

David J. Klinke II

Associate Professor of Chemical Engineering

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EMPLOYMENT & AFFILIATIONS

2012 – Present Associate Professor in Chemical Engineering
2006 – 2012 Assistant Professor in Chemical Engineering
West Virginia University, Morgantown, WV
2014 – Present Adjunct Associate Professor in Microbiology, Immunology & Cell Biology
2010 – Present Member, Mary Babb Randolph Cancer Center
2006 – 2014 Adjunct Assistant Professor in Microbiology, Immunology & Cell Biology
2006 – 2009 Member, Center for Immunopathology & Microbial Pathogenesis
West Virginia University School of Medicine, Morgantown, WV
2002 – 2005 Engineer II – Metabolic and Immunologic Diseases, In Silico R&D
Entelos, Inc., Foster City, CA
1999 – 2002 Engineer – Immunologic Diseases, In Silico R&D
Entelos, Inc., Foster City, CA
1996 – 1997 Ph.D. Intern
Exxon Research and Engineering Company, Annandale, NJ

EDUCATION

Post-doctoral Associate, Chemical Engineering, Sandia National Laboratory, 1999
Combustion Research Laboratory, Mentor: M. Allendorf
Ph.D. Chemical Engineering, Northwestern University, June 1998
Thesis Title: Computational Developments in Heterogeneously Catalyzed Reaction Modeling: Mechanistic Elucidation of Fischer-Tropsch Synthesis. Advisor: L. J. Broadbelt
M.S. Chemical Engineering, Northwestern University, June 1995
Thesis Title: The Effect of Zirconia Loading on Alumina-Supported Catalysts for the Lean Reduction of NO by Propene. Advisor: H. Kung
B.S. Chemical Engineering, Virginia Tech, 1992
Summa Cum Laude, Commonwealth Scholar

HONORS & AWARDS

West Virginia University

Award for Excellence in Innovation, Mary Babb Randolph Cancer Center, West Virginia University School of Medicine (June 2015)
Visiting Scholar in Quantitative Immunology at the Kavli Institute of Theoretical Physics, University of California at Santa Barbara (Nov 2012 - Dec 2012)
Undergraduate Faculty Travel Award, American Association of Immunologists (2012)
National Science Foundation CAREER Award (2011–2015)
Junior Faculty Travel Award *Vaccine Production: Potential Engineering Approaches to a Pandemic*, Sponsored by the National Academy of Engineering & The Institute of

Medicine (2006)

Northwestern University

National Defense Science and Engineering Graduate Fellowship - Honorable Mention (1993)

Northwestern University Alumni Fellowship (1992)

Walter P. Murphy Fellowship (1992)

Virginia Tech

National Science Foundation Graduate Fellowship - Honorable Mention (1992)

DuPont PhD Fellowship (declined) (1992)

Gilbert and Lucille Seay Scholarship Award (1991)

Allied-Signal Scholarship Award (1991)

AIChE Scholarship Award (1991)

PROFESSIONAL MEMBERSHIPS

Society for Immunotherapy of Cancer, 2014 – Present

American Association of Immunologists, 2011 – Present

American Chemical Society, 2009 – Present

American Society for Engineering Education, 2006 – Present

American Institute of Chemical Engineers, 1992 – Present

Biomedical Engineering Society, 2006 – Present

PROJECT FUNDING

Current

- NSF, “CAREER: Interrogating Antagonistic Mechanisms of Signaling Cross-talk in Natural Killer Cells,” 01/15/11-12/31/15 Role: PI, \$539,479.
- WV-INBRE PUI Grant, “Modeling & Stability Analysis of Mixed Immuno-chemotherapy of Tumors by Impulsive Control,” 09/01/14-04/31/16 Role: Mentor, (Grant to Shepherd University, PI: Wang) \$431,762.

Pending

- NIH R01CA193473-01, “Integrated systems approach to identify local oncogenic modulation of the IL12 axis,” 04/01/16-3/31/21 Role: PI. Impact Score: 22 (7th percentile). \$1,872,500.

Funding History

- WVU Research Corporation PSCoR, “Noncanonical signaling and Emergent Trastuzumab Resistance in Breast Cancer,,” 01/01/14-12/31/14 Role: PI, \$25,000.
- NIH R15CA132124-02, “Non-canonical signaling and Emergent Trastuzumab Resistance in Breast Cancer,” 03/01/09-12/31/14 Role: PI, \$660,260.
- WV-INBRE PUI Grant, “Modeling & Stability Analysis of Mixed Immuno-chemotherapy of Tumors by Impulsive Control,” 05/01/12-04/31/14 Role: Mentor, (Grant to Shepherd University, PI: Wang) \$223,928.
- WVU Research Corporation PSCoR, “Nature-inspired Design: Exosomes as Nature’s Nanocarriers for Non-coding RNA,” 01/01/13-12/31/13 Role: PI, \$25,000.
- WVU Research Corporation PSCoR, “Validating Noncanonical signaling in breast cancer,” 01/01/11-12/31/11 Role: PI, \$29,920.

- NIH R56AI076221, “Dendritic Cell Heterogeneity in TLR4 Signaling: Concept Validation,” 09/16/09-08/31/11 Role: PI, \$219,750.
- NIH R15CA132124-S3, “Cell Heterogeneity and Emergent Trastuzumab Resistance in Breast Cancer: Concept Validation,” 05/01/09-02/28/12 Role: PI (diversity supplement to support a student from an under-represented group), \$51,890.
- NIH R15CA132124-S2, “Cell Heterogeneity and Emergent Trastuzumab Resistance in Breast Cancer: Concept Validation,” 06/01/09-09/30/10 Role: PI (supplement to support undergraduate research experience), \$39,496.
- PhRMA Foundation, “Interrogating Proteomic Profiles of Breast Cancer Using Reaction Pathway Analysis,” 01/01/08-06/30/10 Role: PI (1 of 3 awards in Informatics annually), \$60,000.
- NASA WV Space Grant Consortium, “Validating a Scaling Factor for radiation-induced DNA damage and repair,” 05/16/09-05/15/10 Role: Mentor (grant directly to student), \$12,000.
- WVU Research Corporation Start-Up Package, “Bioengineering Applications in Immunology and Cell Signaling,” 01/01/06-12/31/08 Role: PI \$208,200 (Allocated into Summer Salary \$31,200; Graduate Research Assistant support \$90,000; and Equipment, Supplies, Travel, Renovations \$87,000) .

Summary (excluding start-up)

- Total Funding: \$2,110,651 (External: \$2,030,731; Internal \$79,920)
- Funding as PI: \$1,650,795 (External: \$1,570,875; Internal \$79,920)

TEACHING EXPERIENCE

Course Instructor [West Virginia University]

BIOL 236: Human Physiology: Quantitative Laboratory

Developed new lab course in conjunction with the Certificate Program in Biomedical Engineering. Spring 2009 (12 students); Spring 2010 (24 students); Spring 2011 (24 students); Spring 2012 (14 students); Spring 2013 (18 students); Spring 2014 (16 students); Spring 2015 (33 students); Spring 2016;

CCB 701: Oncogenes and Signaling Networks

Responsible for 3 contact hours that cover computational methods used to infer how cancer cells make decisions. Fall 2011 (10 students);

CHE 201: ChE Mass Balances

Fall 2015 (40 students);

CHE 315: ChE Transport Analysis

Spring 2011 (43 students); Spring 2012 (45 students);

CHE 325: Chemical Reaction Engineering

Spring 2006 (16 students); Spring 2007 (22 students); Spring 2009 (11 students); Spring 2010 (33 students); Spring 2016;

CHE 381: Introduction to Biomedical Engineering

Developed new course as gateway course to the Certificate Program in Biomedical Engineering. Spring 2008 (8 students); Fall 2008 (6 students); Fall 2009 (16 students); Fall 2010 (17 students); Fall 2011 (23 students); Fall 2012 (9 students);

CHE 382: Introduction to Tissue Engineering

Spring 2013 (11 students);

CHE 450/CHE 451: Unit Operations Laboratory

Fall 2013 (20 students); Spring 2015 (22 students);

CHE 531: Mathematical Methods in Chemical Engineering
Fall 2013 (13 students);
CHE 593: Applications of Inverse Problem Theory
Fall 2014 (2 students);
CHE 796: Chemical Engineering Graduate Seminar
Fall 2006 (28 students); Spring 2007 (28 students);

Guest Lecturer

Introduction to Physiological Modeling (BEH 103) – M.I.T., Cambridge, MA
December 2001 (50 students);
Research Experience Seminar (HONOR 494K) – WVU
Summer 2006 (30 students);

Teaching Assistant [Northwestern University]

CHE 211: Thermodynamics
CHE 341: Process Dynamics and Control
CHE 342: Chemical Engineering Laboratory
CHE 408: Chemical Engineering Kinetics and Reactor Design

STUDENT SUPERVISION

Post-doctoral Fellows

- Yogesh M. Kulkarni, “Proteomic Profiling of Breast Cancer Models Resistant to Molecularly Targeted Therapies”, Aug 2008 – Aug 2011. Current: Assistant Professor, College of Pharmacy, Hampton University.
- Wentao Deng, “In vivo validation of Wnt-inducible signaling protein-1 as a suppressor of anti-tumor immunity”, Sept 2014 – Present.

Graduate Students

- Stacey Finley, Northwestern University, “Modeling IL-12 Signal Transduction and Receptor Trafficking”, (joint with L. Broadbelt) Fall 2007 – June 2009. Ph.D. CHE 06/2009. Current: Assistant Professor, Dept of Biomed Eng, University of Southern California.
- Ning Cheng, “Identifying signaling cross-talk between cancer and immune cell: a study of IL-12 signaling in 2D6 cells”, M.S. CHE, 5/2010. Current: Ph.D. student, Auburn University.
- Santhoshi Dixit, “Determination of equilibrium binding constants for LPS interaction with TLR4”, M.S. CHE, 7/2010. Current: Industry.
- Huanling Liu, “Mathematical modeling in understanding NF κ B signaling pathway”, M.S. CHE, 12/2010. Current: Cummins Corporation.
- Vivian Suarez, “Developing a cellular assay for screening inhibitors of STAT4 phosphorylation”, M.S. CHE, 12/2010. Current: Research Technician, Dept of Biology, West Virginia University.
- Jacob Kaiser, “Using Bayesian networks to identify control topology between cancer processes and immune responses via metagene constructs”, M.S. Microbiology, Immunology and Cell Biology, 08/2014. Current: Graduate student Statistics, West Virginia University.
- Yueting Wu, “Developing a phenotypic assay for tumor-mediated immunosuppression”, Ph.D. CHE, 12/2015. Current: Post-doctoral Fellow, Roswell Park Research Institute.
- Christina Byrne-Hoffman, “Modulating Interleukin-12 signaling as a mechanism for microevolutionary control in melanoma”, Ph.D. Basic Pharmaceutical Sciences, *expected*

06/2016.

Honors B. S. Graduates

- Tirzah Mills, B.S. CHE (Honors Thesis), 5/2007. Current: Ph.D. student University of Colorado, Boulder.
- Robin Glebes, B.S. CHE (Honors Thesis), 5/2007. Current: U.S. Army
- Bradley May, B.S. CHE (Honors Thesis), 5/2009. Current: Industry.
- Joseph Widmeyer, B.S. CHE (Honors Thesis), 5/2010. Current: Ph.D. student Biomedical Sciences West Virginia University.
- Jennifer M. Knipe, B.S. CHE (Honors Thesis), 5/2010. Current: Ph.D. student University of Texas, Austin.
- Jason Ware, B.S. CHE (Honors Thesis), 5/2012. Current: Process Engineer, DuPont
- Thomas Athey, B.S. CHE (Honors Thesis), 5/2012. Current: Industry.
- Shannon Gribbons, B.S. CHE (Honors Thesis), 5/2012. Current: Industry.
- Tyler Browning, B.S. CHE (Honors Thesis), 5/2013. Current: Industry.
- Nicholas Horvath, B.S. CHE (Honors Thesis), 5/2014. Current: Ph.D. student Cornell University

Undergraduate Research Students

- Thomas Hardy, WVU, Summer 2006 – Spring 2007.
- Zack Schwertfeger, WVU, Summer 2006 – May 2008.
- Lucas Ellis, Cal Poly San Luis Obispo, Summer 2007.
- Deepti Gupta, Northwestern University, Summer 2007 – June 2008.
- Jennifer Knipe, WVU, Spring 2007 – Spring 2010.
- Joseph Widmeyer, WVU, Summer 2008.
- Kristen Kief, WVU, Summer 2009.
- Joseph Widmeyer, WVU, Summer 2009.
- Sarah Lazur, WVU, Summer 2010.
- Jason Ware, WVU, Summer 2010.
- Shannon Gribbons, WVU, Summer 2011.
- Nathan Mickinac, WVU, Summer 2011.
- Molly Callaghan, WVU, Summer 2012.
- Nicholas Horvath, WVU, Summer 2012 - Summer 2014.
- Alex Abrahamian, WVU, Summer 2014.
- Melissa Hernandez, WVU, Summer 2014.
- Vanessa Cuppett, WVU, Summer 2014- Summer 2015.
- Cassidy Bland, WVU, Summer 2015.
- Jonathan Hardy, Shepherd Univ, Summer 2015.
- Lindsey Bent, Shepherd Univ, Summer 2015.

Student Honors and Awards

- Zack Schwertfeger received a Summer Undergraduate Research Experience (SURE) fellowship for summer 2006.
- Tirzah Mills received NSF Graduate Student Research Fellowship 2007.
- Zack Schwertfeger won third place at 2007 AIChE Mid-Atlantic Regional Conference, Bucknell University, PA, April 2007, for “Modeling the Onset of Type 1 Diabetes Mellitus”.
- Zack Schwertfeger won second place at Science, Technology and Research Symposium, Morgantown, WV, September 2007, for “Modeling the Onset of Type 1 Diabetes Mellitus”.

- Jennifer M. Knipe won honorable mention at Science, Technology and Research Symposium, Morgantown, WV, September 2007, for “Identifying the Differentiation Program in Dendritic Cells”.
- Jennifer M. Knipe won first place in Food, Pharmaceutical and Biotechnology Division at American Institute of Chemical Engineers National Meeting, Undergraduate Poster Competition, Salt Lake City, UT, November 2007, for “Identifying the Differentiation Program in Dendritic Cells”.
- Joseph Widmeyer received a Summer Undergraduate Research Experience (SURE) fellowship for summer 2008.
- Jennifer M. Knipe awarded a NASA Space Grant Scholarship for the academic year 2008-09.
- Jennifer M. Knipe won first place in Food, Pharmaceutical and Biotechnology Division at American Institute of Chemical Engineers National Meeting, Undergraduate Poster Competition, Philadelphia, PA, November 2008, for “Principal Component Analysis of the Differentiation of Dendritic Cells”.
- Yogesh Kulkarni won first place in the Post-Doctoral Fellow Category at the Van Liere Research Day Poster Competition, Morgantown, WV, April 2010, for “Proteomics of Breast Cancer for Signal Pathway Profiling and Target Discovery”.
- Jennifer M. Knipe received NSF Graduate Student Research Fellowship 2010.
- Jason Ware won second place at 2011 AIChE Mid-Atlantic Regional Conference, Penn State University, PA, April 2011, for “Identifying biochemical cues secreted by malignant melanocytes that promote escape from immunoediting”.
- Alex Abrahamian received a Summer Undergraduate Research Experience (SURE) fellowship for summer 2014.
- Melissa Hernandez received a Summer Undergraduate Research Experience (SURE) fellowship for summer 2014.
- Yueting Wu won poster award in Food, Pharmaceutical and Biotechnology Division at American Institute of Chemical Engineers National Meeting, Atlanta, GA, November 2014.
- Nicholas Horvath received NSF Graduate Student Research Fellowship 2015.
- Cassidy Bland received a Summer Undergraduate Research Experience (SURE) fellowship for summer 2015.

SERVICE

Editorial Activities

- **Editorial Board**, *Journal of Clinical and Cellular Immunology*, 2010 – present.
- **Editorial Board**, *Scientific Reports*, 2012 – present.
- **Editorial Board**, *PLoS ONE*, 2012 – 2014.

Proposal Review Panels (2007 – present)

DOD CDMRP Breast Cancer Research Program, July 2014.

NIH NCI Integrative Cancer Biology (ZCA1 SRLB-c (J1)), November 2009.

NIH NCI P01 Program Project Review, October 2012.

NIH NIAID Modeling Immunity for Biodefense, December 2014, April 2010.

NSF February 2015, October 2014, January 2014, June 2012, October 2011 (2), April 2011, January 2011, June 2010, May 2010, December 2009, October 2009, February 2008.

Ad hoc Proposal Review (2007 – present)

WVU Faculty: E. Bey (SOM) Dec 2013, Y. Yang (CHE) July 2013.

NSF July 2013, April 2013.

Netherlands Organisation for Scientific Research (NWO) July 2010.

Ad hoc Journal Reviewer (2007 – present)

Annals of Biomedical Engineering, Biochemical Engineering Journal, Bioelectrochemistry, Biophysical Journal, Biotechnology & Bioengineering, Biotechnology Progress, BMC Bioinformatics, BMC Cancer, BMC Systems Biology, Cancer Informatics, Cancer Biology & Therapy, CPT: Pharmacometrics & Systems Pharmacology, Cytokine, Entropy, IEEE Transactions on Biomedical Engineering, Integrative Biology, International Journal of Chemical Kinetics, Journal of Clinical Epidemiology, Journal of Immunological Methods, Journal of Mass Spectrometry, Journal of the Royal Society Interface, Journal of Translational Medicine, Molecular BioSystems, Molecular Systems Biology, OMICS Pharmaceutical Sciences, PLoS Computational Biology, PLoS ONE, Science Signaling, Source Code for Biology and Medicine, Theoretical Biology and Medical Modeling, WIREs Systems Biology and Medicine

National Professional Organizations

- AIChE National Annual Meeting, San Francisco, November, 2006. “Advances in Biocatalysis and Protein Engineering” Chair: A. Bommarius; Co-Chair: D. J. Klinke.
- AIChE National Annual Meeting, San Francisco, November, 2006. “Computational Biology: Systems Modeling I” Chair: V. Hatzimanikatis; Co-Chair: D. J. Klinke.
- AIChE National Annual Meeting, San Francisco, November, 2006. “Computational Biology: Systems Modeling II” Chair: V. Hatzimanikatis; Co-Chair: D. J. Klinke.
- Biochemical Engineering XV: Engineering Biology from Biomolecules to Complex Systems; Quebec City, Canada, July, 2007. Poster Session Chair: D. J. Klinke.
- AIChE National Annual Meeting, Salt Lake City, November, 2007. “Systems Biotechnology” Chair: N. Lin; Co-Chair: D. J. Klinke.
- AIChE National Annual Meeting, Salt Lake City, November, 2007. “Advances in Biocatalysis and Protein Engineering” Chair: D. J. Klinke; Co-Chair: A. Bommarius.
- ACS Biotechnology Division (BIOT) Strategic Planning Meeting, Bethesda, MD, June, 2008.
- AIChE National Annual Meeting, Philadelphia, November, 2008. “Intracellular Processes I” Chair: Dacheng Ren; Co-Chair: D. J. Klinke.
- AIChE National Annual Meeting, Philadelphia, November, 2008. “Intracellular Processes II” Chair: Dacheng Ren; Co-Chair: D. J. Klinke.
- AIChE National Annual Meeting, Nashville, November, 2009. “Receptor-Mediated Phenomena” Chair: David J. Klinke; Co-Chair: Kaushal Rege.
- AIChE National Annual Meeting, Minneapolis, MN, October, 2011. “Receptor-Mediated Phenomena” Chair: David J. Klinke; Co-Chair: Qing Song.
- AIChE National Annual Meeting, Minneapolis, MN, October, 2011. “Genomic Approaches to Systems Biology” Chair: Joshua Leonard; Co-Chair: David J. Klinke.
- AIChE National Annual Meeting, Pittsburgh, PA, November, 2012. “Quantitative Approaches to Disease Mechanisms & Therapies” Chair: David J. Klinke; Co-Chair: Keith Neeves.
- ACS Spring National Meeting, New Orleans, LA, April, 2013. “Upstream Processes: Advances in Systems Biology” Chair: David J. Klinke; Co-Chair: Nitin Agarwal.
- AIChE National Annual Meeting, San Francisco, November, 2013 Division 15d/e Program 1st vice chair.
- AIChE National Annual Meeting, San Francisco, November, 2013. “Poster Session:

Engineering Fundamentals in Life Science” Chair: David J. Klinke.

- AIChE National Annual Meeting, 2014 Division 15d/e Program Chair.

College/University Committees

- Biomedical Engineering Task Force, Fall 2006
- Engineering Accreditation Committee, Fall 2008
- Computing Committee, Fall 2010 - present

Department Committees

- Ad hoc Committee for assessing a Biomedical Option, Spring 2006
- American Institute of Chemical Engineers Student Chapter Advisor, 2006 - 2013
- Research Faculty Recruitment Committee, Spring 2010
- Tenure-track Faculty Recruitment Committee, Fall 2010 - 2012
- Computer Committee, Fall 2010 - present
- Promotion and Tenure Committee, Spring 2013
- Undergraduate Advisor, Fall 2013 - present
- BME Faculty Recruitment Committee, Fall 2014 - present

Dissertation / Thesis Committees

| Student | Degree | Year | Primary Advisor | Dept/School |
|------------------------|--------|---------|-----------------|-------------|
| Y. Wu | Ph.D. | 12/2015 | D. Klinke | CHE/CEMR |
| C. Byrne-Hoffman | Ph.D. | 12/2015 | D. Klinke | BPS/SOP |
| J. Kaiser | M.S. | 06/2014 | D. Klinke | MICB/SOM |
| C. Dong | Ph.D. | 05/2014 | C.Z. Dinu | CHE/CEMR |
| E. Rodgers-Melnick | Ph.D. | 07/2013 | S. DiFazio | BIOL/ECAS |
| A. Vamsi Krishna | M.S. | 12/2010 | R. Hissam | CHE/CEMR |
| V. Suarez | M.S. | 12/2010 | D. Klinke | CHE/CEMR |
| H. Liu | M.S. | 12/2010 | D. Klinke | CHE/CEMR |
| A. Siegel | M.S. | 07/2010 | R. Hissam | CHE/CEMR |
| R. Fecek | Ph.D. | 07/2010 | C. Cuff | MICB/SOM |
| S. Dixit | M.S. | 08/2010 | D. Klinke | CHE/CEMR |
| N. Cheng | M.S. | 12/2009 | D. Klinke | CHE/CEMR |
| F. A. Pino-Romainville | Ph.D. | 12/2008 | I. Celik | MAE/CEMR |

DISSEMINATION OF RESEARCH

Refereed Publications (Total number of times cites: 434(Scopus); h-index: 11)

Listed after each article: {Number of citations as of November 1, 2015}[Journal impact factor 2010]

1. Klinke, D. J. and Broadbelt, L. J.; “Mechanism Reduction during Computer Generation of Compact Reaction Models”, (1997) *AIChE J.* 43:1828-1837.{34}[2.0]
2. Klinke, D. J.; Wilke, S.; and Broadbelt, L. J.; “A Theoretical Study of Carbon Chemisorption on Ni(111) and Co(0001) Surfaces”, (1998) *J. Catal.* 178:540-554.{54}[5.4]
3. Klinke, D. J.; “Computational Developments in Heterogeneously Catalyzed Reaction Modeling: Mechanistic Elucidation of Fischer-Tropsch Synthesis”, Ph.D. Dissertation, Northwestern University June 1998.
4. Klinke, D. J. and Broadbelt, L. J.; “Construction of a Mechanistic Model of Fischer-Tropsch Synthesis on Ni(111) and Co(0001) Surfaces”, (1999) *Chem. Eng. Sci.* 54:3379-

3389.{32}[2.4]

This publication was the first application of a rule-based automatic network generation algorithm to reactions on surfaces, like a cell membrane. A rule-based modeling framework is now being applied to cell signaling networks (see Bachman and Sorger *Nat Methods* 2011 8:130-131).

5. Klinke, D. J.; Dooling, D. J.; and Broadbelt, L. J.; “A Theoretical Study of Methylidyne Chemisorption on Ni(111) and Co(0001) Surfaces”; (1999) *Surf. Sci.* 425:334-342.{13}[2.0]
6. Klinke, D. J. and Broadbelt, L. J.; “A Theoretical Study of Hydrogen Chemisorption on Ni(111) and Co(0001) Surfaces”, (1999) *Surf. Sci.* 429:169-177.{42}[2.0]
7. Broadbelt, L. J. and Klinke, D. J.; “Kinetics of Catalyzed Reactions - D (Heterogeneous)” in *Encyclopedia of Catalysis*, Istvan T. Horvath (Editor-in-Chief), ISBN 0-471-24183-0, pp. 4772, December 2002.
Publications at West Virginia University.
8. Klinke, D. J.; “The Ratio of P40 Monomer to Dimer is an Important Determinant of IL-12 Bioactivity”, (2006) *J. Theor. Bio.* 240:323-335.{11}[2.4]
9. Klinke, D. J.; “An Age-Structured Model of Dendritic Cell Trafficking in the Lung”, (2006) *Am. J. Physiol. Lung Cell. Mol. Physiol.* 291:L1038-L1049.{5}[4.1]
10. Klinke, D. J.; “A Multi-scale Model of Dendritic Cell Education and Trafficking in the Lung: Implications for T Cell Polarization”, (2007) *Ann. Biomed. Eng.* 35:937-955.{5}[2.4]
11. Klinke, D. J.; “Extent of Beta Cell Destruction is Important but Insufficient to Predict the Onset of Type 1 Diabetes Mellitus”, (2008) *PLoS ONE* 3:e1374.{27}[4.4]
In a review by Mark Atkinson (*Curr Opin Endo Diab Obesity* (2009) 16:279-285), this is highlighted as a paper of special interest with the comment: “An interesting meta-analysis that draws to the forefront, the question of, ‘what percentage of b cells are destroyed at the symptomatic onset of T1D?’” According to ImpactStory, this paper has received more citations than 81% of all papers indexed in Web of Science that were published in 2008.
12. Klinke, D. J.; “Integrating Epidemiological Data into a Mechanistic Model of Type 2 Diabetes: Validating the Prevalence of Virtual Patients”, (2008) *Ann. Biomed. Eng.* 36:321-334.{13}[2.4]
This publication provides a glimpse of the size and complexity of the proprietary PhysioLab models developed by Entelos, Inc. This model is one of the PhysioLab models - think flight-simulators for drugs - that the PI helped develop.
13. Klinke, D. J.*; Ustyugova, I. V.; Brundage, K.; Barnett, J. B.; “Modulating Temporal Control of NF-kappaB Activation: Implications for Therapeutic and Assay Selection”, (2008) *Biophys. J.* 94:4249-4259. *corresponding author.{10}[4.2]
14. Klinke, D. J.; “Validating a Dimensionless Number for Glucose Homeostasis in Humans”, (2009) *Ann. Biomed. Eng.* 37:1886-1896.{2}[2.4]
15. Klinke, D. J.*; Brundage, K. M.; “Scalable analysis of flow cytometry data using R/Bioconductor”, (2009) *Cytometry A* 75:699-706. *corresponding author.{9}[3.7]
16. Leski, T.A.; Caswell, C.C.; Pawlowski, M.; Bujnicki, J.M.; Hart, S.J.; Klinke, D. J.; Lukomski, S.; “Identification and Classification of *bcl* Genes and Proteins of *Bacillus cereus* Group Organisms and Their Application in *Bacillus anthracis* Detection and Fingerprinting”, (2009) *Appl Environ Microbiol* 75:7163-7172.{18}[3.8]

17. Klinke, D. J.; “An empirical Bayesian approach for model-based inference of cellular signaling networks”, (2009) *BMC Bioinformatics* 10:371-383.[3.0]
 In a paper from Peter Sorger’s group at Harvard (Chen et al. *Genes Dev* (2010) 24:1861-75.), it is stated that Bayesian methods are at the forefront for using mathematical models to reason about biological systems. This highly accessed publication in BMC Bioinformatics is one of two citations provided for this statement and, according to ImpactStory, has received more citations than 94% of all papers indexed in Web of Science that were published in 2009.
18. Klinke, D. J.; “Signal Transduction Networks in Cancer: Quantitative Parameters Influence Network Topology”, (2010) *Cancer Res* 70:1773-1782.[8.2]
 Using in silico model-based inference, this paper posits that over-expression of intracellular signaling proteins can re-wire the signaling circuitry in cancer cells and was highlighted on the Physical Sciences-Oncology website hosted by the National Cancer Institute.
19. Finley, S.D.; Gupta, D.; Cheng, N.; Klinke, D. J.; “Inferring Relevant Control Mechanisms for Interleukin-12 Signaling in Naïve CD4+ T Cells”,(2011) *Immunol Cell Biol* 89:100-110.[3.7]
20. Kulkarni, Y.; Suarez, V.; Klinke, D. J.; “Inferring Predominant Pathways in Cellular Models of Breast Cancer Using Limited-Sample Proteomic Profiling”, (2010) *BMC Cancer* 10:291-301.[3.2]
21. Klinke, D. J.; “A multiscale systems perspective on cancer, immunotherapy, and Interleukin-12”, (2010) *Mol. Cancer* 9:242-257.[3.8]
 A highly accessed publication in Molecular Cancer - 3007 accesses in the first year - that introduces the idea of open-loop versus closed-loop systems in the context of cancer immunology.
22. Klinke, D. J.*; Finley, S.D.; “Timescale analysis of rule-based biochemical reaction networks”, (2012) *Biotechnol. Prog* 28(1):33-44.[1.9] *corresponding author
23. Klinke, D.J.; “Age-corrected beta cell mass following onset of type 1 diabetes mellitus correlates with plasma C-peptide in humans”, (2011) *PLoS ONE* 6(11):e26873.[4.4]
24. Kulkarni, Y.M.; Chambers, E.; Klinke, D.J.; “Protein-based identification of quantitative trait loci associated with malignant transformation in two cellular models of breast cancer”, (2012) *Proteome Sci* 10(1):11-24.[2.5]
25. Klinke, D.J.*; Chambers, E.; Cheng, N.; “Quantifying cross-talk among among Interferon- γ , Interleukin-12, and Tumor Necrosis Factor signaling pathways within a T_H1 cell model”, (2012) *Sci Signal* 5(220):ra32-41.[7.6] *corresponding author
 This is the first study that combines a quantitative high content assay and in silico model-based inference to evaluate competing hypotheses regarding cellular information processing. According to ImpactStory, this publication has received more citations than 97% of all papers indexed in Web of Science that were published in 2012.
26. Kulkarni, Y.M.; Chambers, E.; McGray, A.J.R.; Ware, J.S.; Bramson, J.L.; Klinke, D.J.; “A quantitative systems approach to identify paracrine mechanisms that locally suppress immune response to Interleukin-12 in the B16 melanoma model”, (2012) *Integr Biol (Camb)* 4(8):925-936.[4.5]
 This study describes an in vitro phenotypic assay that recreates closed-loop behavior between an immune cell model and the B16F0 melanoma model. Proteomics and in silico model-based inference are used to identify novel mechanisms of immunosuppression.

27. Klinke, D.J.*; Wang, Q.; “Understanding Immunology via Engineering Design: The Role of Mathematical Prototyping”, (2012) *Comput Math Methods Med* 2012:676015. {1}[0.7]
*corresponding author
28. Klinke, D.J.; “An evolutionary perspective on anti-tumor immunity”, (2013) *Front Oncol* 2:202. {10}[-]
Reviews evidence to support cancer as an evolutionary process and how advances in technology have strengthened this viewpoint. Compared to all 373 articles published in this journal, it ranks 24th in Altmetric score - a measure of the quality and quantity of online attention that an article receives.
29. Kulkarni, Y.; Qi, Q.; Zhu, Y.; Liu, C.; Klinke, D.J.*; Liu, J.*; “Differential proteomic analysis of caveolin-1 KO cells reveals Sh2b3 and Clec12b as novel interaction partners of caveolin-1 and capns1 as potential mediator of caveolin-1-induced apoptosis”, (2013) *Analyst* 138(22):6986-6996. {1}[4.0] *corresponding authors
30. Klinke, D.J.; “Induction of Wnt-inducible signaling protein-1 correlates with invasive breast cancer oncogenesis and reduced type 1 cell-mediated cytotoxic immunity: a retrospective study”, (2014) *PLoS Comput. Biol* 10(1):e1003409. {10}[4.9]
31. Klinke, D.J.*; Kulkarni, Y.M.; Wu, Y.; Byrne-Hoffman, C.; “Inferring alterations in cell-to-cell communication in HER2+ breast cancer using secretome profiling of three cell models”, (2014) *Biotechnol & Bioeng* 111(9):1853-63. {7}[4.2] *corresponding author
32. Klinke, D.J.; “In silico model-based inference: a contemporary approach for hypothesis testing in network biology”, (2014) *Biotechnol. Prog* 30(6):1247-61. {4}[1.9]
33. Klinke, D.J.; “Is immune checkpoint modulation a potential therapeutic option in triple negative breast cancer?”, (2014) *Breast Cancer Research* 16:457. {1}[5.9]
34. Klinke, D.J.; “Eavesdropping on altered cell-to-cell signaling in cancer by secretome profiling”, (2015) *Molecular & Cellular Oncology (in press)*. {-}[-]
35. Byrne-Hoffman, C.; Klinke, D.J.; “A Quantitative Systems Pharmacology Perspective on Cancer Immunotherapy”, (2015) *Processes* 3(2):235-256. {-}[-]
36. Wang, Q.; Klinke, D.J.*; Wang, Z.; “CD8+ T cell response to adenovirus vaccination and subsequent suppression of tumor growth: modeling, simulation and analysis”, (2015) *BMC Systems Biology* 9:27. {-}[2.9]*corresponding author
37. Klinke, D.J.; “Enhancing the discovery and development of immunotherapies for cancer using quantitative and systems pharmacology: Interleukin-12 as a case study”, (2015) *Journal for ImmunoTherapy of Cancer* 3:27. {-}[-]
38. Klinke, D.J.*; Birtwistle, M.; “In silico model-based inference: an emerging approach for inverse problems in engineering better medicines”, (2015) *Current Opinion Chemical Engineering* 10:14-24. {-}[-]*corresponding author
39. Klinke, D.J.*; Horvath, N.; Cuppett, V.; Wu, Y.; Deng, W.; Kanj, R.; “Interlocked positive and negative feedback network motifs regulate beta-catenin activity in the adherens junction pathway”, (2015) *Molecular Biology of the Cell* 26(22):4135-48. {-}[6.0]*corresponding author
40. Wu, Y.; Deng, W.; Klinke, D.J.; “Exosomes: Improved methods to characterize their morphology, RNA content, and surface protein biomarkers”, (2015) *Analyst* 140(19):6631-42. {-}[4.1]

Manuscripts

41. Kaiser, J.; Bland, C.; Klinke, D.J.; “Identifying causal networks linking cancer processes and anti-tumor immunity using Bayesian network inference and metagene constructs”, (2015) *Biotechnology Progress (in revision)*.
42. Wu, Y.; Deng, W.; McGinley-Chambers, E.; Klinke, D.J.; “B16F0 melanoma exosomes deliver a complex biological payload that includes PTPN11 to suppress T lymphocyte function”, (2015) *Journal of Immunology (submitted)*. *corresponding author

Other Publications

43. Grenda, J. M.; Susnow, R. G.; Klinke, D. J.; Peczak, P.; Dean, A. M.; and Green W. H., “Computational Construction of Kinetic Models Using a Rate-Based Algorithm”, in *Proceedings of the 4th International Conference on Chemical Kinetics*, Gaithersburg, MD, July 1997.
44. Broadbelt, L. J.; Dooling, D. J.; and Klinke, D. J., “Theoretical investigations of nonuniformity in heterogeneous catalysis”, Abstr. A.C.S., 217(1999) 78-CATL.
45. Klinke, D.J.; Lewis, A. K.; Paterson, T.; Leong, C. C.; Defranoux, N.; and Stokes, C. L.; “Asthma PhysioLab: A Dynamic, Computer-based Mathematical Model of Atopic Asthma”, *Ann Biomed Eng.*, 28(Suppl. 1)(2000) S-27.
46. Lewis, A. K.; Klinke, D. J.; and Stokes, C. L.; “The Role of Beta2-Adrenergic Receptor Polymorphisms in Clinical Outcomes Following Chronic Beta2-Agonist Use”; *Am. J. Resp. Crit. Care Med.* 163(2001) A143.
47. Stokes, C. L.; Lewis, A. K.; Subramaniana, K.; Klinke, D. J.; Okino, M.; and Edelman, J. M.; “A Computer Model of Chronic Asthma With Application to Clinical Studies: Example of Treatment of Exercise-induced Asthma”; *J. Allergy Clin. Immunol.* 107(2001) 933.
48. Klinke, D. J.; Lewis, A. K.; Wong, S.-P.; and Stokes, C. L.; “Airway Hyperresponsiveness: Exploration of Mechanisms Using a Dynamic, Computer-based Model of Asthma”; *Am. J. Resp. Crit. Care Med.* 163(2001) A832.
49. Struemper, H.; Ramanujan, S.; Soderstrom, K.; Dubnicoff, T.; Shoda, L.K.M.; Klinke, D.J.; Lewis, A.K.; and Defranoux, N.; “Partial Independence of Tumor Necrosis Factor Alpha and Interleukin 1 in Rheumatoid Arthritis: Predictions from Large-Scale Biosimulation”; *Arthritis & Rheumatism* 46(Suppl.)(2002) S262.
50. Klinke, D.J.; Okino, M.; Shoda, L.K.M.; “The Bioactivity of IL-12: There’s More to the Story than P70 or P40”; *FASEB Journal* 17(2003) C131.
51. Kelly, S.D.; Klinke, D.J.; Leong, C.; Lewis, A.K.; Okino, M.S.; Paterson, T.S.; Shoda, L.K.M.; Stokes, C.; Struemper, H.K.; “Method and apparatus for computer modeling of an adaptive immune response”, US Patent Application 10/154,123 (2003).
52. Defranoux, N.A.; Dubnicoff, T.B.; Klinke, D.J.; Lewis, A.K.; Paterson, T.S.; Ramanujan, S.; Shoda, L.K.M.; Soderstrom, K.P.; Struemper, H.K.; “Method and apparatus for computer modeling a joint”, US Patent 6,862,561 (2005).
53. Friedrich, C.M.; Kansal, A.; Klinke, D.J.; Michelson, S.G.; Paterson, T.S.; Polidori, D.; Trimmer, J.; Wennerberg, L.G.; “Defining Virtual Patient Populations”, US Patent Application 11/346,990 (2006).

54. Klinke, D.J.; "Engineering a New Vision for Drug Discovery"; in *Proceedings of the Science, Technology, and Research Symposium*, Morgantown, WV, September 2007.
55. Defranoux, N.A.; Dubnicoff, T.B.; Klinke, D.J.; Lewis, A.K.; Paterson, T.S.; Ramanujan, S.; Shoda, L.K.M.; Soderstrom, K.P.; Struemper, H.K.; "Method and apparatus for computer modeling a joint", US Patent 7,472,050 (2008).
56. Leski, T.A.; Caswell, C.C.; Pawlowski, M.; Klinke, D.J.; Bujnicki, J.M.; Hart, S.J.; Lukomski, S.; "Bcl-based detection and fingerprinting of Bacillus anthracis", US Patent Application 61/456,940 (2010).
57. Klinke, D.J.; "1) Methods of Treatment using WISP antagonists, 2) Method for screening inhibitors and identifying mechanisms of tumor-mediated immunosuppression", US Provisional Patent Application 61/574,598 (2011).
58. Johnson, D.; Klinke, D.J.; Wang, Q.; Condon, M.; Wang, Z.; "Markov Chain Monte Carlo Analysis of Trophic Cascade in Yellowstone after Reintroduction of Wolves", *Interdisciplinary Topics in Applied Mathematics, Modeling and Computational Science*, Vol 117 in Springer Proceedings in Mathematics & Statistics (2014) 6 pages.

Invited Presentations

1. Stokes, C. L. and Klinke, D. J. (joint presentation); "An Integrative Mathematical Model of Asthma: From Biochemistry to Pathophysiology", Pacific Northwest National Laboratory, Richland, WA, August 4, 2000.
2. Klinke, D. J.; "Systems Biology and the Lung: A Mechanistic Modeling Perspective", Pacific Northwest National Laboratory, Richland, WA, January 2005.
3. Klinke, D. J.; "Systems Biology and Cancer: A Mechanistic Modeling Perspective", Department of Molecular Therapeutics, University of Texas M.D. Anderson Cancer Center, Houston, TX, May 2005.
4. Klinke, D. J.; "Systems Biology and Engineering: A Mechanistic Modeling Perspective", Department of Chemical Engineering, West Virginia University, Morgantown, WV, July 2005.
5. Klinke, D. J.; "Developing Predictive Detailed Chemical Kinetic Models of EGF Receptor Signaling", Translational Cancer Research Seminar, Mary Babb Randolph Cancer Center, Robert C. Byrd Health Sciences Center, West Virginia University, Morgantown, WV, March 2006.
6. Klinke, D. J.; "IL-12 Bioactivity and Dendritic Cell Trafficking: Examples of Systems Biology in Immunology", Cell and Molecular Biology Seminar Series, Department of Microbiology, Immunology & Cell Biology, Robert C. Byrd Health Sciences Center, West Virginia University, Morgantown, WV, April 2006.
7. Klinke, D. J.; "Application of Engineering Analysis in Immunology and Drug Discovery", Department of Chemical Engineering, Virginia Tech, Blacksburg, VA, April 2007.
8. Klinke, D. J.; "Systems Biology by Example: Modulating the Dynamics of NF-kB Activation", Center for Respiratory Biology and Lung Disease, Department of Neurobiology and Anatomy, Robert C. Byrd Health Sciences Center, West Virginia University, Morgantown, WV, November 2007.

9. Klinke, D. J.; "R/Bioconductor - Analysis Tools for Flow Cytometry", Bioinformatics Interest Group, Department of Microbiology, Immunology & Cell Biology, Robert C. Byrd Health Sciences Center, West Virginia University, Morgantown, WV, December 2007.
10. Klinke, D. J.; "A Bayesian Perspective on Understanding Cell Signaling Pathways using Mathematical Models", Department of Chemical and Biochemical Engineering, University of Maryland, Baltimore County, Baltimore, MD, April 2009.
11. Klinke, D. J.; "A Bayesian Perspective on Understanding How Cancer Cells Escape from Immunotherapy", NSF Workshop on Advances in Breast Cancer Research, University of Arkansas, Fayetteville, AK, October 2010.
12. Klinke, D. J.; "A Bayesian Perspective on Understanding How Cells Make Decisions", Department of Chemical Engineering, Penn State University, State College, PA, January 2011.
13. Klinke, D. J.; "A Bayesian Perspective on Understanding How Cells Make Decisions", Joint CMU-Pitt Computational Biology Seminar Series, Carnegie-Mellon University/University of Pittsburgh, Pittsburgh, PA, February 2011.
14. Klinke, D. J.; "From signaling cartoons to model-based inference in cancer immunology: A contemporary view towards understanding how cells make decisions", Joint Mount Sinai School of Medicine-Yale Computational Biology Seminar Series, Mount Sinai School of Medicine, New York, NY, April 2011.
15. Klinke, D. J.; "Timescale Analysis of Rule-based Biochemical Reaction Networks", q-bio Conference - Rule-based Modeling Workshop, Santa Fe, NM, August 2011.
16. Kulkarni, Y.M.; Chambers, E.; McGray, A.J.R.; Ware, J.S.; Bramson, J.L.; **Klinke, D.J.**; "Tumor-derived Wnt-inducible Signaling Protein-1 (WISP1) exhibits paracrine immunosuppression by inhibiting cellular response to Interleukin-12", Roche / Nature Medicine Symposium: Cancer Immunology and Immunotherapy, Nutley, NJ, September 2011 (By invitation only).
17. Klinke, D. J.; "In silico model-based inference: a contemporary approach for hypothesis testing in cell signaling research", Department of Mathematics Biomathematics Seminar Series, West Virginia University, Morgantown, WV, October 2011.
18. Klinke, D. J.; "In silico model-based inference: a contemporary approach for hypothesis testing in systems pharmacology", Department of Chemical Engineering, University of Illinois Urbana-Champaign, Urbana, IL, August 2012.
19. Klinke, D. J.; "In silico model-based inference: a contemporary approach for hypothesis testing in systems pharmacology", Department of Chemical and Biomolecular Engineering, Vanderbilt University, Nashville, TN, September 2012.
20. Klinke, D. J.; "Engineering Analysis of Signal Transduction", Workshop on Multi-scale Modeling in Biology, Los Alamos National Laboratory, Los Alamos, NM, September 2012.
21. Invited faculty participant in "Quantitative Immunology: Experiments Meet Modeling", Kavli Institute for Theoretical Physics at University of California Santa Barbara, Santa Barbara, CA, November 26 - December 20 2012.
22. Klinke, D. J.; "In silico model-based inference: a contemporary approach for hypothesis testing in systems pharmacology", Department of Systems Biology, Harvard University, Boston, MA, November 2012.

23. Klinke, D. J.; “In silico model-based inference: a contemporary approach for hypothesis testing in systems pharmacology”, Department of Chemical and Biomolecular Engineering, Northwestern University, Evanston, IL, November 2012.
24. Klinke, D. J.; “A Quantitative Systems Perspective on Cancer, Immuno-evasion, and Somatic Evolution”, Center for Quantitative Sciences, Vanderbilt University Medical Center, Nashville, TN, February 2013.
25. Klinke, D.J.; “Identifying local mechanisms for tumor-derived immunosuppression: An integrated phenotypic screening approach”, Translational Research Cancer Centers Consortium, Seven Springs, PA, February 2014.
26. Klinke, D. J.; “A Quantitative Systems Perspective on Cancer, Immuno-evasion, and Somatic Evolution”, Department of Computer Science, Mathematics and Engineering, Shepherd University, Shepherdstown, WV, April 2014.
27. Klinke, D. J.; “A Quantitative Systems Perspective on Cancer, Immuno-evasion, and Somatic Evolution”, School of Pharmacy, West Virginia University, Morgantown, WV, September 2014.
28. Klinke, D. J.; “A Quantitative Systems Perspective on Cancer, Immuno-evasion, and Somatic Evolution”, Department of Chemical Engineering, University of Houston, Houston, TX, February 2015.
29. Klinke, D. J.; “Enhancing the Discovery and Development of Immunotherapies for Cancer Using Quantitative and Systems Pharmacology”, School of Pharmacy and Clinical Translational Science Institute, West Virginia University, Morgantown, WV, February 2015.
30. Klinke, D. J.; “Identifying altered intercellular signaling networks associated with local immunosuppression in cancer: A quantitative and systems pharmacology approach”, Biochemical and Molecular Engineering XIX, Puerto Vallarta, Mexico, July 2015.
31. Klinke, D. J.; “In silico model-based inference: a contemporary approach for hypothesis testing in systems pharmacology”, Joint CMU-Pitt Computational Biology Seminar Series, Carnegie-Mellon University/University of Pittsburgh, Pittsburgh, PA, September 2015.

Contributed Meeting Presentations (speaker in bold)

32. **Klinke, D. J.** and Broadbelt, L. J., “Computer-Generated Reaction Mechanisms of Pentadecylbenzene Pyrolysis: An Illustrative Example”, AIChE Annual Meeting Student Poster Session, Chicago, IL, November 1996.
33. **Klinke, D. J.** and Broadbelt, L. J., “Computational Developments in Heterogeneously Catalyzed Reaction Modeling: Mechanistic Elucidation of Fischer-Tropsch Synthesis”, AIChE Annual Meeting, Los Angeles, CA, November 1997.
34. **Klinke, D. J.** and Broadbelt, L. J., “Computational Developments in Heterogeneously Catalyzed Reaction Modeling: Mechanistic Elucidation of Fischer-Tropsch Synthesis”, Catalysis Club of Chicago Spring Symposium, May 1998.
35. **Klinke, D. J.**; Bastasz, R.; and Allendorf, M.D.; “An Investigation into the Transient Behavior of Palladium Metal Based Hydrogen Sensors”, 59th Annual Physical Electronics Conference, Berkeley, CA, July 1999.

36. **Klinke, D. J.**; Lewis, A. K.; Paterson, T.; Leong, C. C.; Defranoux, N.; and Stokes, C. L.; “Asthma PhysioLab: A Dynamic, Computer-based Mathematical Model of Atopic Asthma”, Biomedical Engineering Society Annual Meeting, Seattle, WA, October 2000.
37. **Klinke, D. J.**; Lewis, A. K.; Wong, S.-P.; and Stokes, C. L.; “Airway Hyperresponsiveness: Exploration of Mechanisms Using a Dynamic, Computer-based Model of Asthma”, American Thoracic Society Annual Meeting, San Francisco, CA, May 2001.
38. **Klinke, D. J.**; Lewis, A. K.; and Stokes, C. L.; “Contributions of Th2 Cytokines to Airway Hyperresponsiveness in Asthma”, Keystone Symposia: ”Rethinking the Pathogenesis of Asthma”, Santa Fe, NM, Feb 2002.
39. **Klinke, D.J.**; “The Bioactivity of IL-12: There’s More to the Story than P70 or P40”; Mathematical Biosciences Institute Workshop on Immunology Models: Cell Signaling and Immune Dynamics, Ohio State, OH, May 2003.
40. **Klinke, D. J.**; “The Bioactivity of IL-12: An Illustrative Example of Modeling Cytokine Causality”, Biomedical Engineering Society Annual Meeting, Chicago, IL, October 2006.
41. **Klinke, D. J.**; “An Age-Structured Model of Dendritic Cell Trafficking in the Lung”, Biomedical Engineering Society Annual Meeting, Chicago, IL, October 2006.
42. **Barnett, J. B.**; Ustyugova, I. V.; Klinke, D. J.; Brundage, K.; and Harty, T. M.; “Changes in I κ B and NF- κ B activation in macrophages treated with dichloropropionaniline”, The 7th International Conference on Systems Biology, Yokohama, Japan, October 2006.
43. **Klinke, D. J.**; “The Bioactivity of IL-12: There’s More to the Story than P70 or P40”, American Institute of Chemical Engineers Annual Meeting, San Francisco, CA, November 2006.
44. **Klinke, D. J.**; “Multi-scale Modeling of Dendritic Cell Trafficking in the Lung”, American Institute of Chemical Engineers Annual Meeting, San Francisco, CA, November 2006.
45. **Schwertfeger, Z.**; Klinke, D. J.; “Modeling the Onset of Type 1 Diabetes Mellitus”, 2007 AIChE Mid-Atlantic Regional Conference, Bucknell University, PA, April 2007 [**won third place**].
46. **Harty, T.**; Klinke, D. J.; “Quantifying the Dynamics of IL-12 Receptor Binding”, 2007 AIChE Mid-Atlantic Regional Conference, Bucknell University, PA, April 2007.
47. **Klinke, D. J.**; Ustyugova, I. V.; Brundage, K.; and Barnett, J. B.; “Potentiation of early NF- κ B activation in macrophages treated with dichloropropionaniline”, Biochemical Engineering XV Engineering Biology from Biomolecules to Complex Systems, Quebec City, Canada, July 2007.
48. **Klinke, D. J.**; “Engineering a New Vision of Drug Discovery”, Science, Technology and Research Symposium, Morgantown, WV, September 2007.
49. **Ellis, L.**; Walton, C.; Luo, J.; Barnett, J.; Klinke, D. J.; “Comparative Proteomic Analysis of Cellular Models of Breast Cancer using Differential in-Gel Electrophoresis”, Science, Technology and Research Symposium, Morgantown, WV, September 2007.
50. **Schwertfeger, Z.**; Klinke, D. J.; “Modeling the Onset of Type 1 Diabetes Mellitus”, Science, Technology and Research Symposium, Morgantown, WV, September 2007 [**won second place**].

51. **Knipe, J. M.**; Cuff, C. F.; Klinke, D. J.; “Identifying the Differentiation Program in Dendritic Cells”, Science, Technology and Research Symposium, Morgantown, WV, September 2007 [**won honorable mention**].
52. **Klinke, D. J.**; Ustyugova, I. V.; Brundage, K.; and Barnett, J. B.; “Potentiation of LPS-induced early NF- κ B activation in macrophages treated with DCPA”, Biomedical Engineering Society Annual Meeting, Los Angeles, CA, September 2007.
53. **Klinke, D. J.**; “Towards Opening the Immune Loop: The Role of Dendritic Cells in Shaping Adaptive Immunity”, Biomedical Engineering Society Annual Meeting, Los Angeles, CA, September 2007.
54. **Klinke, D. J.**; Ustyugova, I. V.; Brundage, K.; and Barnett, J. B.; “Quantifying Differential Activation of NF- κ B-Response Genes by LPS in Macrophages Using 3,4-DCPA as a Molecular Probe”, American Institute of Chemical Engineers Annual Meeting, Salt Lake City, UT, November 2007.
55. **Klinke, D. J.**; “A Multi-scale Model of Dendritic Cell Education and Trafficking in the Lung”, American Institute of Chemical Engineers Annual Meeting, Salt Lake City, UT, November 2007.
56. **Klinke, D. J.**; “Revisiting Beta Cell Destruction at the Onset of Type 1 Diabetes Mellitus”, American Institute of Chemical Engineers Annual Meeting, Salt Lake City, UT, November 2007.
57. **Knipe, J. M.**; Cuff, C. F.; Klinke, D. J.; “Identifying the Differentiation Program in Dendritic Cells”, American Institute of Chemical Engineers National Meeting, Undergraduate Poster Competition, Salt Lake City, UT, November 2007 [**won first place in Food, Pharmaceutical and Biotechnology Division**].
58. **Klinke, D. J.**; “Validating a Dimensionless Number for Glucose Homeostasis in Humans”, National Institute of Diabetes and Digestive and Kidney Diseases (NIDDK) Diabetes Genes and Beta Cell Function: How can we assemble the puzzle?, Bethesda, MD, April 2008.
59. **Klinke, D. J.**; “Signal Transduction Networks in Cancer: Quantitative Parameters Influence Network Topology”, Gordon Research Conference on Growth Factors and Cell Signaling, Oxford, UK, August 2008.
60. **Klinke, D. J.**; “Validating a Dimensionless Number for Glucose Homeostasis in Humans”, Biomedical Engineering Society Annual Meeting, St. Louis, MO, October 2008.
61. **Klinke, D. J.**; “The Influence of Quantitative Parameters on the Topology of Signal Transduction Networks in Cancer”, Biomedical Engineering Society Annual Meeting, St. Louis, MO, October 2008.
62. **Klinke, D. J.**; “Validating a Dimensionless Number for Glucose Homeostasis in Humans”, American Institute of Chemical Engineers Annual Meeting, Philadelphia, PA, November 2008.
63. **Finley, S. D.**; Gupta, D.; Broadbelt, L. J.; Brundage, K. M.; Klinke, D. J.; “Dynamics and Regulation of IL-12 Receptor Signaling”, American Institute of Chemical Engineers Annual Meeting, Philadelphia, PA, November 2008.
64. **Klinke, D. J.**; “Signal Transduction Networks in Cancer: Quantitative Parameters Influence Network Topology”, American Institute of Chemical Engineers Annual Meeting, Philadelphia, PA, November 2008.

65. **Knipe, J. M.**; Cuff, C. F.; Klinke, D. J.; “Principal Component Analysis of the Differentiation of Dendritic Cells”, American Institute of Chemical Engineers National Meeting, Undergraduate Poster Competition, Philadelphia, PA, November 2008 [**won first place in Food, Pharmaceutical and Biotechnology Division**].
66. Leski, T. A.; Caswell, C. C.; Klinke, D. J.; Pawlowski, M.; Bujnicki, M.; Hart, S. J.; **Lukomski, S.**; “*bcl*-gene Polymorphisms as Basis for Anthrax Detection and Fingerprinting”, ASM Biodefense and Emerging Diseases Research Meeting, Baltimore, MD, February 2009.
67. **Lewis, T.L.**; Klinke, D. J.; Barnett, J.B.; “3,4-Dichloropropionaniline: Novel Inhibitor Of Calcium Sensor Protein Stromal Interaction Molecule-1 (Stim1)”, Van Liere Research Day, West Virginia University, Morgantown, WV, April 2009.
68. Klinke, D. J.; “Inferring Relevant Control Mechanisms for Interleukin-12 Signaling within Naïve CD4+ T cells”, Biochemical Engineering XVI: Past, Present, and Future of Biochemical Engineering, Burlington, VT, July 2009 [**oral presentation**].
69. **Widmeyer, J.**; Kulkarni, Y.; Klinke, D. J.; “Proteomics-Based Secretome Analysis for Cancer Cell Biomarker Assay”, Biomedical Engineering Society Annual Meeting, Pittsburgh, PA, October 2009.
70. **Kief, K. D.**; Brundage, K. M.; Kulkarni, Y.; Klinke, D. J.; “Assessing the Signal-to-Noise Characteristics for Two Transcription Factor Assays”, Biomedical Engineering Society Annual Meeting, Pittsburgh, PA, October 2009.
71. Cheng, N.; Finley, S. D.; **Klinke, D. J.**; “Inferring Relevant Control Mechanisms for Interleukin 12 Signaling within Naïve CD4+ T cells”, Biomedical Engineering Society Annual Meeting, Pittsburgh, PA, October 2009.
72. **Kulkarni, Y.**; Suarez, V.; Klinke, D. J.; “Proteomics of Breast Cancer for Signal Pathway Profiling and Target Discovery”, Biomedical Engineering Society Annual Meeting, Pittsburgh, PA, October 2009.
73. **Klinke, D. J.**; Finley, S. D.; Gupta, D.; “Inferring Relevant Control Mechanisms for Interleukin 12 Signaling within Naïve CD4+ T cells”, American Institute of Chemical Engineers National Meeting, Nashville, TN, November 2009.
74. **Klinke, D. J.**; Kulkarni, Y.; Suarez, V.; “Profiling Signaling Pathways Using Comparative Proteomics: An Illustrative Example From Breast Cancer”, American Institute of Chemical Engineers National Meeting, Nashville, TN, November 2009.
75. **Kief, K. D.**; Brundage, K. M.; Kulkarni, Y.; Klinke, D. J.; “Assessing the Signal-to-Noise Characteristics for Two Transcription Factor Assays”, 2010 AIChE Mid-Atlantic Regional Conference, Johns Hopkins University, MD, April 2010.
76. **Kulkarni, Y.**; Suarez, V.; Klinke, D. J.; “Inferring Predominant Pathways in Cellular Models of Breast Cancer Using Limited Sample Proteomic Profiling”, Van Liere Research Day, West Virginia University, Morgantown, WV, April 2010.
77. **Dolly, B.**; Klinke, D. J.; “A Timescale Analysis of the Interleukin-12 Signaling Pathway”, Van Liere Research Day, West Virginia University, Morgantown, WV, April 2010.
78. **Ware, J.**; Kulkarni, Y.; Klinke, D. J.; “Identifying biochemical cues secreted by malignant melanocytes that promote escape from immunoediting”, West Virginia Science, Technology and Research Symposium, Huntington, WV, September 2010.

79. **Klinke, D. J.**; Chambers, E.; Cheng, N.; “Inferring Cross-talk Among Interleukin-12, Interferon- γ , and Tumor Necrosis Factor Signaling Pathways Within T Helper Cells”, Biomedical Engineering Society Annual Meeting, Austin, TX, October 2010.
80. **Dolly, B.**; Klinke, D. J.; “Simplifying Rule-based Reaction Networks using Timescale Analysis: The Interleukin-12 Signaling Pathway as an Illustrative Example”, Biomedical Engineering Society Annual Meeting, Austin, TX, October 2010.
81. **Ware, J.**; Kulkarni, Y.; Klinke, D. J.; “Identifying biochemical cues secreted by malignant melanocytes that promote escape from immunoediting”, American Institute of Chemical Engineers National Meeting, Salt Lake City, UT, November 2010.
82. **Kief, K. D.**; Brundage, K. M.; Kulkarni, Y.; Klinke, D. J.; “Assessing the Signal-to-Noise Characteristics for Two Transcription Factor Assays”, American Institute of Chemical Engineers National Meeting, Salt Lake City, UT, November 2010.
83. Kulkarni, Y.; **Klinke, D. J.**; “Identifying Secreted Biomarkers for Immune Evasion in Cellular Models of Cancer”, American Institute of Chemical Engineers National Meeting, Salt Lake City, UT, November 2010.
84. **Klinke, D. J.**; Chambers, E.; Cheng, N.; “Inferring Cross-talk Among Interleukin-12, Interferon- γ , and Tumor Necrosis Factor Signaling Pathways Within T Helper Cells”, American Institute of Chemical Engineers National Meeting, Salt Lake City, UT, November 2010.
85. Dolly, B.; **Klinke, D. J.**; “Simplifying Rule-based Reaction Networks using Timescale Analysis: The Interleukin-12 Signaling Pathway as an Illustrative Example”, American Institute of Chemical Engineers National Meeting, Salt Lake City, UT, November 2010.
86. **Ware, J.**; Kulkarni, Y.; Klinke, D. J.; “Identifying biochemical cues secreted by malignant melanocytes that promote escape from immunoediting”, 2011 AIChE Mid-Atlantic Regional Conference, Penn State University, PA, April 2011.
87. **Klinke, D. J.**; Chambers, E.; Cheng, N.; “Quantifying cross-talk among among Interferon- γ , Interleukin-12, and Tumor Necrosis Factor signaling pathways within a T_H1 cell model: A model-based inference approach”, Biochemical and Molecular Engineering XVII: Emerging Frontiers, Seattle, WA, June 2011.
88. **Klinke, D. J.**; “Signaling cartoons to model-based inference: A contemporary view towards understanding how cells make decisions”, Biochemical and Molecular Engineering XVII: Emerging Frontiers, Seattle, WA, June 2011.
89. **Gribbons, S.**; Chambers, E.; Klinke, D. J.; “Suppressor of cytokine signaling (SOCS3) selectively regulates different branches in IL-12 signaling pathways”, West Virginia University Summer Undergraduate Research Symposium, Morgantown, WV, July 2011.
90. **Mickinac, N.K.**; Chambers, E.; Klinke, D. J.; “Role of WISP-1 in the suppression of Interleukin-12 signaling in immune cells”, West Virginia University Summer Undergraduate Research Symposium, Morgantown, WV, July 2011.
91. **Klinke, D. J.**; Chambers, E.; Cheng, N.; “Quantifying cross-talk among among Interferon- γ , Interleukin-12, and Tumor Necrosis Factor signaling pathways within a T_H1 cell model: A model-based inference approach”, q-bio Conference, Santa Fe, NM, August 2011.
92. Kulkarni, Y.M.; Chambers, E.; McGray, A.J.R.; Ware, J.S.; Bramson, J.L.; **Klinke, D.J.**; “Tumor-derived Wnt-inducible Signaling Protein-1 (WISP1) exhibits paracrine immunosuppression by inhibiting cellular response to Interleukin-12”, Cancer Immunology and Immunotherapy: Building on Success, Bethesda, MD, September 2011.

93. Kulkarni, Y.; **Klinke, D. J.**; “Inference of Predominant Pathways in Cancer: A Proteomic Study among Three Human Mammary Epithelial Cell Models”, American Institute of Chemical Engineers National Meeting, Minneapolis, MN, October 2011.
94. **Klinke, D. J.**; Chambers, E.; Cheng, N.; “Quantifying cross-talk among among Interferon- γ , Interleukin-12, and Tumor Necrosis Factor signaling pathways within a T_H1 cell model: A model-based inference approach”, American Institute of Chemical Engineers National Meeting, Minneapolis, MN, October 2011.
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115. **Wu, Y.**; Cuppett, V.; Klinke, D.J.; “Stabilities of exosomes derived from mammalian cells: nano particle morphology and functional RNAs”, American Institute of Chemical Engineers National Meeting, Atlanta, GA, November 2014.
116. **Wu, Y.**; Chambers, E.; Lal, N.; Klinke, D.J.; “Cancer exosomes deliver extracellular mRNAs to suppress T lymphocyte function”, American Institute of Chemical Engineers National Meeting, Atlanta, GA, November 2014.
117. **Klinke, D.J.**; “Identifying Local Mechanisms for Tumor-derived Immunosuppression: An Integrated Phenotypic Screening Approach”, Society for the Immunotherapy of Cancer Annual Meeting, Baltimore, MD, November 2014.
118. **Wu, Y.**; Chambers, E.; Klinke, D.J.; “Cancer exosomes deliver extracellular mRNAs to suppress T lymphocyte function”, Translational Research Cancer Centers Consortium, Seven Springs, PA, February 2015.
119. **Bland, C.**; Klinke, D.J.; “A bioinformatics approach to identifying negative regulators in the Interleukin-12 pathway”, Summer Undergraduate Research Symposium, Morgantown, WV, July 2015.
120. **Bent, L.**; **Hardy, J.**; Deng, W.; Klinke, D.J.; “Towards developing a 3-D model for immune cell killing: Retroviral infection of B16F0 cancer cells to insert granzyme-B reporter FRET

vector for use in analyzing immunotherapeutic techniques within a microfluidic device”, 14th Annual WV-INBRE Summer Research Symposium, Huntington, WV, July 2015.

121. **Goff, E.**; Fenton, S.; Miller, J.; Warburton, R.; Klinke, D.J.; Wang, Q.; “Developing a three-dimensional cell culture assay to assess the effects of Paclitaxel on the human breast cancer cell line Hs578T”, 14th Annual WV-INBRE Summer Research Symposium, Huntington, WV, July 2015.
122. **Hopkins, P.**; Shimer, C.; Wang, Q.; Wang, Z.; Klinke, D.J.; “Quantifying the Mifepristone induced liver-specific Interleukin-12 expression”, 14th Annual WV-INBRE Summer Research Symposium, Huntington, WV, July 2015.
123. **Miller, J.**; Goff, E.; Wang, Q.; Wang, Z.; Klinke, D.J.; “A mouse model of metastatic liver cancer treated by a combination therapy”, 14th Annual WV-INBRE Summer Research Symposium, Huntington, WV, July 2015.
124. **Muradova, Z.**; Poffenberger, J.; Wang, Q.; Wang, Z.; Klinke, D.J.; “Mathematical modeling and numerical analysis of an Ebola model”, 14th Annual WV-INBRE Summer Research Symposium, Huntington, WV, July 2015.
125. **Shimer, C.**; Hopkins, P.; Wang, Q.; Wang, Z.; Klinke, D.J.; “A gene therapy model to treat liver-implanted tumors”, 14th Annual WV-INBRE Summer Research Symposium, Huntington, WV, July 2015.
126. **Klinke, D.J.**; Wu, Y.; McGinley, E.; Deng, W.; “B16F0 melanoma exosomes deliver a unique and complex biological payload that includes PTPN11 to suppress T lymphocyte function”, Society for the Immunotherapy of Cancer Annual Meeting, Baltimore, MD, November 2015.