

Curriculum Vitae

Kirti M. Yenkie

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Education and Professional Experience

- 09/2017 - present **Assistant Professor at Rowan University, Glassboro, New Jersey**
Department of Chemical Engineering
- 04/2017 - 08/2017 **Postdoctoral Research Associate at University of Delaware (UD) - Newark**
Department of Chemical and Biomolecular Engineering
Advisor: Dr. Babatunde A. Ogunnaike
- 01/2015 - 03/2017 **Postdoctoral Research Associate at University of Wisconsin (UW) - Madison**
Department of Chemical and Biological Engineering
Advisor: Dr. Christos T. Maravelias
- 01/2011 - 12/2014 **University of Illinois at Chicago (UIC), IL and Vishwamitra Research Institute (VRI), IL**
Ph.D. in Bioengineering
Thesis: *Stochastic processes from batch crystallization to in-vitro fertilization (IVF)*
Advisor: Dr. Urmila M. Diwekar
- 07/2010 - 11/2010 **Senior Research Fellow, Indian Institute of Technology (IIT) Bombay, India**
Department of Chemical Engineering
Project: *Metabolic modeling of cyanobacteria for enhanced ethanol production*
Advisor: Dr. Pramod P. Wangikar
- 07/2008 - 06/2010 **Indian Institute of Technology (IIT) Bombay, India**
M. Tech in Chemical Engineering
Thesis: *Mathematical modeling to correlate morphology and metabolism in Actinomycetes*
Advisors: Dr. Pramod P. Wangikar and Dr. Sameer R. Jadhav
- 08/2004 - 05/2008 **Laxminarayan Institute of Technology, RTM Nagpur University, India**
B. Tech in Chemical Engineering

Awards & Honors

- **Winning Team Member** of the **Inspira Health Hack Competition-2018**, conducted at the South Jersey Tech Park at Rowan University, NJ for project proposal on IBS (Irritable Bowel Syndrome) patient management tool
- **Invited Seminar Speaker** by the **AIChE-DVS** (American Institute of Chemical Engineers – Delaware Valley Section) for Continuing Education Program for Professional Development at KBR, Inc. in Newark, DE, June 19th, 2018
- **Winner of the 2018 Rowan Seed Funding Award** for the project proposal on Understanding Chemotherapeutic Cardiotoxicity in Cancer Patients (July 2018 – June 2019)
- **Invited Panelist** at University of Illinois at Chicago for International Engineering Alumni Q&A Panel (March 14th, 2018 and March 7th, 2017)
- **Invited Seminar Speaker and Winner of the NSF Advance Travel Grant** for Postdoctoral Seminar at University of Wisconsin-Green Bay (February 3rd, 2017), conducted by the Women and Science Program by UW Oshkosh
- **Best Graduate Research Award** for Women and Gender Studies at UIC's Research Symposium, April 14th, 2014
- **Conference Travel Awards:** FOCAPD 2014, AIChE 2013 (Graduate Student Council at UIC)
- **Awarded Membership of AEMB** (2012-2013), National Biomedical Engineering Honor Society
- **Best Presentation Award** - Chemference National Conference at IIT Kanpur, India, July 13th – 14th, 2010
- **Outstanding Contribution Award** by CHEA (Chemical Engineering Association) at IIT Bombay in recognition of exceptional contribution to the department activities (2008-2010)
- **All India Rank #109 in GATE** (Graduate Aptitude Test for Engineering) -2008 and awarded 2 year scholarship from Ministry of Human Resource Development, India
- **Winner of Prodigy (01/2008) - Chemical Engineering Quiz** at Institute of Chemical Technology (ICT), Mumbai, India

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Teaching and Mentoring

- 09/2017 – present **Course Instructor at Rowan University**
- **Process Optimization** – Graduate and Senior level Elective (Spring 2018)
 - **Process Dynamics and Control** – Required Senior level (Fall 2017, Fall 2018)
- 09/2017 – present **Research Advisor at Rowan University**
- **PhD Student:** Amit Dhundi (09/2018 – present)
 - **Junior/Senior Engineering Research Clinic Projects** (Fall 2018)
Students: Katherine Schmidt, Andreas Pontes, Alex D'Aloia, Eric Purcell, Matthew Razze, Zachary Lubelski, Amanda McCahill, Gabrielle Moskalov, Rohan Zia, Amanda Christon, Julia Reily, Vanessa Pierce, Maxim Russ, Anthony Pace
 - **Undergraduate Summer Research Projects** (Summer 2018)
Student: Katherine Schmidt
 - **Junior/Senior Engineering Research Clinic Projects** (Spring 2018)
Students: Ian Dunn, James Dailey, Sean Burnham
 - **Junior/Senior Engineering Research Clinic Projects** (Fall 2017)
Students: Sommer Vandergrift, Ian Dunn, Matthew Schwenger, James Dailey, Chaun Giddings
- 08/2014 - 12/2014 **Teaching Associate - Applied Optimization (University of Illinois, Chicago)**
Taught a section on heuristic optimization methods – Genetic algorithm and Simulated annealing
- 08/2012-05/2014 **Teaching Assistant at University of Illinois, Chicago**
- Introduction to Cell & Tissue Engineering (Spring 2014)
 - Senior Design (Fall 2013)
 - Introduction to Applied Optimization (Fall 2012)
- 09/2009-05/2010 **Teaching Assistant at IIT Bombay, India**
- Chemical Engineering Thermodynamics (Jan-May, 2010)
 - Undergraduate Reaction Engineering Laboratory (July-Dec, 2009)
 - Plant Utilities (Jan-May, 2009)
- 04/2012-12/2016 **Undergraduate and High School Student Mentor**
- Mentored undergraduate students for the NSF funded REU programs at UIC and Bose-Khorana scholars at UW-Madison
 - Mentored undergraduate and high school students visiting VRI-CUSTOM

Industrial Experience

- 06/2012-08/2012 **Summer Internship at Mallinckrodt Pharmaceuticals, St. Louis, MO**
Project: *Kinetic studies and policy predictions for API (active pharmaceutical ingredient) crystallizations*
Mentor: Dr. Keith Tomazi, Technical fellow, Mallinckrodt Pharmaceuticals (formerly Covidien)
- 05/2007-06/2007 **Summer Internship at Indian Oil Corporation Limited (IOCL), R&D, India**
Project: *Overview of petroleum refining processes and study of diesel hydrotreating micro-reactor unit*
Mentors: Dr. Madhusudan Sau and Mr. Ganesh Butley, R&D - Hydroprocessing IOCL

Details of Research Projects

- 09/2017 – present **Research at Rowan University**
- **Project#1:** Mathematical modeling and optimization in cancer therapeutics using systems engineering principles
 - **Project#2:** Design and optimization for generation of efficient wastewater treatment networks
 - **Project#3:** Predictive analytics for the management of IBS (irritable bowel syndrome), a chronic disease, through customized supplements of probiotics and diet management.
 - **Project#4:** Solvent recovery and reuse for efficient and sustainable industrial manufacturing practices.

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04/2017 – 08/2017 *Postdoctoral Research at UD-Newark*

- Developed systems biology models for COPD (Chronic Obstructive Pulmonary Diseases) using a control engineering framework
- Collaborated with Air Liquide DRTC in Bear, DE for RPM (Remote Patient Monitoring) data
- Used Matlab and Simulink for model formulation and simulation studies

01/2015 – 03/2017 *Postdoctoral Research at UW-Madison*

- Assessed production and separation strategies for bio-based chemicals produced from microbial bioconversions using mathematical modeling (GAMS) and process simulation (SuperPro Designer)
- Developed guidelines for technology selection and optimal separation network design based on product properties by application of mixed integer nonlinear programming (MINLP), superstructure optimization, and high-performance computing resources
- Collaborated with experimentalists from the research group of Dr. Pflieger and Dr. Root in UW-Madison to perform viability studies on bio-based chemicals produced from Cyanobacteria

01/2011 – 12/2014 *Doctoral Research at UIC and VRI, IL*

- Analyzed and interpreted clinical data for IVF (in-vitro fertilization) superovulation cycles by collaboration with IVF specialist, Dr. Vibha Bhalerao from Nanded, India
- Developed models for multiple ovulation and follicle growth as function of hormone dosing in terms of differential equations (ODEs - deterministic and SDEs – with uncertainty) and used clinical data for validation studies
- Applied non-linear programming (NLP) optimization and control (deterministic and stochastic maximum principle) methods for predicting customized optimal hormone dosing policies for superovulation enhancement
- Studied effects of uncertainties in batch crystallizations and developed computational algorithms involving stochastic processes and control methods to determine robust operating policies for enhanced crystal quality
- Developed models for cellular systems in terms of SDEs as an alternative to discrete event simulation methods such as Gillespie algorithm and compared their prediction accuracy (collaboration with Dr. A. A. Linninger at UIC, IL)
- Applied control methods for research on sustainability by using representative models for earth's ecological-economic interactions and predicted regulatory policies (collaboration with Dr. H. Cabezas, US EPA, Cincinnati, OH)

06/2012 – 08/2012 *Internship Research at Mallinckrodt Pharmaceuticals, St. Louis, MO*

- Performed API (Active pharmaceutical ingredient) crystallization experiments to study supersaturation curve, metastable region and crystal nucleation and growth kinetics using experimental methods such as IR (infrared) - spectroscopy, FBRM (focused beam reflectance measurement) and PVM (particle vision microscopy) imaging
- Developed mathematical model for API crystallization process in terms of moments and applied optimal control method to determine the temperature policy for uniform crystal size and implemented it on laboratory scale

07/2008 – 11/2010 *Masters Project and Senior Research Fellow at IIT Bombay*

- Studied metabolic pathways and developed computational methods for flux distribution analysis from ¹³C labeled data for ethanol production from Cyanobacteria (*Synechocystis* PCC 6803) using OpenFlux package in MATLAB
- Analyzed experimental data for change in morphology during antibiotic production by *A. balhimycina* and developed mathematical models for morphology change as a function of nutrient availability and performed sensitivity studies

06/2007 – 05/2008 *Undergraduate Project at Laxminarayan Institute of Technology, Nagpur*

- Compared the design and performed cost evaluation studies on rotary and belt conveyer dryers
- Used Visual Basic for programming and MS Office tools for result analysis and documentation

05/2007 – 06/2005 *Internship Research at Indian Oil Corporation Limited (IOCL), R&D, India*

- Performed material and energy balances for hydrotreating process performed in a micro-reactor unit (MRU)
- Observed the analytical methods to characterize petroleum quality and specifications

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Invited Seminars

- 06/2018 **KBR, Inc. in Newark, DE as a part of Continuing Education Program offered by AIChE-DVS**
Topic: *Generating Wastewater Treatment Networks: An integrated approach comprising of contaminant properties, technology suitability, plant design and process optimization*
- 01/2018 **Laxminarayan Institute of Technology (L.I.T.), R.T.M. Nagpur University, India, Jan 10, 2018**
01/2018 **Department of Chemical Engineering, Visvesvaraya National Institute of Technology (V.N.I.T.), Nagpur, India, January 9, 2018**
Topic: *Process Systems Engineering in Healthcare & Environment and Graduate Programs at Rowan University*
- 06/2017 **Air Liquide's Delaware Research and Technology Center (DRTC), DE, USA, June 29, 2017**
Topic: *Treatment Strategies and Design Decisions for COPD using Systems Engineering Principles*
- 02/2017 **Department of Chemical Engineering and Materials Science, Wayne State University, Detroit, MI, USA, February 24, 2017**
Topic: *Process Systems Engineering for Treatment Strategies and Design Decisions in Health and Environment*
- 02/2017 **Department of Natural & Applied Sciences, University of Wisconsin-Green Bay (UWGB), WI, USA, Feb 3, 2017**
Topic: *Separation Networks for Recovery of Bio-based Chemicals: Roadmap for Matching Biological and Process Feasibility*

Peer-Reviewed Publications

Journal Publications

1. **Yenkie, K. M.;** Diwekar, U. M. 2018. The 'No sampling' parameter estimation algorithm for stochastic differential equations. *Chemical Engineering Research & Design*, 129: 376-383.
2. **Yenkie, K. M.;** Wu, W.; Maravelias, C. T. 2017. Synthesis and analysis of separation networks for the recovery of intracellular chemicals generated from microbial-based conversions. *Biotechnology for Biofuels*, 10:119.
3. Wu, W.; **Yenkie, K. M.;** Maravelias, C. T. 2016. A superstructure based framework for bio-separation network synthesis. *Computers and Chemical Engineering*, 96: 1-17.
4. **Yenkie, K. M.;** Wu, W.; Clark, R. L.; Pfleger, B. F.; Root, T. W.; Maravelias, C. T. 2016. Roadmap for selection of separation technologies in the recovery of bio-based chemicals: matching biological and process feasibility. *Biotechnology Advances*, 34(8): 1362-1383.
5. **Yenkie, K. M.;** Diwekar, U.; Linninger, A. A. 2016. Simulation-free estimation of reaction propensities in cellular reactions and gene signaling networks. *Computers and Chemical Engineering*, 87: 154-163.
6. Doshi, R.; Diwekar, U.; Benavides, P.; **Yenkie, K. M.;** Cabezas, H. 2014. Maximizing sustainability of ecosystem model through socio-economic policies derived from multivariable optimal control theory. *Clean Technologies and Environmental Policy*, 1-11.
7. **Yenkie, K. M.;** Diwekar, U. 2014. Uncertainty in clinical data and stochastic model for in-vitro fertilization. *Journal of Theoretical Biology*, 367: 76-85.
8. **Yenkie, K. M.;** Diwekar, U. 2014. Comparison of optimal control methods for customized drug dosage prediction in superovulation stage of in-vitro fertilization. *Computers and Chemical Engineering*, 71: 708-714.
9. **Yenkie, K. M.;** Diwekar, U.; Bhalerao, V. 2014. Modeling and prediction of outcome for the superovulation stage in in-vitro fertilization. *JFIV Reprod.Med.Genet.* 2(2):1000122(1-8).
10. **Yenkie, K. M.;** Diwekar, U. 2014. Optimal control for predicting customized drug dosage for superovulation stage of in-vitro fertilization. *Journal of Theoretical Biology*, 355: 219-228.
11. **Yenkie, K. M.;** Diwekar, U.; Bhalerao, V. 2013. Modeling the superovulation stage in in-vitro fertilization. *IEEE Trans. Biomed. Eng.*, 60(11): 3003-3008.
12. **Yenkie, K. M.;** Diwekar, U. 2013. Stochastic optimal control of seeded batch crystallizer applying Ito process. *Ind. Eng. Chem. Res.*, 52:108-122.

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Conference Publications

- Dunn, I. C.; **Yenkie, K. M.** 2018. Prediction of Optimal Chemotherapy Dosing Regimens: Balancing Tumor Degradation and Toxicity Effects (Paper MoAPo1.13). IFAC's Nonlinear Model Predictive Control (NMPC) Conference, Madison, WI, 19th – 22nd August, 2018.
- Yenkie, K. M.**; Diwekar, U. M. 2015. Uncertainty in clinical data and stochastic model for superovulation stage in in-vitro fertilization. Proceedings of the 12th International symposium on Process Systems Engineering (PSE) and 25th European Symposium on Computer-Aided Process Engineering (ESCAPE).
- Yenkie, K. M.**; Diwekar, U. M. 2014. Comparison of optimal control methods for customized drug dosage prediction in superovulation stage of in-vitro fertilization. Proceedings of the 8th International conference on Foundations of Computer-Aided Process Design (FOCAPD), 807-812.
- Yenkie, K. M.**; Diwekar, U. M.; Bhalerao, V. 2012. Modeling the superovulation stage in in-vitro fertilization. Proceedings of the 11th International symposium on Process Systems Engineering (PSE), 840-844.
- Yenkie, K. M.**; Singh, K. P.; Jadhav, S.; Wangikar, P. P. Morphological model to correlate morphology and metabolism in Actinomycetes, Chemference 2010, Session 5:Bioprocess Engineering, S-501, Kanpur, UP, India.

Submitted (Journal papers)

- Wu, W.; **Yenkie, K. M.**; Maravelias, C. T. Analysis of separation networks for the recovery of extracellular chemicals generated from microbial-based conversions. (*submitted to Biotechnology and Bioengineering*)

Conference Presentations, Posters, Abstracts and Attendance

Podium Presentations

- Yenkie, K. M.**; Dailey, J. M.; Burnham, S. Generating Wastewater Treatment Networks: An integrated approach comprising of contaminant properties, technology suitability, plant design and process optimization. *ICOSSE (International Congress on Sustainability Science and Engineering) Meeting*, 2018, Cincinnati, OH.
- Dunn, I. C.; **Yenkie, K.M.** Optimization in Cancer Chemotherapy Regimens. *AICHE's Mid-Atlantic Student Regional Conference, 2018*, Princeton University, NJ. (*awarded first prize in paper presentation competition*)
- Dailey, J. M.; Burnham, S.; **Yenkie, K.M.** Design of Efficient Wastewater Treatment Networks for Municipal Wastewater Treatment. *AICHE's Mid-Atlantic Student Regional Conference, 2018*, Princeton University, NJ.
- Wu, W.; **Yenkie, K.M.**; Maravelias, C. T. General bio-separation superstructure optimization framework. *AICHE Annual Meeting, 2016*, 580e, San Francisco, CA.
- Yenkie, K.M.**; Diwekar, U. Stochastic optimal control for prediction of robust drug dosing policies in superovulation stage of in-vitro fertilization. *AICHE Annual Meeting, 2015*, 393d, Salt Lake City, UT.
- Yenkie, K. M.**; Diwekar, U. Stochastic optimal control for prediction of robust drug dosing policies in superovulation stage of in-vitro fertilization (ThB3b). *AICHE's 7th Annual Midwest Regional Conference, 2015*, IIT, Chicago, IL.
- Yenkie, K.M.**; Diwekar, U.; Linninger, A. Parameter estimation in cellular systems modeled as stochastic differential equations (ThB3f). *AICHE's 7th Annual Midwest Regional Conference, 2015*, IIT, Chicago, IL.
- Yenkie, K.M.**; Diwekar, U.; Linninger, A. Parameter estimation in cellular systems modeled as stochastic differential equations. *AICHE Annual Meeting, 2014*, 235g, Atlanta, GA.
- Yenkie, K.M.**; Diwekar, U. Uncertainty in clinical data and stochastic model for in-vitro fertilization. *AICHE Annual Meeting, 2014*, 376f, Atlanta, GA.
- Doshi, R.; Diwekar, U.; Benavides, P. T. ; **Yenkie, K. M.**; Cabezas, H. 2014. Maximizing sustainability of ecosystem model through socio-economic policies derived from multivariable optimal control theory. *AICHE Annual Meeting, 2014*, 562e, Atlanta, GA.
- Yenkie, K. M.**; Diwekar, U. Comparison of different methods for predicting customized drug dosage in superovulation stage of in-vitro fertilization (T1B3). *AICHE's 6th Annual Midwest Regional Conference, 2014*, UIC, Chicago, IL.
- Yenkie, K. M.**; Diwekar, U. Comparison of different methods for predicting customized drug dosage in superovulation stage of in-vitro fertilization. *AICHE Annual Meeting, 2013*, 666d, San Francisco, CA.

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10. **Yenkie, K.M.**; Diwekar, U.; Linninger, A.; Kim, S. A new method for parameter estimation in stochastic differential equations. *AIChE Annual Meeting, 2013*, 589e, San Francisco, CA.
11. **Yenkie, K.M.**; Diwekar, U. Comparison of different methods for predicting customized drug dosage in superovulation stage of in-vitro fertilization. *INFORMS Healthcare 2013*, MC-06(2), Chicago, IL.
12. **Yenkie, K. M.**; Diwekar, U. Optimal control for predicting drug dosage in superovulation stage of in-vitro fertilization. *AIChE's 5th Annual Midwest Regional Conference, 2013*, Fr2D(1), IIT, Chicago, IL.
13. **Yenkie, K. M.**; Diwekar, U.; Bhalerao, V. Modeling the superovulation stage in in-vitro fertilization (IVF). *AIChE Annual Meeting, 2012*, 312b, Pittsburgh, PA.
14. **Yenkie, K. M.**; Diwekar, U. Optimal control for predicting drug dosage in superovulation stage of in-vitro fertilization. *AIChE Annual Meeting, 2012*, 744ev, Pittsburgh, PA.
15. **Yenkie, K. M.**; Diwekar, U. Optimal control for predicting drug dosage in superovulation stage of in-vitro fertilization. *INFORMS Annual Meeting, 2012*, TD-20(2), Phoenix, AZ.
16. **Yenkie, K. M.**; Diwekar, U. Stochastic optimal control in batch crystallization applying Ito Processes. *AIChE Annual Meeting, 2011*, 131c, Minneapolis, MN.
17. **Yenkie, K. M.**; Singh, K. P.; Jadhav, S.; Wangikar, P. P. Morphological model to correlate morphology and metabolism in Actinomycetes, *Chemference 2010*, Session 5:Bioprocess Engineering, S-501, Kanpur, UP, India.

Poster Presentations

1. Burnham, S.; Dailey, J. M.; **Yenkie, K.M.** Design of Efficient Wastewater Treatment Networks in the Pharmaceutical Industry. *ISPE New Jersey Chapter's Student Poster Competition, 2018*, Bristol-Myers Squibb, New Brunswick, NJ.
2. Dunn, I. C.; Schwenger, M. S.; Vandergrift, S. M.; **Yenkie, K.M.** Modeling and optimization in Cancer Therapeutics. *AIChE Delaware Valley Section's Student Poster Symposium, 2017*, FMC Towers, Philadelphia, PA.
3. Dailey, J. M.; Giddings, C. S.; **Yenkie, K.M.** Design and optimization for generation of efficient wastewater treatment networks. *AIChE Delaware Valley Section's Student Poster Symposium, 2017*, FMC Towers, Philadelphia, PA.
4. **Yenkie, K.M.**; Diwekar, U.; Bhalerao, V. IVF modeling, optimal control, and customized drug treatment: Results of the first Clinical trial. *AIChE Annual Meeting, 2017*, 585ae, Minneapolis, MN.
5. Wu, W.; **Yenkie, K.M.**; Maravelias, C. T. A superstructure-based assessment framework for downstream bio-separations. *AIChE Annual Meeting, 2017*, 246i, Minneapolis, MN.
6. Ng, R. T. L.; Won, W.; **Yenkie, K.M.**; Maravelias, C. T. Process systems engineering for biofuels and bio-based chemicals. *U. S. DOE Genomic Sciences Annual Meeting, 2017*. Washington DC.
7. **Yenkie, K.M.**; Wu, W.; Maravelias, C. T. Assessment of bioseparation technology options for bio-based chemicals generated from microbial cultures. *AIChE Annual Meeting, 2016*, 228dg, San Francisco, CA.
8. **Yenkie, K.M.**; Diwekar, U. Uncertainty in clinical data and stochastic model for in-vitro fertilization. *Health Systems Optimization Workshop at Northwestern University, 12-13 September, 2014*.
9. **Yenkie, K. M.**; Diwekar, U. Mathematical perspective to enhance success rate of in-vitro fertilization by modeling and optimal control. *UIC Research Forum, 8 April, 2014*.
10. **Yenkie, K. M.**; Diwekar, U.; Bhalerao, V. Modeling the superovulation stage in in-vitro fertilization (IVF). *Midwest Biomedical Engineering Career Conference (MBECC) 2013*, UIC, Chicago, IL.
11. **Yenkie, K. M.**; Diwekar, U.; Bhalerao, V. Modeling the superovulation stage in in-vitro fertilization (IVF). *UIC College of Medicine 2012 Research Forum*.
12. **Yenkie, K. M.**; Diwekar, U. Uncertainties and stochastic optimal control in batch crystallization for different types of objective functions. *AIChE Annual Meeting, 2012*, 599f, Pittsburgh, PA.

Conference and Symposiums Attended

1. 9th EESD (Engineering Education for Sustainable Development) Conference, Glassboro, NJ. June 3-6, 2018
2. 1st Annual Faculty Research Day at Rowan University, Glassboro, NJ. March 28, 2018.
3. UIC Women's Health Research Day, UIC Chicago, IL. April 28, 2014.
4. AIChE's 4th Annual Midwest Regional Conference, UIC, Chicago, IL. November 10-11, 2011.

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Professional Workshops Attended

- 08/2018 **Chemours Faculty Workshop on Process Safety** offered by Center for Chemical Process Safety (CCPS) of the American Institute of Chemical Engineers (AIChE) at Fayetteville, NC.
- 08/2018 **National Effective Teaching Institute's NETI-1 Faculty Workshop** offered by the American Society for Engineering Education (ASEE) at Philadelphia, PA.

Professional Society Memberships

- 2011 - Present American Institute of Chemical Engineers (AIChE)
- 2011 - Present AIChE's Computing and Systems Technology (CAST) Division
- 2012 - Present Institute for Operations Research and Management Sciences (INFORMS)
- 2017 - Present AIChE's Delaware Valley Section (DVS)
- 2015 – 2017 University of Wisconsin – Postdoctoral Association (UWPA)
- 2011 - 2015 AIChE's Chicago Local Section
- 2012 - 2013 Alpha Eta Mu Beta (AEMB) - National Biomedical Engineering Honor Society

Languages

English, Hindi, Marathi and German

- 08/2005 - 05/2008 **Higher Diploma in German Language, Department of Foreign Languages, RTM Nagpur University**
3rd position in the three year course (certificate course, junior and higher diploma)

Software Skills

Programming Languages: Matlab, GAMS, Fortran 77, C, Visual Basic 6.0

Software and Packages: SuperPro Designer, OriginLab, HTC Condor – for parallel computing, Cytoscape, Open-Flux, XL Miner, GetData, Simulink

Bioinformatics tools:

Databases – KEGG, METACYC, miRBase, GenBank, EcoCyc, Swiss-Prot, etc.

Sequence alignment tools – BLAST, FASTA, DIALIGN

Heuristic optimization tools: Genetic algorithm and Simulated annealing

Applications: Microsoft Office, Microsoft Visual Studio, LaTeX

Experimental Skills

-IR(Infrared) Spectroscopy

-FBRM(Focused Beam Reflectance Measurement)

-Reaction Calorimeter

-PVM(Particle Vision Microscopy) Imaging

Services

- Co-chair for two technical sessions at the 2018 AIChE Annual Meeting, Pittsburgh, PA
 - *Sustainable Energy Generation and Utilization in System Design* (CAST 10A)
 - *Process Modeling and Identification* (CAST 10B)
- Member of Steering Committee and Chair for two technical sessions at the 9th EESD (Engineering Education for Sustainable Development) Conference at Rowan University, Glassbor, NJ, June 3-6, 2018
- Member of the Academic Subcommittee of AIChE-DVS (Delaware Valley Section) Academic Awards (2017-present)
- Reviewer for *Chemical Engineering Research & Design*, Elsevier (06/2018-present)
- Reviewer for *Clean Technologies and Environmental Policy*, Springer (06/2017-present)
- Reviewer for *Journal of Applied Mathematics*, Hindawi Publishing Corporation (10/2016 – present)
- Judge for *Undergraduate Poster Sessions* at 2018 AIChE Annual Meeting, Pittsburgh, PA ; 2017 AIChE Annual Meeting, Minneapolis, MN; and 2016 AIChE Annual Meeting, San Francisco, CA
- Session Co-chair – *Design and Operations under Uncertainty-II* at 2015 AIChE Annual Meeting, Salt Lake City, UT
- Reviewer for the *Bioengineering Student Journal* at UIC (01/2014-12-2014)
- Competitions Manager in *Azeotropy* (03/2009 & 03/2010), *Annual Chemical engineering symposium at IIT Bombay* - prepared quizzes, equipment design problems, and conducted paper and poster presentations.
- Reviewer for the Technical Souvenir at L.I.T., Nagpur (06/2007 – 05/2008)