Warren, M. A. Eiteman, K. Sistani, “Microbial mineralization of organic N-forms in acidified poultry litters,” *Journal of Environmental Quality*, 39(5):1848-1857 (2010)
doi: 10.2134/jeq2010.0024
71. Y. Zhu†, M. A. Eiteman, S. A. Lee, E. Altman, “Conversion of glycerol to pyruvate by *Escherichia coli* using acetate- and acetate/glucose-limited fed-batch processes,” *Journal of Industrial Microbiology and Biotechnology*, 37:307-312 (2010)
doi: 10.1007/s10295-009-0675-z
70. S. Lu†, M. A. Eiteman, E. Altman, “Effect of flue gas components on succinate production and CO₂ fixation by metabolically engineered *Escherichia coli*,” *World Journal of Microbiology and Biotechnology*, 26:429-435 (2010)
doi:10.1007/s11274-009-0185-1
69. S. Lu†, M. A. Eiteman, E. Altman, “Effect of CO₂ on succinate production in dual-phase *Escherichia coli* fermentations,” *Journal of Biotechnology*, 143:213-223 (2009)
doi: 10.1016/j.jbiotec.2009.07.012
68. S. Lu†, M. A. Eiteman, E. Altman, “pH and base counterion affect succinate production in dual-phase *Escherichia coli* fermentations,” *Journal of Industrial Microbiology and Biotechnology*, 36:1101-1109 (2009)
doi: 10.1007/s10295-009-0594-z
67. A. Singer†, M. A. Eiteman, E. Altman, “DNA plasmid production in different host strains of *Escherichia coli*,” *Journal of Industrial Microbiology and Biotechnology*, 36:521-530 (2009)
doi: 10.1007/s10295-008-0522-7
66. M. A. Eiteman, S. A. Lee, R. Altman, E. Altman, “A substrate-selective co-fermentation strategy with *Escherichia coli* produces lactate by simultaneously consuming xylose and glucose,” *Biotechnology and Bioengineering*, 102(3):822-827 (2009)
doi: 10.1002/bit.22103
65. Y. Zhu†, M. A. Eiteman, R. Altman, E. Altman, “High glycolytic flux improves pyruvate production by a metabolically engineered *Escherichia coli* strain,” *Applied and Environmental Microbiology*, 74(21):6649-6655 (2008)
doi: 10.1128/AEM.01610-08
64. Y. Zhu†, M. A. Eiteman, E. Altman, “Indirect monitoring of acetate exhaustion and cell recycle improve lactate production by non-growing *Escherichia coli*,” *Biotechnology Letters*, 30:1943-1946 (2008)
doi: 10.1007/s10529-008-9775-5
63. M. A. Eiteman, S. A. Lee, E. Altman, “A co-fermentation strategy to consume sugar mixtures effectively,” *Journal of Biological Engineering*, 2:3 (2008)
doi: 10.1186/1754-1611-2-3
62. G. Lee, R. N. Carrow, R. R. Duncan, M. A. Eiteman, M. W. Rieger, “Synthesis of organic osmolytes and salt tolerance mechanisms in *Paspalum vaginatum*,” *Environmental and Experimental Botany*, 63:19-27 (2008)
doi: 10.1016/j.envexpbot.2007.10.009
61. S. K. Brandon, M. A. Eiteman, K. Patel, M. M. Richbourg†, D. J. Miller†, William F. Anderson, J. D. Peterson, “Hydrolysis of Tifton 85 Bermudagrass in a pressurized batch hot water reactor,” *Journal of Chemical Technology and Biotechnology*, 83:505-512 (2008)
doi: 10.1002/jctb.1824
60. G. N. Vemuri†, M. A. Eiteman, J. E. McEwen, L. Olsson, J. Nielsen, “Increasing NADH oxidation reduces overflow metabolism in *Saccharomyces cerevisiae*,” *Proceedings of the National Academy of Sciences*, 104(7), 2402-2407 (2007)
doi: 10.1073/pnas.0607469104
59. Y. Zhu†, M. A. Eiteman, K. DeWitt, E. Altman, “Homolactate fermentation by metabolically engineered *Escherichia coli*,” *Applied and Environmental Microbiology*, 73(2), 456-464 (2007)
doi: 10.1128/AEM.02022-06
58. M. A. Eiteman, E. Altman, “Overcoming acetate in *Escherichia coli* recombinant protein fermentations,” *Trends in Biotechnology*, 24(11), 530-536 (2006)
doi: 10.1016/j.tibtech.2006.09.001
57. G. M. Smith†, S. A. Lee, K. C. Reilly†, M. A. Eiteman, E. Altman, “Fed-batch two-phase production of alanine by a metabolically engineered *Escherichia coli*,” *Biotechnology Letters*, 28, 1695-1700 (2006)

- doi: 10.1007/s10529-006-9142-3
56. G. N. Vemuri†, E. Altman, D. P. Sangurdekar, A. B. Khodursky, M. A. Eiteman, "Overflow metabolism in *Escherichia coli* during steady-state growth: Transcriptional regulation and effect of the redox ratio," *Applied and Environmental Microbiology*, 72(5), 3652-3661 (2006)
doi: 10.1128/AEM.72.5.3653-3661.2006
 55. G. N. Vemuri†, M. A. Eiteman, E. Altman, "Increased recombinant protein production in *Escherichia coli* strains with overexpressed water-forming NADH oxidase and a deleted ArcA regulatory protein," *Biotechnology and Bioengineering*, 94(3), 538-542 (2006)
doi: 10.1002/bit.20853
 54. G. N. Vemuri†, T. A. Minning, E. Altman, M. A. Eiteman, "Physiological response of central metabolism in *Escherichia coli* to deletion of pyruvate oxidase and introduction of heterologous pyruvate carboxylase," *Biotechnology and Bioengineering*, 90(1), 64-76 (2005)
doi: 10.1002/bit.20418
 53. M. Lee†, G. Smith†, M. A. Eiteman, E. Altman, "Aerobic production of alanine by *Escherichia coli aceF ldhA* mutants expressing the *Bacillus sphaericus alaD* gene," *Applied Microbiology and Biotechnology*, 65, 56-60 (2004)
doi: 10.1007/s00253-004-1560-3
 52. L. Xie†, D. Hall, M. A. Eiteman, E. Altman, "Optimization of recombinant aminolevulinate synthase production in *Escherichia coli* using factorial design," *Applied Microbiology and Biotechnology*, 63, 267-273 (2003)
doi: 10.1016/S0960-8524(01)00153-5
 51. L. Xie†, M. A. Eiteman, E. Altman, "Production of 5-aminolevulinic acid by an *Escherichia coli* aminolevulinate dehydratase mutant that overproduces *Rhodobacter sphaeroides* aminolevulinate synthase," *Biotechnology Letters*, 25, 1751-1755 (2003)
doi: 10.1023/A:1026035912038
 50. J. R. Kastner, M. A. Eiteman, S. A. Lee, "Effect of redox potential on stationary-phase xylitol fermentations," *Applied Microbiology and Biotechnology*, 63, 96-100 (2003)
doi: 10.1007/s00253-003-1320-9
 49. A. Tomar†, M. A. Eiteman, E. Altman, "The effect of acetate pathway mutations on the production of pyruvate in *Escherichia coli*," *Applied Microbiology and Biotechnology*, 62, 76-82 (2003)
doi: 10.1007/s00253-003-1234-6
 48. K. C. Das, E. W. Tollner, M. A. Eiteman, "Comparison of synthetic and natural bulking agents in food waste composting," *Compost Science and Utilization*, 11(1), 27-35 (2003)
 47. J. C. March†, M. A. Eiteman, E. Altman, "Expression of anaplerotic enzyme pyruvate carboxylase improves recombinant protein production in *Escherichia coli*," *Applied and Environmental Microbiology*, 68(1), 5620-5624 (2002)
doi: 10.1128/AEM.68.11.5620-5624.2002
 46. G. N. Vemuri†, M. A. Eiteman, E. Altman, "Succinate production in dual-phase *Escherichia coli* fermentations depends on the time of transition from aerobic to anaerobic conditions," *Journal of Industrial Microbiology and Biotechnology*, 28(6), 325-332 (2002)
doi:10.1038/sj.jim.7000250
 45. G. N. Vemuri†, M. A. Eiteman, E. Altman, "The effects of growth mode and pyruvate carboxylase on succinic acid production by metabolically engineered strains of *Escherichia coli*," *Applied and Environmental Microbiology*, 68(4), 1715-1727 (2002)
doi: 10.1128/AEM.68.4.1715-1727.2002
 44. T. T. Adams†, M. A. Eiteman, B. M. Hanel, "Solid state fermentation of broiler litter for production of biocontrol agents," *Bioresource Technology*, 82, 33-41 (2002)
doi: 10.1016/S0960-8524(01)00153-5
 43. D. E. Kopsell†, W. M. Randle, M. A. Eiteman, "Changes in S-alk(en)yl cysteine sulfoxides and precursor intermediates during storage among short- and long-day onion cultivars," *Acta Horticulturae*, 555, 153-156 (2001)
 42. R. E. B. Ball, G. L. Van Wicklen, M. A. Eiteman, "Field test comparison of fiberglass batt insulation and loose-fill poultry feather insulation," *Applied Engineering in Agriculture*, 17(4), 507-513 (2001)
 41. J. Sridhar†, M. A. Eiteman, "Metabolic flux analysis of *Clostridium thermosuccinogenes*: Effects of pH and culture redox potential," *Applied Biochemistry and Biotechnology*, 94, 51-69 (2001)
doi: 10.1385/ABAB:94:1:51

40. M. A. Eiteman, S. A. Lee, "Ground Kenaf core as a filtration aid," *Industrial Crops and Products*, 13(2), 155-161 (2001)
39. L. Xie†, S. A. Lee, B. M. Hanel, M. A. Eiteman, E. Altman, "Anaerobic fermentation of *Salmonella typhimurium* LT2 with and without pyruvate carboxylase," *Biotechnology Letters*, 23(2), 111-117 (2001)
38. J. R. Kastner, M. A. Eiteman, S. A. Lee, "Glucose repression of xylitol production in *Candida tropicalis* mixed-sugar fermentations," *Biotechnology Letters*, 23, 1663-1667 (2001)
doi: 10.1023/A:1012435413933
37. R. R. Gokarn†, J. D. Evans, J. R. Walker, S. A. Martin, M. A. Eiteman, E. Altman, "The physiological effects and metabolic alterations caused by the expression of *Rhizobium etli* pyruvate carboxylase in *Escherichia coli*," *Applied Microbiology and Biotechnology*, 56, 188-195 (2001)
doi: 10.1007/s002530100661
36. R. R. Gokarn†, M. A. Eiteman, E. Altman, "Metabolic analysis of *Escherichia coli* in presence and absence of carboxylating enzymes PEP carboxylase and pyruvate carboxylase," *Applied and Environmental Microbiology*, 66(5), 1844-1850 (2000)
35. J. L. Campbell†, M. A. Smith, M. A. Eiteman, P. L. Williams, M. F. Boeinger, "Comparison of solvents for removing pesticides from skin using an In vitro porcine model," *American Industrial Hygiene Association Journal*, 61, 82-88 (2000)
34. J. Sridhar†, M. A. Eiteman, J. W. Wiegel, "Elucidation of enzymes in the fermentation pathways used by *Clostridium thermosuccinogenes* growing on inulin," *Applied and Environmental Microbiology*, 66(1), 246-251 (2000)
33. J. Sridhar†, M. A. Eiteman, "Influence of redox potential on product distribution in *Clostridium thermosuccinogenes*," *Applied Biochemistry and Biotechnology*, 82, 91-101 (2000)
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32. J. W. Smith†, E. W. Tollner, M. A. Eiteman, "Microbial gum formation from the decomposition of cotton gin trash," *Bioresource Technology*, 69, 215-222 (1999)
31. T. T. Adams†, M. A. Eiteman, M. J. Adang, "*Bacillus thuringiensis* subsp. *kurstaki* spore production in batch culture using broiler litter extracts as complex media," *Bioresource Technology*, 67, 83-87 (1999)
30. R. L. McGuckin†, M. A. Eiteman, K. Das, "Pressure drop through raw food waste compost containing synthetic bulking agents," *Journal of Agricultural Engineering Research*, 72, 375-384 (1999)
doi: 10.1006/jaer.1998.0383
29. D. E. Kopsell†, W. M. Randle, M. A. Eiteman, "Changes in the S-alk(en)yl cysteine sulfoxide biosynthetic pathway during onion storage," *Journal of the American Society of Horticultural Science*, 124(2), 177-183 (1999)
28. R. R. Gokarn†, M. A. Eiteman, E. Altman, "Expression of pyruvate carboxylase enhances succinate production in *Escherichia coli* without affecting glucose uptake," *Biotechnology Letters*, 20, 795-798 (1998)
doi: 10.1023/B:BILE.0000015925.52287.1f
27. J. Wu, M. A. Eiteman, S. E. Law, "Evaluation of membrane filtration and ozonation processes for the treatment of reactive dye wastewater," *Journal of Environmental Engineering*, 124, 272-277 (1998)
doi: 10.1061/(ASCE)0733-9372(1998)124:3(272)
26. R. R. Gokarn†, M. A. Eiteman, S. A. Martin, K.-E. L. Eriksson, "Production of succinate from cellulose and simple sugars by ruminal anaerobic bacteria *Fibrobacter succinogenes* and *Ruminococcus flavefaciens*," *Applied Biochemistry and Biotechnology*, 68, 69-80 (1997)
doi: 10.1007/BF02785981
25. T. T. Adams†, S. A. Thompson, M. L. Cabrera, M. A. Eiteman, "Respiration in broiler litter slurry surface applied to soil," *Bioresource Technology*, 60, 123-129 (1997)
24. M. A. Eiteman, M. J. Chastain, "Optimization of the ion-exchange analysis of organic acids from fermentation," *Analytica Chimica Acta*, 338, 69-75 (1997)
doi:10.1016/S0003-2670(96)00426-6
23. R. R. Gokarn†, M. A. Eiteman, J. Sridhar†, "Production of succinate by anaerobic microorganisms," *ACS Symposium Series*, 666, 237-263 (1997)
22. J. W. Goodrum, M. A. Eiteman, "Physical properties of low molecular weight triglycerides for the development of bio-diesel fuel models," *Bioresource Technology*, 56, 55-60 (1996)
21. M. A. Eiteman, J. H. Miller, "Effect of succinic acid on 2,3-butanediol production by *Klebsiella oxytoca*," *Biotechnology Letters*, 17, 1057-1062 (1995)
doi: 10.1007/BF00143100
20. S. G. Donkin, M. A. Eiteman, P. L. Williams, "Toxicity of glucosinolates and their enzymatic decomposition

- products to *Caenorhabditis elegans*," *Journal of Nematology*, 27, 258-262 (1995)
19. M. A. Eiteman, "The pH difference in poly(ethylene glycol)/citrate aqueous two-phase systems and the influence of sodium chloride," *Separation Science and Technology*, 30, 2509-2518 (1995)
 18. L. M. Cohen, M. A. Eiteman, J. L. Gainer, "Predicting partition coefficients of amino acids in aqueous two-phase systems," *Separation Science and Technology*, 30, 225-237 (1995)
 17. M. A. Eiteman, C. Hassinen, A. Veide, "A mathematical model to predict the partitioning of peptides and peptide-modified proteins in aqueous two-phase systems," *Biotechnology Progress*, 10, 513-519 (1994) doi: 10.1021/bp00029a009
 16. M. A. Eiteman, J. W. Goodrum, "Density and viscosity of low-molecular weight triglycerides and their mixtures," *Journal of the American Oil Chemists' Society*, 71, 1261-1265 (1994) doi: 10.1007/BF02540548
 15. M. A. Eiteman, J. W. Goodrum, "Heat capacity of the triglycerides tricaproin, tricapyrylin and tricaprinn," *Journal of the American Oil Chemists' Society*, 71, 549-550 (1994)
 14. M. A. Eiteman, R. M. Gordillo†, M. L. Cabrera, "Analysis of oxonic acid, uric acid, creatine, allantoin, xanthine and hypoxanthine in poultry litter by reverse phase HPLC," *Fresenius' Journal of Analytical Chemistry*, 348, 680-683 (1994) doi: 10.1007/BF00325572
 13. M. A. Eiteman, "Temperature dependent phase inversion and its effect on partitioning in the poly(ethylene glycol)/ammonium sulfate aqueous two-phase system," *Journal of Chromatography*, 668, 13-19 (1994)
 12. M. A. Eiteman, "Predicting partition coefficients of multicharged solutes in aqueous two-phase systems," *Journal of Chromatography*, 668, 21-30 (1994)
 11. M. A. Eiteman, "Partitioning of charged solutes in poly(ethylene glycol)/potassium phosphate aqueous two-phase systems," *Separation Science and Technology*, 29, 685-700 (1994)
 10. M. A. Eiteman, J. W. Goodrum, "Rheology of the triglycerides tricaproin, tricapyrylin and tricaprinn and of diesel fuel," *Transactions of the American Society of Agricultural Engineering*, 36, 503-507 (1993)
 9. M. A. Eiteman, J. L. Gainer, "A correlation for predicting partition coefficients in aqueous two-phase systems," *Separation Science and Technology*, 27, 313-324 (1992)
 8. M. A. Eiteman, J. L. Gainer, "The effect of the pH difference between phases on partitioning in poly(ethylene glycol)/phosphate aqueous two-phase systems," *Chemical Engineering Communications*, 105, 171-184 (1991)
 7. M. A. Eiteman, J. L. Gainer, "Predicting partition coefficients in poly(ethylene glycol)/potassium phosphate aqueous two-phase systems," *Journal of Chromatography*, 586, 341-346 (1991)
 6. M. A. Eiteman, J. L. Gainer, "A model for the prediction of partition coefficients in aqueous two-phase systems," *Bioseparation*, 2, 31-41 (1991)
 5. M. A. Eiteman, J. L. Gainer, "Partition of isomeric dipeptides in poly(ethylene glycol)/magnesium sulfate aqueous two-phase systems," *Biochimica et Biophysica Acta*, 1073, 451-455 (1991)
 4. M. A. Eiteman, J. L. Gainer, "Peptide hydrophobicity and partitioning in poly(ethylene glycol)/magnesium sulfate aqueous two-phase systems," *Biotechnology Progress*, 6, 479-484 (1990) doi: 10.1021/bp00006a011
 3. M. A. Eiteman, J. L. Gainer, "The effect of free volume changes on partitioning in magnesium sulfate-poly(ethylene glycol) aqueous two-phase systems," *Biochimica et Biophysica Acta*, 992, 125-127 (1989)
 2. A. R. Gardner, M. A. Eiteman, "Determination of monoclonal antibody concentration in cell culture by capture ELISA," *Biotechnology Techniques*, 3, 401-406 (1989)
 1. M. A. Eiteman, J. L. Gainer, "In situ extraction versus the use of an external column in fermentation," *Applied Microbiology and Biotechnology*, 30, 614-618 (1989) doi:10.1007/BF00255368

Intellectual Property (invention disclosures not listed)

7. M. A. Eiteman, E. Altman, "Substrate-Selective Co-Fermentation Process," U.S. Patent 9,212,346, December 15, 2015.
6. M. A. Eiteman, E. Altman, "Microbial Production of Pyruvate and Other Metabolites," U.S. Patent 8,652,825, February 18, 2014.
5. M. A. Eiteman, E. Altman, "Substrate-Selective Co-Fermentation Process," U.S. Patent 8,551,758, October 8, 2013.
4. M. A. Eiteman, E. Altman, "Substrate-Selective Co-Fermentation Process," New Zealand Patent 580,187,

- July 2, 2013.
3. M. A. Eiteman, E. Altman, "Microbial Production of Pyruvate and Pyruvate Derivatives," U.S. Patent 8,278,076, October 9, 2012.
 2. M. A. Eiteman, E. Altman, "Microbial Production of Pyruvate and Pyruvate Derivatives," U.S. Patent 7,749,740, July 6, 2010.
 1. R. R. Gokarn, M. A. Eiteman, E. Altman, "Metabolically Engineered Organism for Enhanced Production of Oxaloacetate-Derived Chemicals," U.S. Patent 6,455,284, Sept. 24, 2002.

Active Applications:

- J. D. Peterson, M. Eiteman, Sarah K. Brandon, "Apparatus and Methods for Treating Biomass," U.S. Patent application filed April 2009, 12/245,146
- Y. Zhu, M. A. Eiteman, E. Altman, "Microbial Conversion of Glycerol with Glucose Limitation," U.S. Patent application filed August 14, 2009, 61/274,252
- L. Mao, T. Zhu, R. Cheng, S. Lee, E. Rajaraman, M. A. Eiteman, "Devices and Methods for Separating Particles," U. S. Patent application filed May 18, 2012, 61/648,786
- L. Mao, T. Zhu, M. A. Eiteman, "Devices and Methods for Separating Particles," U.S. Patent application filed April 30, 2013, 13/873,424
- T. Xia, M. A. Eiteman "Microbial Hexose Formation," U.S. Patent application filed February 25, 2015, 62/120,725
- X. Wu, M. A. Eiteman "Genetically Engineered Microbes and Methods for Producing Citramalate," U.S. provisional Patent application filed March 22, 2016, 62/311,607

Invited University/Industry Seminars

39. "Research on Microbial Engineering: Pyruvate production and conversion of mixed sugars," Seminar to Reliance Co., Mumbai, India, December 2015.
38. "Getting Bacteria to Stop Eating So Much Sugar," IIT-Bombay, Mumbai, India, December 2015.
37. "Biotechnology 101," Honors Student Lecture Series, Moore College, University of Georgia, March 2015.
36. "Blocking Glucose Metabolism in *Escherichia coli*: Engineering Microbial Consortia and Opportunities for Sugar Interconversions," Department of Chemical and Biological Engineering, Iowa State University, March 2015.
35. "Stop Eating So Much Sugar! Engineered Microbial Consortia for the Conversion of Lignocellulosic Hydrolysates and Other Sweet Tales," Department of Microbiology, University of Georgia, February 2015.
34. "Academic Life in the U.S." Seminar to Indian University Students, Education USA Program U.S. Consulate, Chennai, India, December 2014.
33. "Microbial Engineering: Pyruvate Production and Conversion of Mixed Sugars," Seminar to Central Leather Research Institute, Chennai, India, December 2014.
32. "Innovation through Biotechnology: U.S., Sri Lanka, John Keells," Seminar to John Keells Group Holdings PLC as part of their corporate seminar series, Colombo, Sri Lanka, November 2014.
31. "Microbial Engineering: Pyruvate Production and Conversion of Mixed Sugars," Seminar to Dept. of Chemistry and Biochemistry, University of Colombo, Sri Lanka, November 2014.
30. "About Biotechnology: The Industry, Univ. Georgia, Former Students," Seminar to Dept. of Chemical Engineering, University of Moratuwa, Sri Lanka, November 2014.
29. "Microbial Engineering: Pyruvate Production and Conversion of Mixed Sugars," Seminar to Dept. of Chemical Engineering, University of Moratuwa, Sri Lanka, November 2014.
28. "Biotechnology in the United States: From Graduate School to Employment," Seminar to Indian University Students, Education USA Program U.S. Consulate, Chennai, India, October 2014.
27. "Microbial Production of Organic Acids," School of Biotechnology, Jawaharlal Nehru University, New Delhi, India, September 2014.
26. "Engineered Microbial Consortia for the Selective Removal of Inhibitors and the Conversion of Sugar Mixtures," Departments of Food Science and Chemical Engineering, Banaras Hindu University, Varanasi, India, September 2014.
25. "Microbial Production of Organic Acids," Rajiv Gandhi South Campus Banaras Hindu University, Mirzapur, India, September 2014.
24. "Microbial Production of Organic Acids," Departments of Food Science and Chemical Engineering, Banaras Hindu University, Varanasi, India, September 2014.

23. "Engineered Microbial Consortia for the Selective Removal of Inhibitors and the Conversion of Sugar Mixtures," Indian Institute of Technology-Madras, Chennai, India, August 2014.
22. "Microbial Production of Organic Acids," Department of Biotechnology, SRM University, Kattankulathur, India, August 2014.
21. "Engineered Microbial Consortia for the Selective Removal of Inhibitors and the Conversion of Sugar Mixtures," Centre for Biotechnology, Anna University, Chennai, India, August 2014.
20. "Designed Microbial Consortia for the Selective Removal of Inhibitors and Conversion of Sugar Mixtures," College of Engineering, University of Georgia, September 2012.
19. "Lactate and Pyruvate Accumulation by *Escherichia coli*: Different Approaches for Similar Microbial Products," Centre for Biotechnology, Anna University, Chennai, India, January 2012.
18. "Metabolic Engineering Projects at the University of Georgia," SRM University, Chennai, India, January 2012.
17. "Lactate and Pyruvate Accumulation by *Escherichia coli*: Different Approaches for Similar Microbial Products," Instituto de Biología, Universidad Nacional Autónoma de México, Cuernavaca, Morelos, México, November 2008.
16. "A Tale of Two Projects with Metabolically Engineered *Escherichia coli*," Department of Biochemistry, Center of Bioinformatics, University of Georgia, May 2007.
15. "Another Adventure in Numismatics," Department of Biological and Agricultural Engineering Graduate Student Club, University of Georgia, September 2006.
14. "Engineering Metabolism: The Problem of Acetate Overflow," Department of Biological and Agricultural Engineering, University of Georgia, March 2005.
13. "Biological Engineering: Its Evolutions at the University of Georgia," School of Chemical Engineering, Georgia Tech, March 2004.
12. "Metabolic Engineering of Anaplerotic Pathways," Department of Biosystems Engineering, University of Tennessee, May 2003.
11. "Metabolic Engineering of Anaplerotic Reactions," Department of Microbiology, University of Georgia, September 2002.
10. "Metabolic Engineering: Recent Microbial Work and Prospects for Plant Systems," University of Georgia Plant Center retreat, Amicalola Falls, Georgia, May 2002.
9. Panelist for a Special Topics Session on "Educational Needs for a Biobased Economy," 24th Symposium on Biotechnology for Fuels and Chemicals, Gatlinburg, Tennessee, April 2002.
8. "Metabolic Engineering of Anaplerotic Biochemical Reactions," School of Chemical Engineering and Department of Biosystems Engineering, Oklahoma State University, April 2002.
7. "Metabolic Engineering of Anaplerotic Biochemical Reactions," Department of Food Science, University of Georgia, January 2002.
6. "Metabolic Engineering of Anaplerotic Biochemical Reactions," Department of Pharmaceutical and Biomedical Sciences, University of Georgia, November 2001.
5. "Perspectives on and Possibilities for the Advancement of Engineering at UGA," Symposium "Towards 2010: Comprehensive Engineering at UGA," State Botanical Gardens, April 2001.
4. "Metabolic Engineering Approaches to Improve Fermentation: Oxaloacetate-Derived Biochemicals," Department of Agricultural and Biological Engineering, Mississippi State University, October 1999.
3. "Metabolic Engineering Approaches to Improve Fermentation: Oxaloacetate-Derived Biochemicals," Department of Biosystems Engineering, Virginia Tech, September 1999.
2. "An Adventure in Numismatics," Department of Biological and Agricultural Engineering, University of Georgia, September 1995.
1. "Prediction of Partition Coefficients in Aqueous Two-Phase Systems," Department of Chemical Engineering, University of Virginia, April 1991.

Recognitions and Outstanding Achievements

- Distinguished Faculty Scholar, College of Engineering, University of Georgia, 2016
- Inventor of the Year, University of Georgia, 2014
- **Fellow** of the Institute of Biological Engineering, 2009
- Researcher of the Section, Northeast Georgia Section of the American Chemical Society, 1999
- New Holland Young Researcher Award, American Society of Agricultural Engineers, 1998
- Honorable Mention, Oak Ridge Associated Universities Junior Faculty Enhancement Award, 1993

- Chemical Engineering Graduate Student of the Year, University of Virginia, 1991
- Editor-in-Chief, Journal of Biological Engineering, 2009-.
- Associate Editor, Journal of Biological Engineering, 2007-2008.
- Co-Editor, IBE-Featured Issue of Biotechnology Progress, 2005.
- Editorial Board, Applied and Environmental Microbiology, 2004-2006.
- Editor for Proceedings of Biological Engineering, 1998-1999.