

Kuldeep Agarwal

CONTACT INFORMATION	Department of Automotive and Manufacturing Engineering Technology Minnesota State University, Mankato 205 Trafton Science Center E Mankato, MN 56001	Office: (507)- 389-6157
EMAIL	Kuldeep.agarwal@mnsu.edu	
EDUCATION	The Ohio State University , Columbus, OH, USA Ph.D. , Industrial and Systems Engineering (minor in Data Science), 2011 <ul style="list-style-type: none">Dissertation: Physics Based Hierarchical Decomposition of Processes for Design of Complex Engineered SystemsAdvisor: Professor Rajiv Shivpuri M.S. , Applied Statistics, 2010 M.S. , Industrial and Systems Engineering, 2003 <ul style="list-style-type: none">Dissertation: Rapid Tooling for short run ForgingsAdvisor: Professor Rajiv Shivpuri Indian Institute of Technology (IIT) , Kharagpur, India B.Tech (Honors) , Manufacturing Science and Engineering, 2001 <ul style="list-style-type: none">Thesis: Design and Manufacturing of Plastic Injection Mold for transformer bobbin	
CERTIFICATIONS	<ul style="list-style-type: none">Project Management Professional (PMP®) by Project Management InstituteSix Sigma Black Belt (SSBB) by American Society of Quality (ASQ)Certified Quality Engineer (CQE) by American Society of Quality (ASQ)	
RESEARCH EXPERIENCE	Minnesota State University , Mankato, MN <i>Professor</i> July, 2021 – Present <i>Associate Professor</i> July, 2017 – June, 2021 <i>Assistant Professor</i> August, 2012 – June, 2017 <ul style="list-style-type: none">Process improvement strategies for small and medium enterprises.Implementation of lean concepts in facility design, project management and quality control for SMEsAdditive manufacturing of novel materials with varied applications in medical implant industry and tissue engineeringAdditive manufacturing of fiber reinforced polymer composites, material development and characterization The Ohio State University , Columbus, OH <i>Postdoctoral Research Associate</i> September, 2011 – August, 2012 <ul style="list-style-type: none">Quality and Reliability of wind energy bearingsClustering based techniques for enhancing life of aeroengine disksCharacterization of nanostructures produced by Plasma processing <i>Graduate Research Assistant</i> September, 2007 – September, 2011 <ul style="list-style-type: none">Defect Diagnostic System Using Data Mining for Hot rolling millsRapid Prototyping of Hot forging dies for Aerospace Industry	

Kuldeep Agarwal

TEACHING EXPERIENCE

Minnesota State University, Mankato, MN

Professor

July, 2021 – Present

Associate Professor

July, 2017 – June, 2021

Assistant Professor

August, 2012 – July, 2017

- Courses taught:

- AET 102/MET 104: Introduction to Automotive and Manufacturing Engineering Technology
- MET 275: Manufacturing Process I (developed)
- MET 277: Manufacturing Processes
- MET 323: Statics
- MET 375: Manufacturing Processes II (developed)
- AET 378: Composites Manufacturing
- MET 425: Project Valuation, Management and Justification (developed)
- MET 428: Lean Manufacturing (developed)
- MET 465: Lab Experience
- MET 488: Senior Design Project
- MET 489: Senior Design Project II
- MET 525: Project and Value Management (Developed)
- MET 625: Advanced Project Management (developed)
- MET 627: Six Sigma from an Industrial Perspective
- MET 600: Research Methods for Manufacturing Engineering Technology (Developed)
- MET 628: Advanced Quality Tools (Developed)
- HONS 401: Research Experiences

Engineering Education Innovation Center, The Ohio State University,

Lab Instructor/Teaching Associate

January, 2009 – June, 2011

Courses:

- Fundamentals of Engineering (ENG 181, 183)
- Fundamentals of Engineering for Scholars (ENG 183.02)
- Development of Advance Energy Vehicle design and build project
- Development of Introduction to programming using MATLAB course material for First Year Engineering program
- Lab Instructor for Roller coaster design and build project (3 quarters)
- Instruction of technical drawing fundamentals and AUTODESK INVENTOR

ADMINISTRATIVE EXPERIENCE

Undergraduate Research Center (URC), Minnesota State University, Mankato, MN

Director

August 2017 – July 2020

- Manage annual budget of \$200,000 for student support and activities
- Work with an advisory council of faculty at MSU, Mankato representing diverse disciplines (and the 6 academic colleges) to develop programs and services that support a wide range of research and scholarly activities.
- Work with an advisory council of students who collaborate with the URC as ambassadors for undergraduate research and scholarly activities.
- Provide oversight for the Undergraduate Research Symposium (URS). Activities usually include poster and oral presentations, evaluation rubric for presentations, a

celebration dinner, and selection of a keynote speaker, best student presentations, art exhibit opening, and Best Faculty Mentor award. About 200-250 student participants each year.

- Provide leadership for the system-wide MN Undergraduate Scholars council involving 7 state universities and 12 community colleges. The council was formed with the goal of providing intercampus engagement for faculty and students and building pipelines between campuses in support of research and scholarly activities.
- Undergraduates Scholars regional conference and Posters at St. Paul, which are held annually. It is a collaborative effort of seven state universities and three community colleges in Minnesota State System.
- Oversight of the National Conference of Undergraduate Research applications, registration, presentation preparation and travel.
- Promote scholarly and creative achievement through the website, recognition events, and other mechanisms designed to highlight student and faculty scholarly activities.
- Work collaboratively with Honors Program and Fellowship Directors to share space-related resources and determine best practices to highlight faculty and student research and creative achievement.
- Collaborate with university partners (Advancement, Institutional Research, CESR, and Concurrent Enrollment) to promote opportunities for scholarly achievement.
- Organize and coordinate the awarding of travel grants, URC grants and Foundations grants in support of research and scholarly activities, as well as conference presentations.

Department of Automotive and Manufacturing Engg. Tech., MSU Mankato, MN

Director, Graduate Programs including Professional Science master's in engineering management, MS in Manufacturing Engineering Technology and MS in Automotive Engineering Technology

- Review of applications for admission
- Promotion and advertisement of program across the state of Minnesota
- Coordination of Industry capstone projects and Internships
- Accreditation of program with NPSMA and ABET
- Course evaluations and online course development with faculty
- Articulation agreements with 2-year colleges for undergraduate degree transfers

INDUSTRIAL EXPERIENCE

Continuous Improvement Specialist

2013-Present

- Truck Body & Equipment Intl., Lake Crystal, MN, Manufacturer of truck bodies
- Christensen Farms, MN, Food Industry
- Michael Foods, Gaylord, MN, Food Industry
- Cubic3D, Mankato, MN, an upstart 3D printing company
- Jones Metal Inc., Mankato, MN, Custom Sheet metal product manufacturer
- Design Ready Controls, Minneapolis, MN, Manufacturer of Control Boards
- Dotson Iron Castings, Mankato, MN, Custom Iron Casting Facility
- Alumacraft Inc., St. Peter, MN, Aluminum Boat manufacturing
- Lou-Rich, Albert Lea, MN, Contract Manufacturer

Ganpati Moulders (India), Delhi (an ISO 9001:2000 Certified company)

Director (Technology)

July 2003-July 2007

- Design and development of molds for plastic injection molding
- Development of products for medical industry
- Design and development of products for energy and power sector
- Rapid prototyping by Fused Deposition Modeling (FDM) and Selective Laser Sintering (SLS)
- Testing and analysis of incoming Plastic raw material for quality
- Management and supervision of production line
- Manufacturing of plastic injection molded components
- Vendor development and Quality Auditor
- Planning and delivery of components to Multi-National Companies
- In depth operating and technical knowledge of machining (CNC, EDM, Wire EDM, Laser Jet machining) and Injection molding.

Undergraduate Intern, Tata Motors, Jamshedpur, India, May 2000- July 2000

- Production planning of sheet metal molds for tool room
- Inventory optimization for tool room

INDUSTRIAL TRAINING CONDUCTED

- “Design Failure Modes and Effects Analysis”, PTI Industries, Eden Prairie, MN, 2014
- “Design for Manufacturing and Assembly”, PTI Industries, Eden Prairie, MN, 2014
- “Additive Manufacturing”, PTI Industries, Eden Prairie, MN, 2014
- “Process Failure Modes and Effects Analysis”, PTI Industries, Eden Prairie, MN, 2014
- “Additive Manufacturing”, Workshop for K-12 Teachers, Community college educators and Industry personnel, Mankato, MN, 2015
- “Additive Manufacturing”, Jones Metal Products, Mankato, MN, 2016
- “Additive Manufacturing”, Condux International Inc., Mankato, MN, 2017
- “Lean Implementation”, Jones Metal Products, Mankato, MN, 2017-18
- “Basics of shop floor layout and design”, Condux International Inc., Mankato, MN, 2018
- “SMED and Autonomous Maintenance”, Michael Foods, Gaylord, MN, 2018-19
- “Robotic Welding”, Truck Body Equipment International, Lake Crystal, MN, 2019-24
- “Collaborative Robotics”, Jones Metal Products, Mankato, MN, 2020-22
- “Design for Manufacturing, Assembly and Automation”, Truck Body Equipment International, Lake Crystal, MN, 2022-24
- “Design for Manufacturing, Assembly and Automation”, Lou-Rich, Albert Lea, MN, 2023-25
- “Project Management in Food Industry”, Christensen Farms, Sleepy Eye, MN, 2023

PUBLICATIONS

Journal Articles

1. **Agarwal, K.,** Kuchipudi, S., Girard, B., Houser, M., “Mechanical properties of Fiber Reinforced Polymer (FRP) Composites: A comparative study of conventional and additive manufacturing methods”, Journal of Composite Materials, Vol. 52(23), Pg. 3173-3181

2. Vangapally, S., **Agarwal, K.**, Sheldon, A., Cai, S., “Effect of Lattice Design and Process Parameters on Dimensional and Mechanical Properties of Binder Jet Additively Manufactured Stainless Steel 316 for Bone Scaffolds”, *Procedia Manufacturing*, Vol. 10, 2017, Pg. 750-759
3. Doyle, M., **Agarwal, K.**, Sealy, W., Schull, K., “Effect of Layer Thickness and Orientation on Mechanical Behavior of Binder Jet Stainless Steel 420 + Bronze Parts”, *Procedia Manufacturing*, Vol. 1, 2015, Pg. 251-262
4. **Agarwal, K.**, Shivpuri, R., Poulain, N., “Design of No-Twist Mill Parameters for Minimized geometric variation in the hot bar rolling of steels”, *Iron and Steel Technology*, Aug. 2015, Page 143-150 (Featured Article)
5. **Agarwal, K.**, Shivpuri, R., Bonthapally, V., “Process-Structure-Microstructure Relationship in Hot Strip Rolling of Steels Using Statistical Data Mining”, *Procedia Engineering*, Vol. 81, Pg. 90-95, 2014
6. **Agarwal, K.**, Shivpuri, R., “Online prediction of surface defects in hot bar rolling based on Bayesian hierarchical modeling”, *Journal of Intelligent Manufacturing* Vol. 26, No. 4 (2013), Pg. 785-800, DOI: 10.1007/s10845-013-0834-y
7. **Agarwal, K.**, Shivpuri, R., Vincent, J., Rolinski, E., Sharp, G., “DC pulsed plasma deposition of nanocomposite coatings for improved tribology of gray cast iron stamping dies” *Journal of Material Processing Technology*, Vol. 213 (2013), Pg. 864-876.
8. **Agarwal, K.**, Shivpuri, R., “Knowledge Discovery in steel bar rolling mills using scheduling data and automated inspection” *Journal of Intelligent Manufacturing* (2013), DOI: 10.1007/s10845-013-0730-5
9. **Agarwal, K.**, Shivpuri, R., “An On-Line hierarchical decomposition based bayesian model for quality prediction during hot strip rolling”, *ISIJ Intl.*, Vol. 52 (2012), No. 10, pp. 1861–1870
10. **Agarwal, K.**, Shivpuri, R., Zhu, Y., “Robust design of No-Twist-Mill parameters for reduced geometric variation in the hot rolling of steel rods and coils”, *Steel Research International – Special Edition on 10th International Conference on Technology of Plasticity*, 2011, Pg. 137-142
11. Shivpuri, R., Singh, S., **Agarwal, K.**, Liu, C., “Energy Release Rate based Approach for the Wear of Punches in Precision Blanking of High Strength Steel”, *CIRP Annals - Manufacturing Technology*, Vol. 60, Issue 1, 2011, Pg. 307-310
12. **Agarwal, K.**, Shivpuri, R., Zhu, Y., Chang, T.S., Huang, H., “Process knowledge based Multi-class support vector classification (PK-MSVM) approach for surface defects in Hot Rolling”, *Expert Systems With Applications*, Volume 38, Issue 6, June 2011, Pg. 7251-7262
13. Shivpuri, R., Cheng, X., **Agarwal, K.**, Babu, S., “Evaluation of 3D printing for dies in low volume forging of 7075 aluminum helicopter parts”, *Rapid Prototyping Journal*, Vol 11, No. 5, 2005, Pg. 272-277

Conference Proceedings (Peer-Reviewed)

1. Evans, D., **Agarwal, K.**, “Safety Improvement through training using incident reports”, 8th North American Conference on Industrial Engineering and Operations Management, Houston, TX, June 12-15, 2023
2. Ramasahayam, A., **Agarwal, K.**, Islam, N., “Applying lean thinking to improve processes in the trucking industry”, 8th North American Conference on Industrial Engineering and Operations Management, Houston, TX, June 12-15, 2023

3. **Agarwal, K.**, Bohlke, T., “Video Work Instructions (VWI) and their role in improving employee training and productivity in manufacturing enterprises”, IISE Annual Conference, Seattle, WA, May 20-23, 2022
4. **Agarwal, K.**, Ruprecht, J., “Study of printing parameters in binder jet additive manufacturing of cobalt chrome – tricalcium phosphate biocomposite”, Proceedings of Solid Freeform Fabrication Symposium, August 2-4, 2021, Austin, TX
5. **Agarwal, K.**, Ruprecht, J., Ahmed, S., “Binder Saturation, layer thickness, drying time and their effects on the dimensional tolerance and density of cobalt-chrome-tricalcium phosphate biocomposite”, Proceedings of Solid Freeform Fabrication Symposium, August 12-14, 2019, Austin, TX
6. **Agarwal, K.**, Ruprecht, J., “New Biocomposite for Scaffolds using Binder Jetting”, Medical Manufacturing Innovations proceedings, RAPID + TCT, Detroit, MI, May 20-23, 2019
7. **Agarwal, K.**, Vangapally, S., Sheldon, A., “Patient Specific Stainless Steel 316 - Tricalcium Phosphate Biocomposite Cellular Structures For Bone Scaffold Applications Via Binder Jet Additive Manufacturing”, European Powder Metallurgy Congress, EUROPM2018, October 14-18, 2018, Bilbao, Spain
8. **Agarwal, K.**, Houser, M., Vangapally, S., Vulli, A., “Process – Property relationships in Additive Manufacturing of Nylon-Fiberglass composites using Taguchi Design of Experiments”, Proceedings of Solid Freeform Fabrication Symposium, August 7-9, 2017, Austin, TX
9. **Agarwal, K.**, Vangapally, S., Sheldon, A., “Binder Jet Additive Manufacturing of Stainless Steel - Tricalcium Phosphate biocomposite for bone scaffold applications”, Proceedings of Solid Freeform Fabrication Symposium, August 7-9, 2017, Austin, TX
10. Lassonde, K., **Agarwal, K.**, “Uncovering Innovative Partnerships for Undergraduate Research”, National Conference on Undergraduate Research, Memphis, TN, April 6-8, 2017
11. Houser, M., **Agarwal, K.**, “Design and Manufacturing of Polymer Matrix Composites with Additive Manufacturing”, SME RAPID Conference, Orlando, FL, May 17-19, 2016
12. Ingenthron, C., **Agarwal, K.**, Ludwig, H., Joel, T., Sealy, W., “Wear Studies in Binder Jet Additive Manufactured Stainless Steel - Bronze Composite”, Proceedings of Solid Freeform Fabrication Symposium, Pg. 732-744, August 10-12, 2015, Austin, TX
13. Shivpuri, R., Subramanian, R., **Agarwal, K.**, “Inclusion based design of metal forming processes for failure critical parts”, in Proceedings of International Symposium on Plasticity and Its Current Applications, January 4-9, 2015, Montego Bay, Jamaica
14. Shivpuri, R., **Agarwal, K.**, Subramanian, R., “Bayesian Hierarchical modeling-based micromechanics computational framework for integrated material and process design for failure critical components”, in Proceedings of 11th World Congress on Computational Mechanics (WCCM XI), July 20-24, Barcelona, Spain, 2014
15. Westphal, M., Bentley, M., Sealy, W., **Agarwal, K.**, “Manufacturing of Patient Specific Schlemms' Canal Using Fused Deposition Modeling”, SME RAPID Conference, Detroit, MI, June 12, 2014
16. **Agarwal, K.**, Shivpuri, R., “A Computational Framework for Integrated Process Design of High-Performance Parts”, in 2nd World Congress on Integrated Computational Materials Engineering (eds M. Li, C. Campbell, K. Thornton, E. Holm and P. Gumbsch), John Wiley & Sons, Inc., Hoboken, NJ, USA. doi: 10.1002/9781118767061.ch22, 2013
17. **Agarwal, K.**, Shivpuri, R., Babu, S., Cheng, X., “Low Volume Aluminum Forging Using Metal Based Rapid Prototyping of Dies”, Proceedings of NAMRI/SME, Vol. 41, 2013.

18. **Agarwal, K.**, Shivpuri, R., “Hierarchical Decomposition Based Approach to Process Design of Aeroengine Disk in Presence of Defects”, Proceedings of NAMRI/SME, Vol. 40, 2012.
19. **Agarwal, K.**, Shivpuri, R., “Integrated modeling of forging processes for safety critical parts”, Proceedings of 20th International Forging Congress, Hyderabad, India, November 13-17, 2011 (**Winner of Best Student Paper award**)
20. **Agarwal, K.**, Shivpuri, R., Zhu, Y., “Role of Process Dynamics and Material Instability in the Generation of Surface Defects during High-Speed Hot Extrusion of Zirconium Tubes”, Ed. Dr. Gerhard Hirt and Dr. Erman Tekkaya, Proceedings of 10th International Conference on Technology of Plasticity, Aachen, Germany, Sept. 25-30, 2011, Pg. 255-260
21. Whitfield, C., Schlosser, P., **Agarwal, K.**, Riter, E., “Advanced Energy Vehicle Design-Build Project for First-Year Engineering Students”, Proceedings of the 2011 ASEE Annual Conference & Exposition, Vancouver, BC, June 26-29, 2011
22. **Agarwal, K.**, Shivpuri, R., “Risk Based Process Design of Titanium Rotor Forgings with High-Risk Low-Frequency Anomalies: a Multi-Body FEM Approach”, Proceedings of Conference on Optimizing Performance Through Integrated Modeling Of Microstructure, Cambridge, UK, Oct 5-8, 2010
23. **Agarwal, K.**, Shivpuri, R., “The Role of Manufacturing Process in the Design for Product Risk”, Proceedings of the 1st Int. Conf. on Product Property Prediction (P3), Eds. Biermann D, Tekkaya AE and Tilmann W, pp. 59- 71, Technical University of Dortmund, April 12-13, 2010, Dortmund, Germany.
24. Mathur, D., **Agarwal, K.** and Shivpuri, R., “Microstructure Study during Hot Deformation Processing of Aluminum 7075 with Rapidly Engineered Dies”, Hot Deformation of Aluminum Alloys, Ed. Z. Jin, A. Beaudoin, T.A. Bieler and B. Radhakrishnan, TMS Annual Meeting, March 3-6, San Diego, CA, 2003.
25. **Agarwal, K.**, Mathur, D., Shivpuri, R. and Lembo, J., “Evaluation of PROMETAL technique for application to dies for short run forging”, Ed. Dr. Joseph Beaman, Solid Freeform Fabrication Proceedings, Austin, TX, 2002, pp. 376-383.
26. **Agarwal, K.**, Shivpuri, R. and Lembo, J., “Investigating Rapid Prototype Techniques for Application to Dies for Short Run Forgings”, AFDM2002, The Second Int. Conf. on Advanced Forming and Die Manufacturing, 17-19 June 2002, Pusan, Korea.
27. **Agarwal, K.**, Shivpuri, R., Poulain, N., “Design of No-Twist-Mill Parameters for Minimized Geometric Variation in the Hot Bar Rolling of Steels”, The Iron and Steel Technology Conference and Exposition, Indianapolis, IN, May 5-7, 2014
28. **Agarwal, K.**, Shivpuri, R., “Modeling the influence of inclusions on the performance of forged products: process design approach”, 29th Forging Industry Technical Conference, Cleveland, OH, September 10-12, 2012
29. **Agarwal, K.**, Shivpuri, R., Singh, A.P., Rath, S., Kumar, S., Mukherjee, D., Mathur, A.S., “An On-Line Hybrid Mathematical Model for Quality Prediction during Hot Strip Rolling”, Proceedings of International Conference on Advances in Analytical Techniques and Characterization of Materials, Ranchi, India, July 5-7, 2011
30. **Agarwal, K.**, Shivpuri, R., Ai, X., Pauskar, P., “Bayesian Hierarchical Network based Computational Framework for Risk Tolerant Process Design”, Proceedings of the NSF CMMI Grantee Conference, Atlanta, GA, January 4-7, 2011
31. Shivpuri, R., **Agarwal, K.**, Mathur, D., Lembo, J. and Harris, W., “Forging of Aluminum Helicopter Parts using Rapidly Prototyped Dies,” Aero Mat 2003, Dayton, OH, June 9-12, 2003.

32. Shivpuri, R., **Agarwal, K.**, Mathur, D., Lembo, J. and Harris, W., "Reduced Lead Times for Forged Helicopter Parts", AHS Forum 59, Proceedings of the American Helicopter Society, Phoenix, AZ, May 6-8, 2003.
33. **Agarwal, K.**, Mathur, D., Shivpuri, R., Lembo, J., Stys, T. and Harris, W., "A Rapid Die Manufacturing Technique for Short Run Forgings", 24th Forging Industry Technical Conference, Research & Applied Technology in the Forging Industry, Cleveland, Ohio, October 14- 16, 2002.

Book Chapters

1. **Agarwal, K.** and Shivpuri, R., "Rapid Tooling for Forging Dies", ASM Handbook, Vol. 14A, Metalworking: Bulk Forming, Ed. S. L. Semiatin, 2005, pp. 645- 650.

Posters at Research Conferences (Peer-Reviewed)

1. Zuiker, E., Nelson, L., **Agarwal, K.**, Bentley, M., "Connective Tissue Infiltration into Binder Jet Additive Manufactured Cobalt Chrome Alloy", Posters on the Hill, Washington D.C., April 20-22, 2020 (One of the 50 posters selected out of 1000 submissions).
2. Haus, B., Zuiker, E., Bentley, M., **Agarwal, K.**, "Connective Tissue Infiltration into Three-Dimensional Sintered Cobalt Chrome Alloy", 54th National Collegiate Honors Council Conference, New Orleans, LA, Nov. 6-10, 2019
3. Ruprecht, J., **Agarwal, K.**, "Process parameter optimization for binder jet additive manufacturing of Cobalt chrome", POWDERMET2019 & AMPM2019 conferences, June 23-26, 2019, Phoenix, AZ (**NSF Travel Award Winner**)
4. Haus, B., Zuiker, E., Bentley, M., **Agarwal, K.**, "Connective Tissue Infiltration into Three-Dimensional Sintered Cobalt Chrome Alloy", National Conference on Undergraduate Research, Atlanta, GA, April 10-13, 2019
5. Ruprecht, J., **Agarwal, K.**, "Composite Additive Manufacturing for Lightweight Components", Aerodef 2018, March 26-29, 2018, Long Beach, CA (**SME Travel Grant Winner**)
6. Pahalawaththage K.P., **Agarwal, K.**, "Binder Jetting Additive Manufacturing for the development of novel bioceramic bone implant materials", POWDERMET2018 & AMPM2018 conferences, June 17-20, 2018, San Antonio, TX (**NSF Travel Award Winner**)
7. Jones, J., Goss, T., **Agarwal, K.**, "Effects of Fiber Percentage and Orientation on Fixtures Manufactured by Nylon-Carbon Fiber 3D Printing", National Conference on Undergraduate Research, Edmonton, OK, April 5-8, 2018
8. Ruprecht, J., **Agarwal, K.**, "Scaffold Manufacturing by 3D Printing: Cobalt Chrome - Hydroxyapatite Biocomposite", National Conference on Undergraduate Research, Edmonton, OK, April 5-8, 2018
9. Ruprecht, J., **Agarwal, K.**, "Effect of binder saturation and sintering on stainless steel – hydroxyapatite biocomposite manufactured by 3D Printing", National Conference on Undergraduate Research, Memphis, TN, April 6-8, 2017
10. Hasan, M., Ndonwie, C., Bentley, M., **Agarwal, K.**, "Biocompatibility of Hydroxyapatite and Stainless-Steel Alloys", National Conference on Undergraduate Research, Asheville, NC, April 7-9, 2016
11. Lee, J., Karleen, D., Hasan, M., Bentley, M., **Agarwal, K.**, "Biocompatibility of Hydroxyapatite and Stainless-Steel Alloys", National Conference on Undergraduate Research, Spokane, WA, April 15-19, 2015

12. White, W., Tunison, D., **Agarwal, K.**, Sealy, W., “Low-Cost Welding Based Metal 3D Printer”, National Conference on Undergraduate Research, Spokane, WA, April 15-19, 2015
13. Crompton, S., **Agarwal, K.**, Sealy, W., “Design of a multi material system for biomimetic materials in binder jet 3D printing”, National Conference on Undergraduate Research, Spokane, WA, April 15-19, 2015
14. Doyle, M., **Agarwal, K.**, “How does Additive Manufacturing process parameters affect the material properties in Stainless steel – bronze composite?”, National Conference on Undergraduate Research, Spokane, WA, April 15-19, 2015
15. Doyle, M., **Agarwal, K.**, “Additive Manufacturing of Stainless Steel for Engineering Applications”, Posters on the Hill, Washington D.C., April 28-29, 2014 (One of the 60 posters selected out of 600 submissions).
16. Doyle, M., **Agarwal, K.**, “3D Printing of Stainless Steel for Applications in Engineering”, National Conference on Undergraduate Research, Lexington, KY, April 3-5, 2014 (Poster)

Magazine/Newspaper Articles and Television Coverage

1. “MSU, AddiTec Collaborate to Develop Biocompatible Bone Implants¹”, Additive Manufacturing, Published 9/9/2022, <https://www.additivemanufacturing.media/news/partners-collaborate-to-develop-biocompatible-bone-implants>
2. “Research Duo at Minnesota State Mankato raising the bar”, Aired on KEYC News (CBC News affiliate) on April 23, 2020. <https://www.keyc.com/2020/04/23/research-duo-minnesota-state-mankato-raising-bar/>
3. “What job shops need to know before buying a 3D printer”, Published in The Additive Report, Fall 2019, Pg 26-28, <https://www.thefabricator.com/additivereport/article/additive/what-job-shops-need-to-know-before-buying-a-3d-printer>
4. “Additive manufacturing can shorten the time needed to make jigs and other common shop tools”, Published in The Additive Report, Spring 2019, Pg. 64 and 66, <https://www.thefabricator.com/additivereport/article/additive/additive-manufacturing-can-shorten-the-time-needed-to-make-jigs-and-other-common-shop-tools>
5. “AM allows prototyping for low-volume runs”, Published in The Additive Report, Winter 2019, Pg. 66
6. “Tackling additive manufacturing with an open mind”, Published in The Fabricator, Sept. 12, 2018
7. “Learning on the Job and in the classroom”, Connect Business Magazine, March/April 2017, Pg. 31-33
8. “Minnesota State University, Mankato Receives Donation Of An X1-Lab 3D Printer”, Aired on KEYC News (CBS News Affiliate), May 6, 2014
9. “MSU Offers a glimpse of the future at Tour of Manufacturing”, Published in Mankato Free Press, Oct. 26, 2013
10. “Minnesota State receives gift of engineering software worth \$210,000”, Published in Mankato Free Press, Section B, March 8, 2013
11. “MSU receives \$210K Software gift”, Aired on KEYC News (CBS News), March 5, 2013

INVITED TALKS / PRESENTATIONS

1. "Engaging industry in teaching manufacturing/engineering management to undergraduate and graduate students", Minnesota Manufactured Technical Education Conference (2MTEC), Anoka, MN, July 26-28, 2022
2. "Video Work Instructions (VWI) and their role in improving employee training and productivity in manufacturing enterprises", IISE Annual Conference, Seattle, WA, May 20-23, 2022
3. "Innovative Partnerships that Strengthen STEM Pathways" Minnesota Joint Academic and Student Affairs/Equity and Inclusion Conference on June 10-11, 2021, with Dr. Martensen, Dr. Onunwar, Dr. Ulseth & Ms. Schaefer
4. "3D Printing for STEM Educator Pedagogy and Workforce Preparation", Minnesota State Engineering Center of Excellence, May 20, 2021
5. "3D Printing for Metal Fabrication", Fabricators and Manufacturers Association International's Virtual Annual Conference (FMA), March 3-4, 2021
6. "Risk Management", 2-part Webinar as part of Maverick Academy Series to Small Business in Southern Minnesota, Sept. 17 and 24, 2020
7. "The Weakest Link: Risk Management in Supply Chain", Webinar to Costa Rica Chamber of Commerce, May 6, 2020 (Attended by CEOs, Logistics managers, Supply Chain Personnel from Fortune 500 companies in Costa Rica)
8. "3D Printing: From Astronomy to Zoology and Everything in Between", MSU Alumni Breakfast in the Cities Colloquium, Minneapolis, MN, Feb. 20, 2020
9. "Leveraging Industry for Research opportunities with Undergraduate Students in Engineering", Undergraduate Research Programs Conference, Council of Undergraduate Research, The Ohio State University, Columbus, OH, June 27, 2019
10. "New Biocomposite for Scaffolds using Binder Jetting", Medical Manufacturing Innovations, RAPID + TCT, Detroit, MI, May 22, 2019
11. "3D Printing and its applications in Health and Biosciences", Building a Healthy Community: Innovating Through Partnerships: Health Summit, March 27, 2019, Minnesota State University Mankato
12. "Patient Specific Stainless Steel 316 - Tricalcium Phosphate Biocomposite Cellular Structures for Bone Scaffold Applications Via Binder Jet Additive Manufacturing", European Powder Metallurgy Congress, EUROPM2018, October 17, 2018, Bilbao, Spain
13. "3D Printing and the Future of Health and Medicine", 44th Annual Douglas R. Moore Lecture, Minnesota State University Mankato, April 23, 2018
14. "Binder Jet Additive Manufacturing of Stainless Steel - Tricalcium Phosphate biocomposite for biomedical applications", Building a Healthy Community: Innovating Through Partnerships: Health Summit, March 28, 2018, Minnesota State University Mankato
15. "Process – Property relationships in Additive Manufacturing of Nylon-Fiberglass composites using Taguchi Design of Experiments", Proceedings of Solid Freeform Fabrication Symposium, August 7-9, 2017, Austin, TX
16. "Binder Jet Additive Manufacturing of Stainless Steel - Tricalcium Phosphate biocomposite for bone scaffold applications", Proceedings of Solid Freeform Fabrication Symposium, August 7-9, 2017, Austin, TX

17. "Uncovering Innovative Partnerships for Undergraduate Research", National Conference on Undergraduate Research, Memphis, TN, April 6-8, 2017
18. "Binder Jetting in Medical Applications", Additive Manufacturing Users Group, Chicago, IL, March 21, 2017
19. "Effect of Layer Thickness and Orientation on Mechanical Behavior of Binder Jet Stainless Steel 420 + Bronze Parts", SME NAMRC, Charlotte, NC, June 11, 2015
20. "Process-Structure-Microstructure Relationship in Hot Strip Rolling of Steels Using Statistical Data Mining", 11th International Conference on Technology of Plasticity, ICTP 2014, Nagoya, Japan, October 21, 2014
21. "Manufacturing of Patient Specific Schlemms' Canal Using Fused Deposition Modeling", SME RAPID Conference, Detroit, MI, June 12, 2014
22. "Design of No-Twist-Mill Parameters for Minimized Geometric Variation in the Hot Bar Rolling of Steels", The Iron and Steel Technology Conference and Exposition, Indianapolis, IN, May 5-7, 2014
23. "Modeling of strip rolling process for process improvements", Asian Color Coated Ispat Ltd., Bawal, Rajasthan, India, Aug. 3, 2013
24. "Modeling the influence of inclusions on the performance of forged products: process design approach", 29th Forging Industry Technical Conference, Cleveland, OH, September 10-12, 2012
25. "Hierarchical Decomposition Based Approach to Process Design of Aeroengine Disk in Presence of Defects", North American Manufacturing Research Consortium (NAMRC), University of Notre Dame, South Bend, IN, June 8th, 2012.
26. "Role of Process Dynamics and Material Instability in the Generation of Surface Defects during High-Speed Hot Extrusion of Zirconium Tubes", 10th International Conference on Technology of Plasticity, Aachen, Germany, Sept. 29, 2011
27. "Robust design of No-Twist-Mill parameters for reduced geometric variation in the hot rolling of steel rods and coils", 10th International Conference on Technology of Plasticity, Aachen, Germany, Sept. 29, 2011
28. "Multi Body based Approach using FORGE to model evolution of defects in Aeroengine Disk Forgings", FORGE Users Conference, Chicago, IL, Sept. 7th, 2011
29. "Integrated Product Process Control in Manufacturing Processes", Indian Institute of Metals, Ranchi Chapter, India, Sept. 11th, 2010
30. "Data Mining in Hot rolling of steels", Indian Institute of Metals, Ranchi Chapter, India, Sept. 14th, 2009
31. "Evaluation of PROMETAL technique for application to dies for short run forging", Conference on Solid Freeform Fabrication, Austin, TX, 2002.
32. "A Rapid Die Manufacturing Technique for Short Run Forgings", 24th Forging Industry Technical Conference, Cleveland, Ohio, October 2002.

POSTERS

1. Jones, J., Goss, T., **Agarwal, K.**, "Effects of Fiber Percentage and Orientation on Fixtures Manufactured by Nylon-Carbon Fiber 3D Printing", 19th Annual Undergraduate Research Symposium, MSU Mankato, MN, April 11, 2018
2. Rupercht, J., **Agarwal, K.**, "Effect of binder saturation and sintering on stainless steel – hydroxyapatite biocomposite manufactured by 3D Printing", 18th Annual Undergraduate Research Symposium, MSU Mankato, MN, April 11, 2017

3. Hasan, M., Ndonwie, C., Bentley, M., **Agarwal, K.**, “Biocompatibility of Hydroxyapatite and Stainless-Steel Alloys”, MN Undergraduate Scholars Posters at St. Paul, March 17, 2016
4. Joel, T., Ludwig, H., **Agarwal, K.**, “Wear Studies during dry sliding of Stainless Steel-Bronze Composites made by Binder Jet Additive Manufacturing”, 17th Annual Undergraduate Research Symposium, MSU Mankato, MN, April 20, 2015
5. White, W., Tunison, D., **Agarwal, K.**, Sealy, W., “Low-Cost Welding Based Metal 3D Printer”, 17th Annual Undergraduate Research Symposium, MSU Mankato, MN, April 20, 2015
6. Doyle, M., **Agarwal, K.**, “3D Printing of Stainless Steel for Applications in Engineering”, 16th Annual Undergraduate Research Symposium, MSU Mankato, MN, April 21, 2014
7. Doyle, M., **Agarwal, K.**, “3D Printing of Stainless Steel for Applications in Engineering and Beyond”, 3rd Minnesota Undergraduate Scholars Conference, MSU Moorhead, MN, April 14, 2014
8. **Agarwal, K.**, Shivpuri, R., “A Computational Framework for Integrated Process Design of High-Performance Parts”, 2nd World Congress on Integrated Computational Materials Engineering, Salt Lake City, UT, July 9, 2013
9. **Agarwal, K.**, “Role of Manufacturing processes in design for product risk”, NSF CMMI Grantee Conference, Atlanta, GA, January 4-7, 2011
10. **Agarwal, K.**, Shivpuri, R., Ai, Xiaolan, “Bayesian Hierarchical Network based Computational Framework for Risk Tolerant Process Design”, NSF CMMI Grantee Conference, Atlanta, GA, January 4-7, 2011
11. **Agarwal, K.**, Singh, S., Shivpuri, R., “Integrated process design for next generation manufacturing”, Honda Initiation Grant Symposium, Columbus, OH, July 4, 2010

FUNDING & GRANTS

Total - \$3,228,358 (*External – \$2,391,858 Internal – \$59,500, Equipment & Software – \$777,000*)

- “*Project Management implementation in food industry*”, (\$40,000), Minnesota Department of Employment and Economic Development Equipment grant with Christensen Farms, 2023
- “*Concepts of Industrial Engineering*”, (\$300,000), Minnesota Department of Employment and Economic Development Equipment grant with Lou-Rich, 2022
- “*Six Sigma, Robotic Welding and 3D printing*”, (\$315,000), Minnesota Department of Employment and Economic Development Equipment grant with TBEI Inc., 2022
- “*Shaped Preforms for enhanced properties of forgings via a Mechanistic – Statistical Approach*”, (\$171,684), Defense Logistics Agency (DLA) subcontract by Steel Founders Society of America, 2022-24
- “*Lasers and flexible machining for Industry 4.0*”, (\$247,000), Minnesota Department of Employment and Economic Development Equipment grant, 2022
- “*Dual Training Grant for Engineering Management*”, (\$125,000), Minnesota Office of Higher Education and Design Ready Controls, Brooklyn Park, MN, 2020-23, PI
- “*Collaborative Robotics*”, (\$189,351), Minnesota Department of Employment and Economic Development and Jones Metal Products, Mankato, MN, 2020-22, PI
- “*Laser cutting and carbon fiber injection molding*”, (\$299,900), Minnesota Department of Employment and Economic Development and Truck Bodies and Equipment International, Lake Crystal, MN, 2019-21, PI

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- *“SMED and Autonomous Maintenance in Food Manufacturing”*, (\$85,594), Minnesota Department of Employment and Economic Development and Michael Foods, Gaylord, MN, 2018-19, PI
- *“Basics of shop floor layout and design”*, (\$40,000), Minnesota Department of Employment and Economic Development and Condux International Inc., Mankato, MN, 2018, Co-PI
- *“Augmented Reality Welder and Vertical Milling Machine”*, (\$34,000), Minnesota State College and University System, 2018
- Plastic sheet extrusion machine donation (Quality Extrusion, MN), \$35,000, 2017
- *“Robotic Welding and weld quality analysis”*, (\$283,625), Minnesota Department of Employment and Economic Development and Jones Metal Products, Mankato, MN, 2017-2018, PI
- *“Design and Manufacturing for Additive Manufacturing”*, (\$30,000), Minnesota Department of Employment and Economic Development and Condux International, Mankato, MN, 2017-2018, PI
- *“3D Printing and its future in health and medicine”*, (\$5,000), Douglas Moore Fellowship, Minnesota State University, Mankato, 2017-18
- *“Expert Witness services”* (\$40,000), Company Confidential, 2016-17, PI
- *“Design and Manufacturing for Additive Manufacturing”*, (\$77,240), Minnesota Department of Employment and Economic Development and Jones Metal Products, Mankato, MN, 2016-2017, PI
- *“Design of Casting Processes for Industrial and Automotive Products”*, (\$7,500), William Flies Fellowship, MSU Mankato, 2015, in collaboration with LeSueur Inc, MN
- *“Develop a Certificate in Additive Manufacturing”*, (\$27,000), Strategic Priority Funding, Minnesota State University, Mankato, 2015-16
- *“Development of Minnesota Center of Additive Manufacturing”*, (\$101,000), Minnesota State College and University System, 2015
- *“Additive Manufacturing Workshop pair”*, (\$49,464), MN Center for Engineering and Manufacturing Excellence, 2015, Co-PI
- *“Creating a smartphone app for enhanced visual learning of Manufacturing Engineering Technology Students”*, (\$7,500), Presidential Teaching Scholar Fellowship, MSU Mankato, 2014
- *“Training of Workers for next generation manufacturing technologies at Philips and Temro Industries”*, (\$325,000), Minnesota Department of Employment and Economic Development, 2012-2015, Co-PI
- *“Design of 3D Printing-Sintering Process for Manufacturing of Bone Like Medical Implants”*, (\$5,000), Faculty Research Grant, MSU Mankato, 2013
- MLab 3D Printing Equipment donation by ExOne Inc. (\$150,000), 2013
- *“Design of Plasma Nitriding Surface Treatment for Automotive Products”*, William Flies Fellowship (\$7,500), MSU Mankato, 2012, in collaboration with Advanced Heat Treat Corp., MI
- Software Donation (FORGE) from Transvalor Americas for classroom teaching and research (\$210,000 for 20 licenses), 2012

AFFILIATIONS

- Member of Society of Manufacturing Engineers (SME), American Society of Quality (ASQ), Council of Undergraduate Research (CUR), Project Management Institute (PMI)

STUDENT ADVISING

External Ph.D Thesis Evaluator

1. T.S. Siddalingaprasad, 2022, "Characterization and property evaluation of forged cutting tools for industrial applications", Visvesvaraya Technological University, India
2. Vinod Rampur, 2021, "Computer Aided STEP AP-214 Based Process Planning System For Automotive Parts", Visvesvaraya Technological University, India
3. K.G. Sagar, 2021, "Study on Mechanical and Wear Characterization of Particle Reinforced Aluminum Alloy Subjected to Severe Plastic Deformation (SPD)", Visvesvaraya Technological University, India

M.S Thesis/Alternate Paper Plan Advisor

1. Mikhail Filatov, 2023, "Design and Development of Smart Wardrobe Technology"
2. Alejandro Perez Novoa, 2023, "Reducing Defective Rates in Knee-Wall Door Assembly Using Six Sigma Methodology"
3. Usama Khan, 2023, "Studying and troubleshooting lubricity test on Pressure Wire X Proximal and Distal coatings"
4. Victor Martinez Polanco, 2022, "Precision Machining of Polymer Matrix Composites"
5. Nandeera Thantirige, 2022, "Printed Circuit Board Defect Detection using image processing"
6. Luis Ortiz Osornio, 2022, "Implementation and Usage of Low-cost Turbines for Power Generation in water networks"
7. Ferdinand Mabeya, 2021, "Improved warehouse for SMT material management using modern technology retrieval system and better traceability"
8. Ajay Kumar Kotla, 2021, "Lean Six Sigma Methodology to improve quality of service and wait time at the billing counter of a grocery store"
9. John Ruprecht, 2020, "Binder Jet Additive Manufacturing of Cobalt Chrome – Tri Calcium Phosphate Biocomposite"
10. Samuel Warriari, 2020, "A lean approach to improving efficiency in labor intensive processes at Kato Cable"
11. Araz Al-Dawoodi, 2019, "Developing a testing instrument to evaluate the performance of 3D printed body powered prosthetic hands"
12. Sumanth Gokapai, 2019, "Managing variability in Assembly Lines"
13. Kanchana Perera, 2018, "Inspection process flow development for a warehouse"
14. Steven Thuening, 2018, "Manufacturing a composite wheel prototype using 3D printed molds"
15. David Olson, 2018, "Design of Experimentation for Paint process for improvement in custom job shop"
16. Kishore Kumar Podilla, 2017, "Lean Thinking for Process Improvement in Low Volume/High Complexity industries"
17. Dinesh Valluri, 2017, "Lean implementation in Health Care industry"
18. Bhagyasree Nanavath, 2017, "IoT-The Future Technology for Smart Manufacturing"
19. Rojan Kumar Katuwal, 2017, "Implementation of Process Improvement and Lean principles across A Job Shop"
20. Roshan Lamsal, 2017, "Study of Waste in a Can Meat Industry Using Value Stream Mapping and Its Application"
21. Sairam Vangapally, 2017, "Process Parameter Optimization with Numerical modeling and experimentation design of Binder Jet Additive Manufacturing"

22. Olusola Onadipe Jr., 2017, "Lean Implementation through process automation"
23. Suresh Kumar Kuchipudi, 2017, "Effect of process parameters on mechanical properties of additively manufactured fiberglass nylon composites"
24. Arun Kumar Vulli, 2017, "Implementation of Kaizen at a Hearing Aid Manufacturer"
25. Abhiram Reddy Ramasahayam, 2016, "Process improvement by lean thinking in trucking industry"
26. Don Suranga Uduwage, 2015, "Binder Jet Additive Manufacturing of Stainless Steel-Hydroxyapatite Bio-composite"
27. Cody Ingethron, 2014, "The Effects of Layer Thickness on Dry-Sliding Wear of Binder Jet Additively Manufactured Stainless Steel and Bronze Composite"
28. Jason Patricka, 2013, "Lean Design process for injection molding"
29. Venugopal Bonthapally, 2013, "Effect of process parameters on mechanical properties of additive manufactured parts"
30. Siva Leela Sagar, 2013, "Investigation of tensile properties of porous SS 420 fabricated via 3D Printing"
31. Panchut Suksrinual, 2013, "Fatigue analysis of ABS Plastic By Fused Deposition Modeling"

Professional Science Masters (PSM) Capstone Papers

1. Ashley Folden-Ecker, 2023, "Reducing Molding Sand Variation at Dotson Iron Castings" with Dotson Iron Castings, MN
2. Arielle Larissa Nono Kamto, 2023, "Defects and remedies to reduce scraps in Aluminum Castings" with LeSueur Inc, MN
3. Adama Youhn Doumbouya, 2023, "Lean Six Sigma: Concept Applications in Manufacturing Industry", with Daikin Industries Ltd., MN
4. Dave Evans, 2023, "Safety through Training", with Fahrner Asphalt Sealer, MN
5. Spencer Condon, 2022, "Guided Diagnostic Development", with Polaris Industries Inc., MN
6. Josh Germscheid, 2022, "Prototype and NPI Process Improvement", with Design Ready Controls, MN
7. Rebecca Sergoalem, 2022, "The role and responsibilities of a project manager in an IT Service Management company" with ConvergeOne, MN
8. Toulalee Xiong, 2022, "The Usage of DMAIC Process to Improve MRCI – Finalizing Timesheet Process" with MRCI, MN
9. Kue Yang, 2022, "Applying the DMAIC process to Prevent Escapes from Going to the Customer" with EI Microcircuits, MN
10. Irenius Eremon, 2022, "Kazi's Cabinet. Kibble Storage and Feeding System for pets" with a Startup
11. Yogeshwar Ravimurugan, 2021, "Total Preventive Maintenance and Increasing efficiency in Warehouse" with Bird and Cronin, MN
12. Jesse S. Jaeger, 2021, "Fixing an Out-of-Round Defect in a Production Process Using the DMAIC Method" with Lou-Rich Inc., MN
13. Rashini Punchihewa, 2021, "Implementing Lean manufacturing concepts to Quanta Manufacturing Nashville", with Quanta Manufacturing, TN
14. Ramiro Viñán Vega, 2021, "Quality Improvement in Dry Certification" with AGCO, Jackson, MN
15. Logan Kitchen, 2021, "A Quality Improvement Project for Water Technology Inc." with Water Technology Inc., Beaver Dam, WI

16. Md Maruf Morshed, 2020, "Test Method Validation for Endoscope Leak Tester (Veriscan)" with Cantel Medical, MN
17. Andrew Spang, 2020, "Utilizing the DMAIC Process to Improve Transient Response of a Diesel Gen-set Through a Taguchi Method Experimental Design" with Blue Star International, MN
18. Pratistha Rijal, 2020, "Minnesota Department of Veteran Affairs Website Design", with Minnesota State IT Services, St. Paul, MN
19. Mark Hendrickson, 2018, "Justification and Implementation of a new Robotic Welder", with TBEI, Lake Crystal, MN
20. Chrissy Peloquin, 2018, "Quality Management system for custom manufacturer", with Design Ready Controls, Minneapolis, MN
21. Brady Sabatino, 2017, "Engineering Department Restructure", with Design Ready Controls, Minneapolis, MN
22. Nikki Dills, 2017, "Sales Playbook based on Engineering Principles", with Design Ready Controls, Minneapolis, MN
23. Jacob Wilson, 2017, "Transitioning from a CAD to CAE Approach for Schematic Generation", with Design Ready Controls, Minneapolis, MN
24. David Olson, 2017, "Introducing Additive Manufacturing to a Contract Metal Fabrication Company", with Jones Metal Inc., Mankato, MN
25. Matthew Bruns, 2016, "Telemetry Antenna", with Vishay Dale Electronics Inc., Yankton, SD

M.S Thesis Committee Member

1. Jon Olmstead, 2020, "Storage of Low-Level Ethanol Blend in Small Engines"
2. Tim Quast, 2019, "City of Mankato: Improving Parks and Recreation Department"
3. Sergio Gamarra, 2019, "Study of American Wood Pellet Stove Emissions"
4. Calvin Smith, 2019, "Developing commercial product using a consumer grade 3D printer"
5. Prabin Dhital, 2016, "Study of roles of meniscus and viscous force during liquid mediated contacts separation"
6. Ivan Carlos Orozco, 2016, "Design of sodium hypochlorite plant in Venezuela"
7. Sasanka Kankanamge, 2015, "Air Flow and Rainwater Penetration Analysis on Generator Enclosures Using CFD Simulations"
8. Christopher Reek, 2014, "The Effects of Low-Level Ethanol Blends in 4-Stroke Small Non-Road Engines"
9. Rahul Patel, 2012, "Team Effectiveness and Project Management in a Student Team Environment"

REVIEWER ACTIVITIES

- Journal of Intelligent Manufacturing, 2011 - Present
- ASME International Manufacturing Science and Engineering Conference (MSEC), Madison, WI, June 2013
- National Council of Undergraduate Research (NCUR), Posters on the Hill, 2014, 2015
- Scientific Committee Member and Paper Reviewer, International Conference on Technology of Plasticity (ICTP), Japan, October 2014
- International Journal of System Science, 2013 - Present
- International Journal of Computer Integrated Manufacturing, 2013 – Present
- Expert Systems with Applications, 2014 – Present

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- Steel Research International, 2014 - Present
- Panel Reviewer and Lead, National Science Foundation, Small Business Innovative Research Program (NSF-SBIR), 2014
- Neural Computing and Applications, 2014 – Present
- Rapid Prototyping Journal, 2014 – Present (**Outstanding Reviewer, 2017**)
- Solid Freeform Fabrication Symposium (SFF), Austin, TX, 2015
- Journal of Materials Processing Technology, 2016 – Present
- Scientific Committee Member and Paper Reviewer, International Conference on Technology of Plasticity (ICTP), UK, October 2017
- Solid Freeform Fabrication Symposium (SFF), Austin, TX, 2017
- Additive Manufacturing Journal, 2016 – Present
- German Academic Exchange Service (DAAD) - PRIME (“Postdoctoral Researchers International Mobility Experience “), 2018
- 2nd World Congress on Undergraduate Research, Germany, 23rd-25th May 2019
- ASEE Annual Conference, Montreal, Canada, June 21-24, 2019
- **Guest Editor**, MDPI Polymers Journal, Special Issues on “Binder Jet Additive Manufacturing”, 2020
- Panelist and Reviewer, NSF, 2021
- Reviewer, Society of Manufacturing Engineers (SME) Education Foundation Scholarships

SOCIETY ACTIVITIES

- Councilor (Elected), Engineering Division, Council of Undergraduate Research (CUR), 2015-2021
- NCUR Oversight Committee, Council of Undergraduate Research, 2015-2017
- Program Review Committee, Council of Undergraduate Research, 2017-2018
- Vice President, Student Chapter, The Association for Operations Management (APICS), Southern Minnesota Chapter, 2012 – 2018
- Technical Committee Member, ASTM F42, “*Committee of Additive Manufacturing Technologies*”, 2013 - 2018

UNIVERSITY-WIDE

- Selection Committee, Douglas Moore Lectureship, MSU Mankato, 2019, 2021, 2022
 - Committee, Faculty Search, Department of AMET, MSU Mankato, 2012 – 2022
- ## SERVICE
- Committee, Paper Review, Regional Science Fair, MSU Mankato, 2013
 - Committee, ABET Review, AMET, MSU Mankato, 2013 & 2018
 - Committee, Judge and Organizer, Undergraduate Research Symposium, Minnesota State University, Mankato, 2015 - 17
 - Coach, Vex IQ Robotics, Mankato Community Education and Recreation, 2016
 - Council Member, Honors Program, Minnesota State University, Mankato, 2017-2020
 - Committee, Search of Director of Honors Program, MSU Mankato, 2018
 - Committee Chair, Search of Director of Undergraduate Research Center, MSU Mankato, 2019-20
 - Committee, Search of University Fellowship Coordinator, MSU Mankato, 2020
 - Committee, School of Polytechnic, MSU Mankato, 2021

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AWARDS & HONORS

- ***Distinguished Faculty Scholar***, Awarded to 3 faculty across the university, MSU Mankato, 2021-22
- College of Science, Engineering and Technology, MSU Mankato, ***Excellence in Academic Advising Award***, 2017-18
- Society of Manufacturing Engineers (SME), ***Outstanding Young Manufacturing Engineer***, 2015
- College of Science, Engineering and Technology, MSU Mankato, ***Excellence in Teaching Award***, 2014-15
- Confederation of Plastic Industries (India) award for Young Entrepreneur, 2006