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Biomedical Engineering Department
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PROFESSIONAL EXPERIENCE

- 2014- Professor
Biomedical Engineering Department and
Chemical & Biochemical Engineering Department
Rutgers, The State University of New Jersey
- 2014- Member, Center for Biophysical Pathology,
Rutgers - New Jersey Medical School
- 2014- Vice-chair, Biomedical Engineering Department
Rutgers, The State University of New Jersey
- 2013- Member, Graduate Program in Electrical and Computer Engineering
Rutgers University
- 2013- Member, Graduate Programs in Molecular Biosciences
Rutgers University
- 2012- Member, Exposure Science Division
Environment and Occupational Health Sciences Institute
Rutgers University – RWJ Medical School
- 2010-2012 Vice-chair, Biomedical Engineering Department
Rutgers, The State University of New Jersey
- 2009- Associate Professor
Biomedical Engineering Department and
Chemical & Biochemical Engineering Department
Rutgers, The State University of New Jersey
- 2009- Adjunct Associate Professor
Department of Surgery
UMDNJ - RWJ Medical School
- 2008- Undergraduate Program Director
Biomedical Engineering Department
Rutgers, The State University of New Jersey
- 2008- Member of the Graduate Faculty, Graduate Program in Computational Biology &
Molecular Biophysics (BioMaPS)
Rutgers, The State University of New Jersey
- 2008- Affiliated Faculty
Center for Engineering in Medicine, Boston, MA
- 2004-2009 Assistant Professor
Biomedical Engineering Department and
Chemical & Biochemical Engineering Department
Rutgers, The State University of New Jersey
- 2002-2004 Knowledge Capitalization Technical Program Leader
Corporate Strategic Research Laboratories
ExxonMobil Research and Engineering Company
- 2001-2004 Engineering Associate
Corporate Strategic Research Laboratories
ExxonMobil Research and Engineering Company
- 1998-2001 Senior Engineer

1996-1998 Corporate Strategic Research Laboratories
ExxonMobil Research and Engineering Company
Research Associate
Corporate Research Science Laboratories
Exxon Research and Engineering Company

EDUCATION

1993-1996 Postdoctoral Fellow, Chemical Engineering Department, *Princeton University*
Faculty Advisor: Prof. Christodoulos A. Floudas
Areas of Research: "*Protein Structure Prediction*" and "*Computational Issues in Global Optimization: Algorithmic Developments and Distributed Computing Implementations*"

1990-1993 Ph.D., Chemical Engineering Department, *Purdue University*
Faculty Advisor: Prof. Gintaras V. Reklaitis
Thesis Topic: "*Approaches to Asynchronous and Decentralized Decision Making*"

1988-1990 MS, Chemical Engineering Department, *Purdue University*
Faculty Advisor: Prof. Venkat Venkatasubramanian
Thesis Topic: "*Genetic Algorithmic Approaches to Process Design and Optimization*"

1983-1988 Diploma, Chemical Engineering Department, *NTUA, Greece*
Faculty Advisor: Prof. Dimitri P. Tassios
Thesis Topic: "*The VdW-711 Equation of State for Polar Compounds and Mixtures*"

HONORS - AWARDS

- Fellow, American Institute of Medical and Biological Engineering
- 2013 Outstanding Engineering Faculty Award, School of Engineering, Rutgers the State University of New Jersey
- Excellence in Teaching Award, Engineering Governing Council, School of Engineering, Rutgers University (2006)
- Rutgers FASIP Award for Teaching, Research, and Service (2005, 2006, 2007, 2008, 2009, 2010, 2011)
- Outstanding contributed paper, Foundations of Computer-Aided Process Design: Discovery through Product and Process Design, Princeton, NJ, July 2004.

PUBLICATIONS

Peer reviewed = 140; h-index: *Web of Science* = 21; *Google Scholar* = 30

1. Wu, T-Y, Y. Huang, C. Zhag, Z-Y Su, S. Boyanapalli, .O. Khor H. Wang, H. Lin, M. Gounder, L. Kagan, I.P. Androulakis and A-N T. Kong, Pharmacokinetics and Pharmacodynamics of 3,3'-Diindolylmethane (DIM) in Regulating Gene Expression of Phase II Drug Metabolizing Enzymes, *J Pharmacokinet Pharmacodyn* (in press)
2. Rao, R^{SS}, M.A. Orman, F. Bertiaume and **Androulakis, I.P.***, Dynamics of Hepatic Gene Expression and Serum Cytokine Profiles in Single and Double-hit Burn and Sepsis Animal Models, *Data in Brief* (in press) - doi:10.1016/j.dib.2015.02.018
3. **Androulakis, I.P.***, Systems engineering meets Quantitative Systems Pharmacology: From low-level targets to engaging the host defenses, *Wiley Rev Sys. Biol. Med.* **7**(3):101-112 (2015)
4. Kamisoglu, K^{SS}, B Haimovich, S.E. Calvano, S.M. Coyle, S.A. Corbett, R.J. Langley, S.F. Kingsmore, and **Androulakis, I.P.***, Human metabolic response to systemic inflammation: assessment of the concordance between experimental endotoxemia and clinical cases of sepsis/SIRS, *Critical Care*, **19**:71 (2015)
5. Kamisoglu, K^{SS}, Sukumarran, S., Nouri-Nigjeh, E., Tu, C., Li, J., Shen, X., Duan, X., Qu, J., Almon, R.A., DuBois, D.C., Jusko, W.J. and **Androulakis, I.P.***, Tandem Analysis of Transcriptome and Proteome Changes after a Single Dose of Corticosteroid: A Systems Approach to Liver Function in Pharmacogenomics, *OMICS*:**19**(2):80-91 (2015)

6. **Androulakis, I.P.***, A Chemical Engineer's Perspective on Health and Disease, *Comp & Chem. Eng.*, **71**:665-671 (2014)
7. Mavroudis, P.^{SS}, S.A. Corbett, S.E. Calvano, **Androulakis, I.P.***, Circadian characteristics of permissive and suppressive effects of cortisol and their role in homeostasis and the acute inflammatory response, *Math. Biosc.*, **46**(20):766-778 (2014)
8. Mavroudis, P.^{SS}, S.A. Corbett, S.E. Calvano, **Androulakis, I.P.***, Mathematical modeling of light mediated HPA axis activity and downstream implications on the entrainment of peripheral clock genes, *Phys. Genom.*, **46**(20):766-778 (2014)
9. Kamisoglu, K.^{SS}, K., S.E. Calvano, S.M. Coyle, S.A. Corbett, **Androulakis, I.P.***, Integrated transcriptional and metabolic profiling in human endotoxemia, *SHOCK*, **46**(20):499-508 (2014)
10. Zhang, S.^{SS}, L. Broadbent, I.P. Androulakis and M.G. Ierapetritou, "Reactive Flow Simulation Based on the Integration of Automated Mechanism Generation and On-the-fly Reduction", *AIChE J.* (in press)
11. Scheff, J.D.^{SS}, B. Griffel, S. Corbett, S.E. Calvano and **Androulakis, I.P.***, On heart rate variability and autonomic activity in homeostasis and in systemic inflammation, *Math. Biosc.* **252**:36-44 (2014)
12. Nguyen, T.T.^{SS}, R.R. Almon, D.C. Dubois, S. Sukumaran, W.J. Jusko and **Androulakis, I.P.***, Tissue-specific gene expression and regulation in liver following chronic corticosteroid administration, *Gene Regulation & Systems Biology*, **8**:75-87 (2014)
13. Sunderram, J., S. Sofou, K. Kamisoglu^{SS}, V. Karantza and **Androulakis I.P.***, Time-restricted feeding and the realignment of biological rhythms: translational opportunities and challenges. *J. Trans. Med.*, **12**:79 (2014)
14. Nguyen, T.T.^{SS}, J.S.^{SS} Mattick^{SS}, Q. Yang^{SS}, M.A. Orman^{SS}, M.G. Ierapetritou, F. Berthiaume and **Androulakis, I.P.***, Bioinformatic analysis of transcriptional regulation of circadian genes in rat liver, *BMC Bioinformatics*, **15**(83) (2013)
15. Kamisoglu, K.^{SS}, K. Sleight^{SS}, T.T. Nguyen^{SS}, S.E. Calvano, S.M. Coyle, S.A. Corbett, **Androulakis, I.P.***, Effects of coupled dose and rhythm manipulation of plasma cortisol levels on leukocyte transcriptional response to endotoxin challenge in humans, *Inn. Immunity*, (in press)
16. Kosmides AK, Kamisoglu K^{SS}, Calvano SE, Corbett SA, Androulakis IP, "Metabolomic Fingerprinting: Challenges and Opportunities", *Crit. Rev. Biomed. Eng.*, **41**(3);205-221 (2013)
17. Kamisoglu, K.^{SS}, K. Sleight^{SS}, S.E. Calvano, S.M. Coyle, S.A. Corbett, **Androulakis, I.P.***, Temporal metabolic profiling of plasma during endotoxemia, *SHOCK*, **40**(6):519-526 (2013)
18. Scheff, J.D.^{SS}, S. Corbett, S.E. Calvano and **Androulakis, I.P.***, The relationship between autonomic function and heart rate variability in human endotoxemia, *J. Crit. Care*, **28**(6):e32 (2013)
19. Vodovotz, Y., G. An and **I.P. Androulakis***, A Systems Engineering Perspective on Homeostasis and Disease, *Frontiers in Bioengineering. & Biotechnology*, **1**(6), 10.3389/fbioe.2013.00006 (2013)
20. Scheff, J.D.^{SS}, S.E. Calvano and **I.P. Androulakis***, Predicting critical transitions in a model of systemic inflammation, *J. Theo. Biol.*, **338**:9-15 (2013)
21. Kamisoglu, K.^{SS}, J.S. Mattick^{SS} and **I.P. Androulakis***, Topology and dynamics of signalling networks: In search of transcriptional control of the inflammatory response, *Ann. Rev. Biomed. Eng.*, **15**:1-28 (2013)
22. Ovacik MA^{SS}, Sen B, Euling SY, Gaido KW, Ierapetritou MG, **I.P. Androulakis***. Pathway modeling of microarray data: A case study of pathway activity changes in the testis following in utero exposure to dibutyl phthalate (DBP). *Toxicology and Applied Pharmacology*, **271**:386-394 (2013)
23. Euling SY, White LD, Kim AS, Sen B, Keshava C, Keshava N, Wilson V, Ovacik AM^{SS}, Hester S, Ierapetritou MG, **Androulakis IP**, Gaido KW. Use of Genomic Data in Risk Assessment Case Study: II. Evaluation of the Dibutyl Phthalate Toxicogenomic Dataset, *Toxicology and Applied Pharmacology*, **271**(3):349-362 (2013)
24. Ovacik, M.A.^{SS} and **I.P. Androulakis***. Enzyme sequence similarity improves the reaction alignment method for cross-species pathway comparison, *Toxicology and Applied Pharmacology* **271**:363-371 (2013)
25. Mattick, J.S.^{SS}, K. Kamisoglu^{SS}, M.G. Ierapetritou, F. Berthiaume and **I.P. Androulakis***, Branched-chain amino acid supplementation: impact on signaling and relevance to critical illness, *Wiley Rev. Sys. Biol. Med.*, **5**(4):449-460 (2013)

26. Scheff, J.D.^{SS}, Mavroudis, P.T.^{SS}, Foteinou, P.T.^{SS}, An, G, Calvano, S.E., Doyle, J.C., Dick, T.E., Lowry S.F., Vodovotz, Y and **I.P. Androulakis***, A multiscale modelling approach to inflammation: A case study in human endotoxemia, *J. Comp. Phys.*, 244:279-289 (2013)
27. Mavroudis, P.M.^{SS}, J.D. Scheff, S.E.^{SS}. Calvano and **I.P. Androulakis***, Systems biology of circadian-immune interactions, *J. Innate Immun*, 5(2):153-162 (2013)
28. Mattick J.S.A.^{SS}, Q. Yang^{SS}, M.A. Orman^{SS}, M.G. Ierapetritou, F. Berthiaume, S.C. Gale and **I.P. Androulakis***, Impact of Burn Priming on Immune and Metabolic Functions of Whole Liver in a Rat Cecal Ligation and Puncture Model, *Intl. J. Burns Trauma*, 3(1):55-65 (2013)
29. Orman, M.A. ^{SS}, M.G. Ierapetritou, **I.P. Androulakis** and F. Berthiaume, Effect of Fasting on the Metabolic Response of Liver to Experimental Burn Injury, *PLoS ONE*, 8(2):e54825 (2013)
30. Nguyen, T.T. ^{SS}, S.E. Calvano, S.F. Lowry and **I.P. Androulakis***, An agent-based model of cellular dynamics and circadian variability in human endotoxemia, *PLoS ONE*, 8(1):e55550 (2013)
31. Scheff, J.D. ^{SS}, P. Mavroudis, S.E.^{SS}. Calvano and **I.P. Androulakis***, Translational applications of evaluating physiologic variability in human endotoxemia, *J. Clin. Monit. Comput.*, 27(4):405-415 (2013)
32. Zhang^{SS}, S., **I.P. Androulakis** and M.G. Ierapetritou, A Hybrid Kinetic Mechanism Reduction Scheme based on the On-the-fly Reduction and Quasi-steady-state Approximation, *Chem. Eng. Sci.*, **93**:150-162 (2013)
33. Scheff, J.D. ^{SS}, P.D. Mavroudis, P.T.^{SS} Foteinou, S.E.^{SS}. Calvano and **I.P. Androulakis***, Modeling physiologic variability in human endotoxemia, *Crit. Rev. Biomed. Eng.*, 40(4):313-322 (2012)
34. Stamatelos, S.K., **I.P. Androulakis**, A-N Kong and P.G. Georgopoulos, An integrated semi-mechanistic toxicokinetic-toxicodynamic (TD/TK) model for arsenic(III) exposure in hepatocytes, *J. Theo. Biol.*, 317C_244-256 (2012)
35. Scheff, J.D.^{SS}, S.E. Calvano, S.F. Lowry and **I.P. Androulakis***, Transcriptional implications of ultradian glucocorticoid secretion in homeostasis and in the acute stress response, *Physiol. Genomics*, 44(2):121-129 (2012)
36. Orman, M.A. ^{SS}, J. Mattick^{SS}, **I.P. Androulakis**, F. Berthiaume, and M.G. Ierapetritou, Stoichiometry based steady-state hepatic flux analysis: computational and experimental aspects., *Metabolites*, 2(1):268-291 (2012)
37. Wang, H., T.O. Khor, Q. Yang, T.Y. Wu, C.L. Saw, W. Lin, **I.P. Androulakis** and A.N. Kong, Pharmacokinetics and Pharmacodynamics of Phase II Drug Metabolizing/Antioxidant Enzymes Gene Response by Anti-cancer Agent Sulforaphane in Rat Lymphocytes, *Mol Pharm.*, 9(10):2819-27 (2012)
38. **Androulakis, I.P.***, Dr. Stephen F. Lowry, *Crit. Rev. Biomedical Eng.*, 40(4):259-260 (2012)
39. Sunderram, J. and **I.P. Androulakis***, Molecular mechanisms of chronic intermittent hypoxia induced hypertension, *Crit. Rev. Biomedical Eng.*, 40(4):265-278 (2012)
40. Foteinou, P.T. ^{SS}, P. Mavroudis, J.D. ^{SS} Scheff, S.E.^{SS}. Calvano and **I.P. Androulakis***, Modeling systemic inflammation Challenges and Opportunities, *Crit. Rev. Biomedical Eng.*, 40(4):313-322 (2012)
41. Mattick, J.S. ^{SS}, Q. Yang^{SS}, M.A. Orman, M.G.^{SS}. Ierapetritou, F. Berthiaume and **I.P. Androulakis***, Long-term gene expression profile dynamics following cecal ligation and puncture in the rat, *J. Surg. Res.*, 178(1):431-442 (2012)
42. Dick, T.E., Y. Molkov, G. Nieman, Y-H. Hsieh, F.J. Jacono, H. Doyle, S.D. Scheff^{SS}, S.E. Calvano, **I.P. Androulakis** and Y. Vodovotz, Linking Inflammation and Cardiorespiratory Variability in Sepsis via Computational Modeling, *Front. Physiol.*, 3:222 (2012)
43. He, K^{SS}, M.G. Ierapetritou and **I.P. Androulakis***, Exploring flux representations of complex kinetics networks, *AIChE J*, 58(2):533(2012)
44. Yang, Q. ^{SS}, J.S. Mattick^{SS}, M.A. Orman^{SS}, T.T. Nguyen^{SS}, M.G. Ierapetritou, F. Berthiaume and **I.P. Androulakis***, Dynamics of hepatic gene expression profile in a rat cecal ligation and puncture model *J. Surg. Res.*, 176(2):583-600 (2012)
45. Yang, Q. ^{SS}, M.A. Orman^{SS}, M.G. Ierapetritou, F. Berthiaume and **I.P. Androulakis***, Dynamics of short-term gene expression profiling in liver following thermal injury, *J. Surg. Res.*, 176(2):549-558 (2012)
46. Scheff J.D. ^{SS}, Calvano S.E., Lowry S.F., **I.P. Androulakis***, Multiscale Rhythmic Influences on Heart Rate Variability in Human Endotoxemia, *J. Crit. Care*, 27(3):3 (2012)

47. Mavroudis, P.^{\$\$}, J.D. Scheff^{\$\$}, S.E. Calvano, S.F. Lowry and **I.P. Androulakis***, Entrainment of peripheral clock genes by cortisol, *Phys. Genomics*, 44(11):607-621 (2012)
48. Scheff, J.D.^{\$\$}, J. Doyle, Y. Vodovotz, and **I.P. Androulakis***, A stochastic analysis of the inflammatory response, *J. Crit. Care*, 27(3):e6-e7 (2012)
49. Namas, R., R. Zamora, R. Namas, G. An, J. Doyle, T.E. Dick, F.J. Jacono, I.P. Androulakis, G.F. Nieman, S. Chang, T.R. Billiar, J.A. Kellum, D. C. Angus and Y. Vodovotz, Sepsis: Something old, something new and a systems view, *J. Crit. Care*, 27(3):314 e1-11 (2012)
50. Orman, M.A.^{\$\$}, M.G. Ierapetritou, F. Berthiaume and **I.P. Androulakis***, Long-term dynamics profiling of inflammatory mediators in double-hit burn and sepsis animal models, *Cytokine*, **58**(2):307-315 (2012)
51. Nguyen, T.T.^{\$\$}, P.T. Foteinou^{\$\$}, S.E. Calvano, S.F. Lowry and **I.P. Androulakis***, Computational identification of transcriptional regulators in human endotoxemia, *PLoS ONE*, 6(5):e18889 (2011)
52. Scheff, J.D.^{\$\$}, P. Mavroudis^{\$\$}, S.E. Calvano, S.F. Lowry and **I.P. Androulakis***, Modeling autonomic regulation of cardiac function and heart rate variability in human endotoxemia, *Phys. Genomics*, 43(16):951 (2011)
53. Orman, M.A.^{\$\$}, I.P. Androulakis, F. Berthiaume and M.G. Ierapetritou. Metabolic Network Analysis of Perfused Livers under Fed and Fasted States: Incorporating Thermodynamic and Futile-Cycle-Associated Regulatory Constraints, *J. Theo. Biol.*, 293:101 (2011)
54. Yang, Q.^{\$\$}, S.C. Calvano, S.F. Lowry and **I.P. Androulakis***, A Dual Negative Regulation Model of Toll-Like Receptor 4 Signaling for Endotoxin Preconditioning in Human Endotoxemia, *Math. Biosc.*, 232(2):151 (2011)
55. Orman, M.A.^{\$\$}, I.P. Androulakis, M.G. Ierapetritou and F. Berthiaume, Metabolic Response of Perfused Livers to Various Oxygenation Conditions, *Biotech. Bioeng.*, 108(12):2947 (2011)
56. Ovacik, M.^{\$\$}, S. Sukumaran, R. R. Almon, D.C. Dubois, W.J. Jusko and **I.P. Androulakis***, Circadian signatures in rat liver: From gene expression to pathways, *BMC Bioinformatics*, 11:540 (2011)
57. Orman, M.A.^{\$\$}, F. Berthiaume, I.P. Androulakis and M.G. Ierapetritou, Advanced stoichiometric analysis of metabolic networks of mammalian cells, *Crit. Rev. Biomedical Eng.*, 39(6):511 (2011)
58. Orman, M.A.^{\$\$}, T.T. Nguyen^{\$\$}, M.G. Ierapetritou, F. Berthiaume **I.P. Androulakis***, Comparison of Cytokine Dynamics of the Early Inflammatory Response in Models of Burn Injury and Infection, *Cytokine*, 55(3):362 (2011)
59. Euling, S.Y., L. White, M.A. Ovacik^{\$\$}, S.I. Makris, B. Sen, **I.P. Androulakis**, S. Hester, K.W., Gaido, A.S. kim, R. Benson, V.S. Wilson, C. Keshava, N. Keshava, P.M. Foster, L.E. Gray, W.A. Chium and C. Thompson, An Approach to Using Toxicogenomic Data in Risk Assessment: Dibutyl Phthalate Case Study, *Env. Mol. Mutagenesis*, 52 (Supl 1):S16 (2011)
60. Scheff, J.D.^{\$\$}, A.K. Kosmides^{##}, S.E. Calvano, S.F. Lowry and **I.P. Androulakis***, Pulsatile glucocorticoid secretion: origins and downstream effects, *IEEE Trans. Biomed. Eng.*, 58(12):3504 (2011)
61. Foteinou, P.T.^{\$\$}, S.E. Calvano, S.F. Lowry and **I.P. Androulakis***, A physiological model for autonomic heart rate regulation in human endotoxemia, *SHOCK*, 35(3):229-239 (2011)
62. Swiss, V.A., T.T. Nguyen^{\$\$}, J. Dugas, A. Ibrahim, B. Barres, I.P. Androulakis and P. Casaccia, Identification of a gene regulatory network necessary for the initiation of oligodendrocyte differentiation, *PLoS One*, 6(4):e18088 (2011)
63. Scheff, J.D.^{\$\$}, D.C. DuBois, R.R. Almon, W.J. Jusko and **I.P. Androulakis***, Assessment of pharmacologic area under the curve when baselines are variable, *J Pharmacokinetics Pharmacodynamics*, 28(5):1081-1089 (2011)
64. Orman, M.A.^{\$\$}, M.G. Ierapetritou, F. Berthiaume and **I.P. Androulakis***, The Dynamics of the Early Inflammatory Response in Double-hit Burn and Sepsis Animal Models, *Cytokine*, 56(2):494 (2011)
65. Nguyen, T.T.^{\$\$}, S.E. Calvano, S.F. Lowry and **I.P. Androulakis***, Agent based model of human endotoxemia accounting for circadian variability, *J. Critical Care*, 26(2): e6-e7 (2011)
66. Scheff, J.D.^{\$\$}, S.E. Calvano, S.F. Lowry and **I.P. Androulakis***, Decreased communication leads to diminished physiologic variability in a multiscale model of inflammation, *J. Critical Care*, 26(2):e3 (2011)
67. Foteinou, P.T.^{\$\$}, S.E. Calvano, S.F. Lowry and **I.P. Androulakis***, A physiologic model for autonomic heart rate regulation in human endotoxemia, *J. Critical Care*:e2-e3 (2011)

68. Saharidis, G., I.P. Androulakis and M.G. Ierapetritou, Model Building using Bi-level Optimization, *J. Global Opt.*, 49:49-67 (2011)
69. Orman, M. ^{\$\$}, F. Berthiaume, I.P. Androulakis and M.G. Ierapetritou, Pathway Analysis of Liver Metabolism under Stressed Condition, *J. Theo. Biol.*, 272(1):131-140 (2010)
70. He, K ^{\$\$}, I.P. Androulakis and M.G. Ierapetritou, Incorporation of detailed chemical mechanisms in reactive flow simulations using element-flux analysis, *I&ECR*, doi: 10.1021/ie100490w (2010)
71. He, K. ^{\$\$}, M.G. Ierapetritou and **I.P. Androulakis***. Integration of on-the-fly kinetic reduction with multidimensional CFD. *AIChE J.*, doi: 10.1002/aic.12072 (2010)
72. Scheff, J. S.C. ^{\$\$} Calvano, S.F. Lowry and **I.P. Androulakis***, Modelling the influence of circadian rhythms on the acute inflammatory response, *J. Theo. Biol.*, 264(3):1068-1076 (2010)
73. Yang, Q. ^{\$\$}, F. Berthiaume and **I.P. Androulakis***, A quantitative model of thermal injury-induced acute inflammation, *Math. Biosci.*, 229(2):135-148 (2010)
74. Iyer, V., M.A. Ovacik ^{\$\$}, I.P. Androulakis, C.M Roth and M.G. Ierapetritou, Transcriptional and Metabolic Flux Profiling of Triadimefon Effects on Cultured Hepatocytes, *Toxicology and Applied Pharmacology*, 248(3):1665-177 (2010)
75. Nguyen, T.T ^{\$\$}, R.R. Almon, D.C. DuBois, W.J. Jusko and **I.P. Androulakis***, Comparative analysis of acute and chronic corticosteroid pharmacogenomic effects in rat liver: Transcriptional dynamics and regulatory structures, *BMC Bioinformatics*, 11:515 (2010) (2010)
76. Nguyen, T.T. ^{\$\$}, R.R. Almon, D.C. DuBois, W.J. Jusko and **I.P. Androulakis***, Importance of replication in analyzing time-series gene expression data: Corticosteroid dynamics and circadian patterns in rat liver, accepted, *BMC Bioinformatics*, 11:279 (2010)
77. Foteinou, P.T. ^{\$\$}, S.E. Calvano, S.F. Lowry and **I.P. Androulakis***, Multiscale model for the assessment of autonomic dysfunction in human endotoxemia, *Phys. Genomics* 42:5-19 (2010)
78. Scheff, J.D. ^{\$\$}, R.R. Almon, D.C. Dubois, W.J. Jusko and **I.P. Androulakis***, A new symbolic representation for the identification of informative expression motifs in replicated microarray experiments, accepted, *OMICS*, 14(3):239-48, (2010)
79. Saharidis, G., I.P. Androulakis and M.G. Ierapetritou, Model Building using Bi-level Optimization, *J. Global Opt.*, 49:49-67 (2011)
80. Dong, X. ^{##}, P.T. Foteinou ^{\$\$}, S.E. Calvano, S.F. Lowry and **I.P. Androulakis***, Agent-based simulation of endotoxin induced acute inflammatory response in blood leukocytes, *PLoS ONE*, 5(2):e9249 (2010)
81. Treiser, M.D., Yang ^{\$\$}, E. Gordonov, S., D. Cohen, I.P. Androulakis, J. Kohn and P.M. Moghe, P.V. Cytoskeleton-based Forecasting of Stem Cell Lineage Fates, *Proc Natl Acad Sci USA*, 107(2):610 (2010)
82. Orman, M. ^{\$\$}, F. Berthiaume, I.P. Androulakis and M.G. Ierapetritou, Metabolic flux determination in perfused livers by mass balance analysis: Effects of fasting, accepted, *Biotech.Bioeng.*, 107(5):825-835 (2010)
83. He, K-Y ^{\$\$}, I.P. Androulakis and M.G. Ierapetritou, On-the-fly reduction of kinetic mechanisms using element flux analysis, *Chem. Eng. Sci.*, **65**(3):1173-1184 (2010)
84. Foteinou, P.T. ^{\$\$}, S.E. Calvano, S.F. Lowry and **I.P. Androulakis***, A multiscale model for the assessment of autonomic dysfunction in human endotoxemia, *J. Critical Care*, 24(3):e25 (2009)
85. He, K ^{\$\$}, I.P. Androulakis and M.G. Ierapetritou, Multi-element flux analysis for the incorporation of detailed kinetic mechanisms in Reactive Simulations, *Energy Fuels*, **24**:309-317 (2010)
86. Foteinou, P.T ^{\$\$}, E. Yang ^{\$\$} and **I.P. Androulakis***, Networks, Biology and Process Systems Engineering: A Case Study in Inflammation, *Comp. Chem. Eng.*, **33**(12):2028-2041 (2009)
87. Foteinou, P.T ^{\$\$}, S.E. Calvano, S.F. Lowry and **I.P. Androulakis***, Translational potential of systems-based models of inflammation, *Clinical and Translational Science*, **2**(1):85-89 (2009)
88. Ierapetritou, M.G., P., Georgopoulos, C.M. Roth and **I.P. Androulakis***, Tissue-level Modeling of Xenobiotic Metabolism in Liver: An emerging tool for enabling clinical translational research, *Clinical Translation Sciences*, **2**(3):228-237 (2009)
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- Catalytic partial oxidation using staged oxygen addition (US Pat. No. 6,726,850)

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MEETING PRESENTATIONS

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2. Kamisoglu K, Calvano SE, Coyle SM, Corbett SA, Androulakis IP, American Institute of Chemical Engineers Annual Meeting, November 16-21, 2014, Atlanta, GA USA. “*Human Metabolic Response to Systemic Inflammation: Concordance between the Experimental Endotoxemia and Clinical Cases*”
3. Kamisoglu K, Calvano SE, Coyle SM, Corbett SA, Androulakis IP, American Institute of Chemical Engineers Annual Meeting, November 16-21, 2014, Atlanta, GA USA. “*Integrated Analysis of Transcriptional and Metabolic Profiling in Human Endotoxemia*”
4. Kamisoglu, K., K. Sleight, S.E. Calvano, S. Corbett and I.P. Androulakis, Temporal Metabolic Profiling of Plasma in Response to Endotoxemia in Humans, *AICHE Annual Meeting*, Nov 3-Nov 8, 2013, San Francisco, CA

5. Kamisoglu, K., K. Sleight, T.T. Nguyen, S.E. Calvano, S. Corbett and I.P. Androulakis, Effects of Coupled Dose and Rhythm Manipulation of Plasma Cortisol Levels On Leukocyte Transcriptional Response to Endotoxin in Humans, *AIChE Annual Meeting*, Nov 3-Nov 8, 2013, San Francisco, CA
6. Mavroudis, P.M., S. Corbett, S.E. Calvano and I.P. Androulakis, Mathematical modeling of light-mediated cortisol secretion and evaluation of downstream effects on cytokine secretion, *AIChE Annual Meeting*, Nov 3-Nov 8, 2013, San Francisco, CA
7. Mattick JSA, Orman MA, Yang Q, Ierapetritou MG, Berthiaume F, Androulakis IP: Unique Hepatic Responses to Burn, Sepsis and Trauma: The Adaptability of Innate Immunity in the Face of Different Stimuli. *AIChE Annual Meeting*, Oct 28–Nov 2, 2012, Pittsburgh, PA
8. Mavroudis PD, Calvano SE, Androulakis IP: In silico model of suppression and desynchronization of peripheral clock genes in human endotoxemia. *AIChE Annual Meeting*, Oct 28–Nov 2, 2012, Pittsburgh, PA
9. Scheff JD, Calvano SE, Androulakis IP: Analysis of Critical Transitions in a Model of Human Endotoxemia. *AIChE Annual Meeting*, Oct 28–Nov 2, 2012, Pittsburgh, PA.
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14. Yang Q, Orman MA, Berthiaume F, Ierapetritou MG, Androulakis IP, Expression Profiling Analysis Following Cecal Ligation and Puncture (CLP) Treatment in Rat Liver, *AIChE Annual Meeting*, October 16-21, 2011, Minneapolis, MN.
15. Orman MA, Yang Q, Berthiaume F, Ierapetritou MG, Androulakis IP, Bioinformatics Analysis of Control Mechanisms of Inflammatory Response, *BMES Annual Meeting*, October 12-15, 2011, Hartford, CT.
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26. Orman M.A., Androulakis I.P., Berthiaume F., Ierapetritou M.G., Metabolic Flux Determination in Perfused Livers by Mass Balance Analysis: Effect of Fasting, AIChE National Meeting, November 7-12, 2010, Salt Lake City, UT
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30. Nguyen, T.T., Calvano S.E., Lowry S.F. and Androulakis I.P., Multi-scale agent-based modeling of human endotoxemia, AIChE National Meeting, November 7-12, 2010, Salt Lake City, UT
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84. Gene Expression Profiling Following Exposure to Phthalate Esters: An integrative Toxicogenomics Approach , *International Science Forum on Computational Toxicology*, May 21-23, 2007, Research Triangle Park, North Carolina M.A. Ovacik, I.P. Androulakis, M.G. Ierapetritou, S. Euling, B. Sen , K.W. Gaido, W.J. Welsh, P.G. Georgopoulos (2007)
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107. Androulakis, I.P., Feature selection and data set reduction, AICHE Annual Meeting, Indianapolis, Nov. 2002.
108. Farrell, J.T., I.P. Androulakis, R.J. Johnston, and J.W. Bozzelli, "Laminar burning velocity measurements and modeling of benzene, toluene, anisole and phenol", Combustion Institute (Int'l) Symposium, Sapporo, Japan, July 2002.
109. Androulakis, I.P., An information theory approach to feature selection and data set reduction, AICHE Annual Meeting, Reno, Nov 2001.
110. Grenda, J.M., I.P. Androulakis, and J.W. Bozzelli, Combining Automated Kinetic Mechanism Generation and Mechanism Reduction in the Development of Chemical Reaction Models, AICHE Annual Meeting, Reno, Nov 2001.
111. Grenda, J.M., I.P. Androulakis, and J.W. Bozzelli, The Combined Use of Automated Kinetic Mechanism Generation and Mechanism Reduction in the Development of Chemical Reaction Models, 2nd Joint Meeting of the US Sections of the Combustion Institute, San Francisco, CA, 2001.
112. Androulakis, I.P., Computational approaches for the analysis and reduction of complex kinetic mechanisms with applications in the automotive industries, 1st North American Symposium of Chemical Reaction Engineering, Houston, TX, 2001.
113. Ierapetritou M.G., A. Sirdeshpande and I.P. Androulakis. Kinetic model reduction considering system variability, AICHE Annual Meeting, Los Angeles, Nov 2000.
114. Androulakis, I.P., M. Huff, J. Sinfelt, and S.C. Reyes, The role of gas phase chemistry in the oxidative dehydrogenation of ethane, AICHE Annual Meeting, Los Angeles, CA, 2000.
115. Androulakis, I.P., and S.C. Reyes, Optimal design and operation of oxidative upgrading of methane reaction systems, AICHE Annual Meeting, Los Angeles, CA, 2000.
116. Androulakis, I.P., Kinetic mechanism reduction based on an integer programming approach, AICHE Annual Meeting, Dallas, 1999.
117. Ierapetritou M.G., A. Sirdeshpande and I.P. Androulakis, Incorporation of uncertainty into complex kinetic mechanisms, Dallas, Nov 1999.
118. Ierapetritou, M.G, and I.P. Androulakis, Uncertainty considerations in the reduction of chemical reaction mechanisms, Breeckenridge, CO, 1999.
119. Adjiman, C.S., I.P. Androulakis, and C.A. Floudas, MINLPs in process synthesis and design: global optimization approaches, Applied Mathematics Programming and Modeling, Limassol, Cyprus, 1998
120. Androulakis I.P., M. G. Ierapetritou, N. N. Nayak, D.S. Monos and C.A. Floudas, A predictive method for the evaluation of peptide binding in pocket 1 of HLA-DRB1 via global minimization of energy interactions, AICHE Annual Meeting, Los Angeles, CA, 1997.

121. Androulakis, I.P., C.D. Maranas, and C.A. Floudas, Global optimization in financial planning, INFORMS, Dallas, TX, 1997.
122. Androulakis, I.P., C.S. Adjiman and C.A. Floudas, Global optimization of MINLP problems in process synthesis and design, PSE/ESCAPE, Norway, 1997.
123. Adjiman, C.S., I.P. Androulakis, and C.A. Floudas, MINLP in process synthesis and design: global optimization approaches, AIChE Annual Meeting, Los Angeles, CA, 1996.
124. Androulakis, I.P., M.G. Ierapetritou, N. Nayak, D. Monos, and C.A. Floudas, A predictive method for the evaluation of peptide binding in pocket I of the HLA-DRB1 via global optimization of energy interactions, AIChE National Meeting, Los Angeles, CA, 1997.
125. Klepeis J.L., I.P. Androulakis, M.G. Ierapetritou and C.A. Floudas, Predicting solvated peptide conformations via global minimization, AIChE Annual Meeting, Los Angeles, CA, 1997.
126. Adjiman, C.S., I.P. Androulakis and C.A. Floudas, Global optimization of MINLP problems in process synthesis, AIChE National Meeting, Chicago, IL, 1996.
127. Adjiman, C.S., I.P. Androulakis and C.A. Floudas, Valid convex underestimators for process design problems, AIChE National Meeting, Chicago, IL, 1996.
128. Androulakis, I.P., C.D. Maranas, and C.A. Floudas, A global optimization method for general constrained nonconvex problems, INFORMS, New Orleans, LA, 1995
129. Androulakis, I.P., and C.A. Floudas, Global minimum total potential energy conformations of oligopeptides, AIChE Annual Meeting, Miami, FL, 1995.
130. Androulakis, I.P., and C.A. Floudas, global minimum total potential energy conformations of oligopeptides, AIChE Annual Meeting, Miami, FL, 1995
131. Androulakis, I.P., C.D. Maranas, and C.A. Floudas, \square BB: a new global optimization approach for general continuous nonlinear problems, AIChE Annual Meeting, Miami, FL, 1995.
132. Androulakis, I.P., C.D. Maranas, and C.A. Floudas, Finding all multiple steady states of process systems, AIChE Annual Meeting, Miami, FL, 1995
133. Androulakis, I.P., C.D. Maranas, and C.A. Floudas, A deterministic global optimization approach for the protein folding problem, Workshop of Global Optimization of Nonconvex Energy Functions Molecular Conformation and Protein Folding, DIMACS Center – Rutgers University, NJ, 1995.
134. Androulakis, I.P., V. Visweswaran, and C.A. Floudas, Distributed computing in global optimization, AIChE Annual Meeting, San Francisco, CA, 1994.
135. Androulakis, I.P., and G.V. Reklaitis, Asynchronous distributed decision making with applications to process operations, AIChE Annual Meeting, San Francisco, CA, 1994.
136. Androulakis, I.P., C.D. Maranas, J.M. Mulvey and C.A. Floudas, solving dynamic control problems via deterministic global optimization, 15th Intl. Symposium on Mathematical Programming, Ann Arbor, MI, 1994.
137. Androulakis, I.P., G.V. Reklaitis, Analysis of the spurious behavior of asynchronous relaxation algorithms, AIChE Annual Meeting, Miami, FL, 1992.
138. Androulakis, I.P., G.V. Reklaitis, Partially asynchronous iterative methods for the numerical integration of dynamical systems, AIChE Annual Meeting, Los Angeles, CA, 1991.
139. Androulakis, I.P., G.V. Reklaitis, Partially asynchronous algorithms, AMOCO Oil Company, Naperville, IL, 1991.
140. Androulakis, I.P., V. Venkatasubramanian, a genetic algorithmic framework for process design and optimization, AIChE Annual Meeting, San Francisco, CA, 1989.
141. Androulakis, I.P., N.S. Kalospiros, D.P. Tassios, Thermophysical properties of pure polar and non-polar compounds with a modified VdW-711 equation of state, 10th IUPAC International Conference on Thermodynamics, Budapest, Hungary. 1988.

PROFESSIONAL SOCIETIES

- American Institute of Medical and Biological Engineering
- Biomedical Engineering Society

- American Institute of Chemical Engineers
- Society for Complexity in Acute Illness
- International Society of Translational Medicine
- Society of Biological Engineers
- Computer and Systems Technology Division of the AIChE
- Society for Industrial and Applied Mathematics

ORGANIZER OR CHAIRMAN OF SYMPOSIA

- **Computing and Systems Technology Division** (AIChE) Area 10C Coordinator (2012-2013)
- **International Programming Committee Member**, 21st European Symposium on Computer Applications in Process Engineering, London, UK (2012)
- **International Steering Committee Member**, The 4th International Conference on Foundations of Systems Biology in Engineering (FOSBE), Tsuruoka, Japan (2011)
- **International Programming Committee Member**, 21st European Symposium on Computer Applications in Process Engineering, Greece (2011)
- **Programming Committee**, 10th IEEE International Conference on Data Mining, Sydney, Australia (2010)
- **Area Chair**, 10th IEEE International Conference on Bioinformatics & Bioengineering, Philadelphia, PA (2010)
- **Session Chair**, *Systems Engineering Approaches in Biology and Biomedicine*, AIChE Annual Meeting, Salt Lake City, UT (2010)
- **Area Chair**, *Systems Biology/Modeling for Biomedical Systems/ Biological Networks*. International Conference on Bioinformatics and Bioengineering (2010)
- **International Programming Committee Member**, The 3rd International Conference on Foundations of Systems Biology in Engineering (FOSBE), Denver, CO (2009)
- **Session Chair**, *Systems Engineering Approaches in Biology and Biomedicine*, AIChE Annual Meeting, Nashville, TN (2009)
- **Programming Committee Member**, 2008 IEEE International Conference on Data Mining (ICDM-08), Pisa, Italy (2008)
- **Area Chair**, *Network Analysis and Models of Host/Pathogen Interactions*, BMES Meeting, Pittsburg (2009)
- **Associate Editor**, *Advances in Theory and Clinical Applications of Biological Network Studies*, 31st Annual International Conference of the IEEE Engineering in Medicine and Biology Society (2009)
- **Organizer**, *DIMACS Workshop on Nanotechnology and Biology*, Rutgers University (2009)
- **Session Chair**, *Methodology and Applications in Computational Bioengineering and Bioinformatics*, BMES Annual Meeting, Hartford, Conn (2008)
- **Session Chair**, *Systems Engineering Approaches in Biology and Biomedicine*, AIChE Annual Meeting, Philadelphia, PA (2008)
- **Session Chair**, *Systems Engineering Approaches in Biology and Biomedicine*, AIChE Annual Meeting, Salt Lake, UT (2007)
- **Session Chair**, *Multi-scale Modeling*, AIChE Annual Meeting, Salt Lake, UT, (2007)
- **Session Chair**, *Information Technologies and Process Operations*, AIChE Annual Meeting, Cincinnati, OH (2005)
- **Session Chair**, *Fuel Cell technology*, AIChE Annual Meeting, Cincinnati, OH (2005)
- **Session Chair**, *Scheduling and Planning*, AIChE Annual Meeting, Austin, TX (2004)
- **Session Chair**, *Fuel Processing Session I: Modeling and System Integration*, AIChE Annual Meeting, Austin, TX (2004)
- **Session Chair**, *Fuel Cell Technology I*, AIChE Annual Meeting, Austin, TX (2004)
- **Session Chair**, *Complex Systems Modeling*, AIChE Annual Meeting, San Francisco, CA (2003)

- **Session Chair**, *Data Analysis: Design, Algorithms & Applications*, AIChE Annual Meeting, San Francisco, CA (2003)
- **Session Chair**, *Information Management in the Process Industries*, AIChE Meeting, November, Indianapolis, IN (2002)
- **Session Chair**, *Detailed Reaction and Reactor Modeling*, AIChE Annual Meeting, Indianapolis, IN (2002)
- **Session Chair**, *Applications of System Analysis Tools in Information Processing*, AIChE Annual Meeting, Reno, NV (2001)
- **Session Chair**, *Detailed Reaction and Reactor Modeling*, AIChE Annual Meeting, Los Angeles, CA (2000)
- **Session Chair**, *High performance computing: Algorithms and applications*, AIChE Annual Meeting, Los Angeles, CA (2000)

MEMBERSHIP IN SCIENTIFIC BOARDS AND COMMITTEES

- Executive Committee Member, Environmental Bioinformatics and Computational Toxicology Center (ebCTC) (2005-2011)
- Industrial Advisory Board Member, Center for Process Modeling and Control (CPMC), Lehigh University (2001)

MEMBERSHIP IN EDITORIAL BOARDS

- Associate Editor: *Frontiers in Systems Biology*
- Academic Editor: *PLoS ONE*
- Editor-in-chief: *Open Access Bioinformatics* (2007-2014)
- Editorial Board Member: *International Journal of Burns and Trauma*, *Critical Reviews in Biomedical Engineering*, *The Open Bioinformatics Journal*, *American Journal of Translational Research*, *Open Systems Biology Journal*, *Saturday Review-Drug Trials*, *American Journal of Translational Research*, *CPT: Pharmacometrics & Systems Pharmacology*, *ISRN Bioinformatics*, *Communications in Mathematical Biology and Neuroscience*, *AIMS Bioengineering*

GUEST EDITOR

- ***Critical Reviews in Biomedical Engineering***. Special Issue on “*Inflammation in human health and disease*” (2013)
- ***Mathematical Biosciences***. Special Issue on “*Modelling inflammation*” (2015)
- ***Computers and Chemical Engineering***. Special Issue on “*Bio-Systems Engineering*” (2015)

SCIENTIFIC REVIEWER

Journals

- Nature, Cell Biology and toxicity; J. Pharmacokinetics and Pharmacodynamics; AIChE Journal; Annals of Biomedical Engineering; Annual Reviews of Biomedical Engineering; Biophysical Journal; BMC Bioinformatics; BMC Systems Biology; BMC Genomics; Computers and Chemical Engineering; Energy and Fuels; Industrial & Engineering Chemistry Research; Journal of Catalysis; Journal of Global Optimization; Naval Research Logistics; Optimization and Engineering; Algorithms for Molecular Biology; IET Systems biology; Computers in Biology; Transactions on Knowledge and Data Engineering; Personalized Medicine; Chemical Engineering research and Design, PLoS Medicine, Journal Process Control, J. Chemical Information and Modeling, Food and Chemical Toxicology, Psychoneuroendocrinology, Molecular BioSystems, Journal of Physiobiochemical Metabolism, ISRN Bioinformatics, J. Leukocyte Biology

Conferences

- AICHE National Meeting (1996-present)
- BMES National Meeting (2008, 2009)
- EMBC International Meeting (2009, 2011)
- International Conference on Decision and Control (2002)
- State of the Art in Global Optimization: Computational Methods and Applications (1998)

Scientific Panels

- NSF, NIH/NIEHS, DOE, EPA
- Defense Threat Reduction Agency
- Italian Ministry of Health General Directorate for Health and Technologies Research
- Fonds National de la Recherche Luxembourg
- European Research Council
- General Secretariat for Research and Technology of Greece

ADVISING and TEACHING

PhD and MS students supervised

Ph.D. in progress

1. Kubra Kamisoglu, Expected Graduation May 2015
2. Rohit Rao, Expected Graduation May 2018
3. Seul-A Bae, Expected Graduation May 2018
4. Megerle Escotet, Expected Graduation May 2019

Ph.D. completed

1. Panteleimon Mavroudis, September 2014
Current position: Bayer (Germany)
2. Shuliang Zhang, June 2014
Current position: Norton Engineering Consultants
3. Jeremy Scheff, June 2013
Current position: Covance
4. Qian Yang, August 2012
Current position: University of Alberta, postdoctoral fellow
5. Tung Thanh Nguyen, December 2011
Current position: Covance
6. Mehmet Orman, September 2011
Current position: Princeton University, postdoctoral fellow
7. MERIC Ovacik, September 2010
Current position: Merck
8. Kaiyyuan He, June 2010
Current position: ExxonMobil Corporate Strategic Research Laboratories
9. Peggy Foteinou, May 2010
Current position: Johns Hopkins, postdoctoral fellow
10. Eric Yang: Graduated August 2008.
Current position: Covance

M.S. in progress

1. Stanley Ko
2. Jon Pai
3. Alison Acevedo

4. Elliot Dolan
5. Siwei Zhao
6. Zirui Zhen

M.S. completed

1. Kirsten Sleigh, MS (2013)
2. Niotis, Vassilis, MS (2011)
3. Tien Phong Huynh, MS (2007)
4. James Wu, MS (2006)

Member of Ph.D. Thesis Committees

Rutgers University

1. Nikisha Sha (expected May 2015)
2. Nihar Sahay (expected May 2015)
3. Dwaipayan Mukherjee (March 2015)
4. Joseph Kim (December 2014)
5. Sebastian Vega (September 2014)
6. Lawrence Sasso (PhD 2012)
7. Spyridon Stamatelos (June 2011)
8. Vicrotia Swiss (June 2011)
9. Er Liu (PhD 2010)
10. Sang Tae Doh (PhD 2010)
11. Zhiping Zhu (PhD 2009)
12. Matt Treiser (PhD 2009)
13. Hong Yang (PhD 2009)
14. Eddie Davis (PhD 2008)
15. Loreto Valenzuela (PhD 2008)
16. Timothy Maguire (PhD 2007)
17. Dan Wu (PhD 2005)
18. Ipsita Banerje (PhD 2005)
19. Aditya Bindal (PhD 2004)

External

20. Nabil Azhar (PhD 2014) – CMU-Pitt Ph.D. Program in Computational Biology
21. Ho Kei Lon (PhD 2013) – Dept. of Pharmaceutical Sciences, SUNY Buffalo

Undergraduate Students Supervised

1. Melanie Parikh (2014-)
2. Daniel Bradbury (2012-2014)
3. Aditya Sai (2011-2013)
4. Alyssa Kosmides (2010-2012)
5. Zachery Gao (2010) Physics research student
6. Michael M. Quien (2008-2010) Honors Academy
7. Xu Dong (2008-2009) Honors Academy
8. Jeremy Scheff (2007-2008) Honors Academy
9. Jocelyn Alexander (2007-2008) Senior Design
10. Andrew Abdou (2007-2008) Senior Design
11. Farzana Sharmin (2007-2008) Senior Design
12. Bishoy Hana (2007-2008) Senior Design
13. Brendan Cyrus (2007-2008) Senior Design

14. Biren Tarpara (2007) Special Problems
15. David Simcha (2006-2007) Honors Academy
16. Kelly Horn (2006) Slade Scholar
17. Amit Misra (2006) Currently Medical student
18. Hiren Solanki (2005) Special Problems
19. Cliff Sui (2005) Senior Design
20. Graig Dana (2005) Special Problems

Courses Taught

1. Biomedical Engineering Senior Design (Biomedical Engineering, Senior class, Fall '09, Spring '10, Fall '10, Spring '10, Fall '10, Spring '11, Spring '11, Fall '12)
2. Introduction to Biomedical Engineering (Biomedical Engineering. Sophomore class. Fall '05, '06, '07, '08, '09)
3. Introduction to Biochemical Engineering (Chemical & Biochemical Engineering. Senior class. Fall '07, '08, '09, '10)
4. Biomedical Thermodynamics and Kinetics (Biomedical Engineering. Junior class. Spring '06, '07, '08)
5. Topics in Computational Biology (Department of Cell and Developmental Biology, Graduate Elective, Fall '08)
6. Computational Systems Biology (Biomedical Engineering. Senior class. Spring '06, '07, Fall '13, Spring '15)
7. Freshman Orientation (Biomedical Engineering. Freshman. Fall '06, '07)
8. Chemical Engineering Analysis II (Chemical & Biochemical Engineering, Junior class, Fall '13)

SERVICE

- Chair, Graduate admissions committee, Chemical Engineering (2013-)
- Vice-chair, Biomedical Engineering Department (2010-2012. 2014-)
- Undergraduate Program Director, Biomedical Engineering Department (2008-)
- Member Courses of Study Committee, School of Engineering, Rutgers University (2008-)
- Chair, Undergraduate Curriculum Reform Committee, Biomedical Engineering Department (2008-)
- Faculty Advisor, Biomedical Engineering Society, Rutgers University Chapter (2006-)
- Faculty Advisor, *Honors Academy*, Biomedical Engineering Department (2006-2008)
- Faculty Advisor, *ΩXE* Honors Society, Chemical Engineering Honors Society (2007 -)
- Member Committee on Committees, School of Engineering, Rutgers University (2006 - 2008)
- Faculty Advisor, *Tissue & Molecular Engineering Track*, Biomedical Engineering Department (2006-2011)
- Graduate Admission Committee, Biomedical Engineering Department (2007-)
- Graduate Admission Committee, Chemical Engineering Department (2006-)
- Faculty Advisor, *Biomedical Engineering Student Society* (2006-present)
- Faculty Advisor, *Governors Summer School*, School of Engineering, Rutgers University (2006)
- Organizing Committee *New Jersey Biomedical Engineering Showcase* 2006.

RESEARCH FUNDING

Active and Completed

National Institutes of Health, Grant Number: RGM024211 (Pending funding – 6th percentile)
Corticosteroid Pharmacokinetics and Pharmacodynamics
Period: 09/01/15 – 08/31/20, Amount: \$4,500,000
Role: Principal Investigator (Rutgers University Subcontract – W.J. Jusko PI, SUNY Buffalo)

National Institutes of Health, Grant Number: R01GM082974
Bioinformatics Analysis of Control Mechanisms of Hypermetabolism
Period: 09/01/08 – 06/30/13, Amount: \$1,300,000
Role: Principal Investigator

Office of Naval Research
Efficient Characterization of Complex Reaction Networks
Period: 03/01/10-02/28/13, Amount: \$150,000
Role: co- Principal Investigator

NIH ARRA Supplement
Parent Grant: Number: R01GM082974
Bioinformatics Analysis of Control Mechanisms of Hypermetabolism
Period: 09/01/09 – 08/31/11, Amount: \$303,000
Role: Principal Investigator

National Science Foundation, Grant Number: 0836422 Supplemental Award
Reactive Flow Simulation Using an Adaptive Chemistry Framework
Period: 09/01/10-08/31/11, Amount: \$45,000
Role: Principal Investigator

NIGMS Administrative Supplement
Parent Grant: R01 GM 34695, Lowry, S.F. (PI)
Hormone and Cytokine Regulation of Endotoxin Injury
Period: 07/01/09 – 06/31/10, Amount: \$88,992
Role: Principal Investigator (Rutgers University Subcontract)

National Science Foundation, Grant Number: 0836422
Reactive Flow Simulation Using an Adaptive Chemistry Framework
Period: 09/01/07-08/31/10 Amount: \$316,000
Role: Principal Investigator

National Science Foundation, Grant Number: 0836422 Supplemental Award
Reactive Flow Simulation Using an Adaptive Chemistry Framework
Period: 09/01/09-08/31/10, Amount: \$53,000
Role: Principal Investigator

Environmental Protection Agency, Grant Number: EPA-GAD R 832721-010
Environmental Bioinformatics and Computational Toxicology Center
Period: 09/01/05 – 10/31/10, Amount: \$435,983
Role: co- Principal Investigator

National Science Foundation, Grant Number: 0836422 Supplemental Award

Reactive Flow Simulation Using an Adaptive Chemistry Framework
Period: 09/01/08-08/31/09, Amount: \$46,871
Role: Principal Investigator

Clinical and Translational Sciences Pilot Award, UMDNJ

Analytical Deconvolution of Total Leukocyte Gene Expression Analysis to Reveal Expression Motifs of Individual Leukocyte Subpopulations
Period: 09/01/08-08/31/09, Amount: \$25,000
Role: co-Principal Investigator

Charles & Johanna Busch Memorial Fund, Rutgers University

Modeling the dynamics of gene expression in monocytes from LPS-challenged healthy humans pre-treated with cortisol
Period 7/1/07-6/30/09, Amount: \$50,000
Role: Principal Investigator

Office of Naval Research

Efficient Characterization of Complex Reaction Networks
Period: 07/01/06-06/30/09, Amount: \$150,000
Role: co- Principal Investigator

ExxonMobil Research and Engineering Knowledge Built Award

Period 05/01/06-04/30/09, Amount: \$135,000
Role: Principal Investigator

National Science Foundation, Grant Number: NSF-0519563

Molecular Network Controls of Hepatocyte Metabolism
Period: 09/13/05 – 08/31/08, Amount: \$667,851
Role: co- Principal Investigator