Wilfredo Moscoso-Kingsley, PhD
Associate Professor
Department of Industrial, Systems and Manufacturing Engineering
Wichita State University
1845 Fairmount St, Wichita, KS, 67260-0035
wilfredo.moscoso@wichita.edu, office 316-978-7612, cell 316-260-3240

CURRICULUM VITA

A. RESEARCH AND PROFESSIONAL APPOINTMENTS (AFTER PhD)

Wichita State University, Wichita, Kansas
Department of Industrial, Systems and Manufacturing Engineering

2019 - present	**Associate Professor**
2016 - present	**Director, Advanced Manufacturing Processes Laboratory**
2013 - 2019	**Assistant Professor**

Spirit AeroSystems, Wichita, Kansas

June 2022 - present	**Contractor, sponsored by Spirit AeroSystems grant to WSU**
May - August 2022	**Guest Research Engineer, sponsored by WSU CofE**

National Institute of Standards and Technology, Gaithersburg, Maryland

May - August 2016	**Senior Research Engineer, on IPA assignment NIST/WSU**
July - August 2014	**Senior Research Engineer, on IPA assignment NIST/WSU**

Pontificia Universidad Católica Madre y Maestra, Santiago, Dominican Republic
Department of Electro-Mechanical Engineering

2011 - 2013	**Assistant Professor of Electro-Mechanical Engineering**

Purdue University, West Lafayette, Indiana
School of Industrial Engineering

2008 - 2011	**Post-Doctoral Research Associate, Industrial Engineering**

M4 Sciences LLC, West Lafayette, Indiana

2008 - 2011	**Research and Development Engineer**

B. EDUCATION

Pontificia Universidad Católica Madre y Maestra	Dominican Republic	Industrial Engineering Magna Cum Laude	BSIE	1996
Purdue University	West Lafayette, IN	Industrial Engineering	MSIE	2003
Purdue University	West Lafayette, IN	Mechanical Engineering	MSE	2008
Purdue University	West Lafayette, IN	Industrial Engineering	PhD	2008

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CURRICULUM VITA

C. RECENT PROFESSIONAL DEVELOPMENT

In Progress:

1. Accepted as participant, Faculty Training Workshop, Understanding our Students and Exploring Servingness through Pedagogy, to be delivered by Dr. Alexandra Strong and Dr. Meagan Kendall at Wichita State University, May 23-24, 2024, Wichita State University.

2. Participant, Dassault Systems (DS) – 3D Experience (3DX), weekly training provided by DS Academic Program on the use of the 3DX software, 2018 - present.

Completed:

3. Participant, Kern Entrepreneurial Engineering Network (KEEN) National Conference and EUFDX, Austin, Texas, February 2024.

4. Mentee, KEEN Mentorship 360-WSU Subaward Grant, Spring 2023 and Fall 2023.

5. Participant, FANUC Certified Education Robot Training, FANUC America, Rochester Hills, Michigan, 2018.

6. Participant, Integrating Curriculum with Entrepreneurial-Mindset (ICE) Workshop. KEEN Foundation, Salt Lake City, Utah, 2016.

D. RECOGNITION AND AWARDS

While at WSU:

1. **Wallace Excellence in Teaching Award** ($1,000), College of Engineering, Wichita State University, Wichita, Kansas, 2020.

2. **Invited Member of the Academy of Sciences of the Dominican Republic**, Santo Domingo, Dominican Republic, 2018 - present.

While Holding other Appointments:

3. Indiana State Winner, Clean Energy Challenge ($10,000), with M. Efe, D. Sagapuram and B. Kalb, Illinois, 2012.

4. R&D 100 Award, with J. B. Mann, C. Saldana, W. D. Compton and S. Chandrasekar, Florida, 2010.

5. LASPAU-Fulbright Scholarship, US Department of State, Washington D.C., 2001 - 2003.

6. Graduate Ross Fellowship, Purdue University, Indiana, 2003 - 2004.

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CURRICULUM VITA

E. FUNDED RESEARCH AT WSU

FROM EXTERNAL FUNDS

1. As PI:

Brief Project Description	Dates	Agency	Total/My share
Digital Manufacturing Prognosis	2023-date	Spirit AeroSystems	$100,000/$100,000
Dynamic Behavior of Al6061-T6	2019-2019	NIST	$5,000/ $2,500
Inspection Automation	2018-2018	Case New Holland Industrial	$7,500/ $7,500
NIST/WSU IPA	2016-2016	NIST	$33,825/ $33,825
NIST/WSU IPA	2014-2014	NIST	$9,482/ $9,482
Sub-Total			$155,807/$153,307

2. As co-PI:

Brief Project Description	Dates	Agency	Total/My share
Extreme-Response Additive Materials	2016-2020	DOE/NNSA/SSAA	$497,593/$248,797
Measurement of Metal Cutting Forces	2016-2016	LimitState, Ltd	$9,161/ $4,581
Sub-Total			$506,754/$253,378
Total			$662,561/$406,685,

FROM INTERNAL FUNDS

3. As PI:

Brief Project Description	Dates	Agency	Total/My share
Faculty Industry Internship	2022-2022	WSU CofE	$10,000/ $10,000
Energy Efficient Manufacturing	2014-2015	WSU URCA	$4,500/ $4,500
Total			$14,500/ $14,500
Grand Total			$677,061/$421,185

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CURRICULUM VITA

F. PUBLICATIONS

My publications have received a total of 911 citations, 421 of which have been recorded since 2019, according to Google Scholar https://scholar.google.com/citations?hl=en&user=2dt8EuAAAAAJ&view_op=list_works Additional publications details are given below.

Google Scholar Citations and Rating

	All	Since 2019
Citations	911	421
h-index	16	12
i10-index	19	14

IN JOURNALS (* DESIGNATES STUDENT CO-AUTHOR)

Under Review:

1. Lopez-Hawa, H.*, **Moscoso-Kingsley, W.**, in review at the ***International Journal of Mechanical Sciences***, "High-Resolution Finite Element Analysis of Thermoplastic Instabilities in Machining of Ti-6Al-4V."

Accepted for Publication:

2. Pandey, A.*, Madhavan, V., **Moscoso-Kingsley, W.**, accepted as a fast-track publication by the editorial board of the ***Journal of Manufacturing Processes***, expected to appear in June 2024, "Photoelastic Measurement of Tool Stress Distribution when Machining Al-7075-T6 under Dynamic Conditions Produced by Shear Banding."

Published:

3. Lee, X.Y.*, **Moscoso-Kingsley, W.**, 2024, "Evaluation of a Hybrid Cold Spray and Machining Method for Fabrication of Parts with High Surface Integrity," ***Journal of Management and Engineering Integration***, Vol. 16, No. 2, pp. 6-13.

4. O.M., Nassar*, **Moscoso-Kingsley, W.** 2020, "A Study of the Effect of Vibration on Accuracy of 3D-Printed Parts via Vat Photopolymerization," ***Journal of Management and Engineering Integration***, Vol. 13 No. 1, pp. 140-152.

5. Heigel, J.C., Whitenton, E., Lane, B., Donmez, M.A., Madhavan, V., **Moscoso-Kingsley, W.**, 2017, "Infrared Measurement of the Temperature at the Tool-Chip Interface While Machining Ti-6Al-4V," ***Journal of Materials Processing Technology***, Vol. 243, pp. 123-130.
6. Sagapuram, D.*, Efe, M., **Moscoso, W.**, Chandrasekar, S., Trumble, K.P., 2013, "Controlling Texture in Magnesium Alloy Sheet by Shear-based Deformation Processing," ***Acta Materialia***, Vol. 61, pp. 6843-6856.

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7. Efe, M., Moscoso, W., Trumble, K.P., Compton, W.D., Chandrasekar, S., 2012, "Mechanics of Large Strain Extrusion Machining and Application to Deformation Processing of Magnesium Alloys," ***Acta Materialia***, Vol. 60, pp. 2031-2042.

8. Guo, Y., Efe, M., **Moscoso, W.**, Sagapuram, D., Trumble, K.P., Chandrasekar, S., 2012, "Deformation Field in Large Strain Extrusion Machining and Implications for Deformation Processing," ***Scripta Materialia***, Vol. 66[5], pp. 235-238.

9. Sagapuram, D., Efe, M., **Moscoso, W.**, Trumble, K.P., Chandrasekar, S., 2011, "Deformation Temperature Effects on Microstructure and Texture Evolution in High Strain Rate Extrusion Machining of Mg-AZ31B," ***Materials Science Forum***, Vol 702-703, pp. 52-55.

10. Saldana, C.J., Swaminathan, S., Brown, T.L., **Moscoso, W.**, Mann, J.B., Compton, W.D., Chandrasekar, S., 2010, "Unusual Applications of Machining: Controlled Nanostructuring of Materials and Surfaces," **ASME** ***Journal of Manufacturing Science and Engineering***, Vol. 132[3].

11. Iglesias, P., Bermudez, M.D., **Moscoso, W.**, Chandrasekar, S., 2010, "Influence of processing parameters on wear resistance of nanostructured OFHC copper manufactured by large strain extrusion machining," ***Wear***, Vol. 268 [1-2], pp. 178-184.

12. Saldana, C., Yang, P., Mann, J.B., **Moscoso, W.**, Gill, D.D., Chandrasekar, S., Trumble, K.P., 2009, "Micro-scale Components from High Strength Nanostructured Alloys," ***Materials Science and Engineering A***, Vol. 503[1-2], pp. 172-175.

13. Mann, J.B., Saldana, C.J., **Moscoso, W.**, Compton, W.D., Chandrasekar, S., 2009, "Effect of Controlled Modulation on Interface Tribology and Deformation in Machining," ***Tribology Letters***, Vol 35, pp. 221-227.

14. Iglesias, P., **Moscoso, W.**, Mann, J.B., Saldana, C.J., Shankar, M.R., Chandrasekar, S., Compton. W.D., Trumble, K.P., 2008, "Production Analysis of New Machining Based Deformation Processes for Nanostructured Materials," ***International Journal of Material Forming***, Vol. 1[1], pp. 459-462.

15. Sevier, M., Yang, H.T.Y., **Moscoso, W.**, Chandrasekar, S., 2008, "Analysis of Severe Plastic Deformation by Large Strain Extrusion Machining," ***Metallurgical and Materials Transactions A***, Vol. 39[11], pp. 2645-2655.

16. **Moscoso, W.**, Shankar, R., Compton, W.D., Chandrasekar, S., 2007, "Bulk Nanostructured Materials by Large Strain Extrusion Machining," ***Journal of Materials Research***, Vol. 22[1], pp. 201-205.

17. Iglesias, P., Bermudez, M.D., **Moscoso, W.**, Rao, B.C., Shankar, M.R., Chandrasekar, S., 2007, "Friction and Wear of Nanostructured Metals Created By Large Strain Extrusion Machining," ***Wear***, Vol. 263, pp. 636-642.

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18. **Moscoso, W.**, Olgun, E., Compton, W.D., Chandrasekar, S., 2005, "Effect of Low-Frequency Modulation on Lubrication of Chip-Tool Interface in Machining," ***Journal of Tribology***," Vol. 127[1], pp. 238-244.

IN BOOK CHAPTERS (* DESIGNATES STUDENT CO-AUTHOR)

19. Sagapuram, D.*, Efe, M., Moscoso, W., Chandrasekar, C., Trumble K.P., 2016, "Non-Basal Textures in Magnesium Alloy Strips Produced by Extrusion-Machining," book chapter in "***Essential Readings in Magnesium Technology***," editors S. N. Mathaudhu, A. A. Luo, N. R. Neelameggham, E. A. Nyberg and W. H. Sillekenspp, The Minerals, Metals and Materials Series, Springer, Switzerland, pp. 395-399.

20. Mann, J.B., Chandrasekar, S., Compton, W.D., Trumble, K.P., Saldana, C.J., Swaminathan, S., **Moscoso, W.**, Murthy, T.G., 2011, "Severe Plastic Deformation and Production of Nanostructured Alloys by Machining," book chapter in "***Nanostructured Metals and Alloys: Processing, Microstructures, Mechanical Properties and Applications***," editor S. H. Whang, *Woodhead Publishing*, Cambridge UK, pp. 178-210.

IN NEWSLETTERS (* DESIGNATES STUDENT CO-AUTHOR)

21. In 2019 Stewardship Science Academic Programs Annual, PI: Viswanathan Madhavan, Co-PI: W. Moscoso-Kingsley, Author: H. López-Hawa*, Extreme Condition Mechanical Testing of Additively Manufactured Materials Using Complementary Methods.

IN TECHNICAL PRIVATE LIBRARIES (* DESIGNATES STUDENT CO-AUTHOR)

22. W. D. Goheen, R. D. Towner*, W. Moscoso-Kingsley, "A Manual for In-Situ First Article Inspections," Filed within Spirit AeroSystems Technical Library, August 2022, pages 74.

IN CONFERENCE PROCEEDINGS (* DESIGNATES STUDENT CO-AUTHOR)

Accepted for Publication:

23. Lopez-Hawa, H.*, **Moscoso-Kingsley, W.**, Madhavan, V., accepted for publication in proceedings of the ***International Manufacturing Science and Engineering Conference (MSEC)***, "Brief Paper: Numerical Validation of Fin Cutting as Mechanical Test under Extreme Thermomechanical Conditions."

Published:

24. Goheen, W.D., Towner, R.D*, Moscoso-Kingsley, W., 2024 "On Machine Coordinate Measuring for In Situ Quality Control," ***Proceedings of the 2023 Industry, Engineering and Management Systems (IEMS) Conference***, pp. 24-33.

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25. Lopez-Hawa, H.*, Mates, S.P., **Moscoso-Kingsley, W**., & Madhavan, V., 2022, "On the Mechanical Response of Aluminum Alloy 6061-T6 under Extreme Strains and Strain Rates, and Rapid heating," *Proceedings of NAMRC*, ***Manufacturing Letters***, Vol. 33, pp. 292-301.

26. Bhavsar, P.*, **Moscoso-Kingsley, W.**, Madhavan, V., 2022, "High Frequency Cutting Force Measurement during Saw Tooth Chip Formation of Al-7075-T6 for Critical Flow Stress Estimation," *Proceedings of NAMRC,* ***Manufacturing Letters***, Vol. 33, pp. 479-488.

27. Lopez-Hawa, H.*, Madhavan, V., **Moscoso-Kingsley, W.**, 2022, "A Novel Method for Development of Constitutive Models Under Simultaneous Extreme Strains and Strain Rates," Proceedings of the Annual Conference on Experimental and Applied Mechanics, in ***Dynamic Behavior of Materials***, Vol. 1, pp 43–49.

28. Cui, C.*, Bhavsar, P.*, Lopez-Hawa, H.*, Madhavan, V., **Moscoso-Kingsley, W.**, 2020, "Comparison of Flow Stress of Aluminum Alloy 6061-T6 Obtained from Chip Pulling Orthogonal Cutting and Kolsky Bar Testing," *Proceedings of NAMRC,* ***Procedia Manufacturing***, Vol. 48, pp. 579-585.

29. Bhavsar, P.* Sharma, B., **Moscoso-Kingsley, W.**, Madhavan,V., 2020, "Detecting First Layer Bond Quality During FDM 3D Printing using a Discrete Wavelet Energy Approach," *Proceedings of NAMRC,* ***Procedia Manufacturing***, Vol. 48, pp. 716-724.

30. Mates, S., Lopez-Hawa, H.*, Moscoso-Kingsley, W. and Madhavan, V., 2020, Dynamic Flow Stress Measurements of 6061-T6 Aluminum under Rapid Heating for Machining Studies, ***Proceeding of the Society for Experimental Mechanics 2020 Annual Meeting***, Orlando, FL.

31. Bhavsar, P.*, Lopez-Hawa, H.*, Ananda-Kumar, R.K.*, Madhavan, V., **Moscoso-Kingsley, W.**, 2019, "Adiabatic Shear Banding Behavior of Additively Manufactured Superalloy IN 625," *Proceedings of NAMRC,* ***Procedia Manufacturing***, Vol. 34, pp. 722-730.

32. Mates S., Stoudt M., Jacob G., **Moscoso W.**, Madhavan V., 2019 "Dynamic Thermal Softening Behavior of Additive Materials for Hybrid Manufacturing," Proceedings of the Annual Conference on Experimental and Applied Mechanics, in ***Mechanics of Additive and Advanced Manufacturing***, pp 31–34.

33. Ananda-Kumar*, R.K., Lopez-Hawa*, H., **Moscoso-Kingsley, W.**, Madhavan, V., 2019, "The Flow Stress of AM IN 625 under Conditions of High Strain and Strain Rate," Proceedings of the Annual Conference on Experimental and Applied Mechanics, in ***Dynamic Behavior of Materials,*** Vol 1, pp. 121-126.

34. Ananda-Kumar, R.K.*, **Moscoso-Kingsley, W.**, Jacob, G., Donmez, A., Madhavan, V., 2018, "Machining Behavior of Additively Manufactured and Cast-Wrought Nickel-Based Superalloy (IN 625)," *Proceedings of NAMRC,* ***Procedia Manufacturing***, Vol. 26, pp. 595-606.

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Department of Industrial, Systems and Manufacturing Engineering
Wichita State University
1845 Fairmount St, Wichita, KS, 67260-0035
wilfredo.moscoso@wichita.edu, office 316-978-7612, cell 316-260-3240

35. Natarajan, A.*, Madhavan, V., **Moscoso-Kingsley, W.**, 2018, "Tool Temperature Distribution in Modulation-Assisted Machining," *Proceedings of NAMRC,* ***Procedia Manufacturing***, Vol. 26, pp. 656-662.

36. Garcia-Gonzalez, J.C.*, **Moscoso-Kingsley, W.**, Madhavan, V., 2016, "Rake Face Temperature when Machining with Coated Cutting Tools," ***Procedia Manufacturing***, Vol. 5, pp. 815-827.

37. Garcia-Gonzalez, J.C.*, **Moscoso-Kingsley, W.**, Madhavan, V., 2016, "Tool Rake Face Temperature Distribution When Machining Ti6Al4V and Inconel 718," ***Procedia Manufacturing***, Vol. 5, pp. 1369-1381.

38. **Moscoso-Kingsley, W.**, 2014, "Slip-Line Field Analysis of LSEM", ***Proceedings of NAMRI/SME***, Vol. 42.

39. Garcia-Gonzalez*, J.C., Sagapuram*, D., Efe, M., Chandrasekar, S. and **Moscoso-Kingsley, W.**, 2014, "Steel Strips Made Directly from Bulk Material by Large Strain Extrusion Machining", ***12th Latin American and Caribbean Conference for Engineering and Technology***, Guayaquil, Ecuador.

G. PATENTS AND PATENT DISCLOSURES (* DESIGNATES STUDENT CO-AUTHOR)

1. DISCLOSURE: **W. Moscoso-Kingsley**, V. Madhavan, H. Lopez-Hawa*, Pavan Bhavsar*, Mechanical Testing by Simple shear under a Wide Range of Thermomechanical Conditions. Disclosure filed December 2021.

2. PATENT: S. Chandrasekar, K. P. Trumble, **W. Moscoso**, M. Efe, D. Sagapuram, C. J. Saldana, J. B. Mann, W. D., Compton, Large Strain Extrusion Machining Processes and Bulk Forms Produced Therefrom, U.S. Patent # 9,687,895. **Issued June 2017.**

3. PATENT: J. B. Mann, C. J. Saldana, **W. Moscoso**, Control Systems and Methods for Machining Operations, U.S. Patent # 8,694,133. **Issued April 2014**.

4. PATENT: 3. J. B. Mann, M. R. Shankar, S. Chandrasekar, W. D. Compton, **W. Moscoso**, Machining Method to Controllably Produce Chips with Determinable Shapes and Sizes, U.S. Patent # 7,628,099. **Issued December 2009**.

5. PATENT: **W. Moscoso**, M. R. Shankar, J. B. Mann, S. Chandrasekar, W. D. Compton, Process of Producing Monolithic Bodies, U.S. Patent # 7,617,750. **Issued November 2009**.

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CURRICULUM VITA

H. NOTABLE (INVITED) SPEECHES[1]

1. Delivered the speech "Quality Fab Digital Prognostics," at the Inaugural Industrial Sponsors Day, Wichita State University, April 2024.

2. Delivered the speech "Introduction to Mentorship 360 in project-based manufacturing class," and served as panelist, Faculty Lunch and Learn Session and Symposium, sponsored by Kern Entrepreneurial Engineering Network (KEEN) Mentorship 360-WSU Subaward Grant, Wichita State University, October 2023.

3. Delivered the speech "Extreme Condition Mechanical Testing of AM Materials Using Complimentary Methods," Stewardship Science Academic Programs (SSAP), Rockville, MD, February 2018. Authors: Viswanathan Madhavan, Wilfredo Moscoso-Kingsley, Homar Lopez-Hawa, Changlong Cui, Rajesh Kumar Ananda-Kumar.

4. Delivered the speech "Extreme Condition Mechanical Testing of AM Materials Using Complimentary Methods," Stewardship Science Academic Programs (SSAP), Rockville, MD., February 2017. Authors: Viswanathan Madhavan, Wilfredo Moscoso-Kingsley, Homar Lopez-Hawa, Changlong Cui, Rajesh Kumar Ananda-Kumar.

5. Delivered the speech, "Mechanical Behavior of AM Materials under Extreme Conditions," National Institute of Standards and Technology (NIST), Gaithersburg, Maryland, June 2016.

6. Delivered the speech "Mechanical Behavior of AM Materials under Extreme Conditions," as part of PhD student recruitment for Wichita State University from the Pontificia Universidad Catolica Madre y Maestra, campuses in Santiago and Santo Domingo, Dominican Republic, June 2016.

7. Distinguished Guest Speaker, PROMISE, Maryland's AGEP, Summer Success Institute, University of Maryland, College Park, Maryland, August 2014.

8. Delivered the speech "The Effects of Tool Modulation on Friction at the Chip-Tool Contact in Machining," Escuela Superior Politécnica del Litoral, Guayaquil, Ecuador, July 2014.

9. Delivered the speech "Particle Image Velocimetry through Transparent Machining Tools – Possible Extensions to Friction Stir Processing," Center for Friction Stir Processing (CFSP), Salt Lake City, Utah, October 2013.

I. GRADUATE RESEARCH SUPERVISED AT WSU

Student Name	Level	My Role	Completion
Homar Lopez-Hawa	PhD	Advisor/Committee Sole Chair	Spring 2023

Dissertation Title: Development of a High Resolution Computational Model of Adiabatic Shear Banding in Machining
Funding: Approx. $15,000/year from 2017 to 2022 **($60,000 total)** in funding provided from my DOE/NNSA/SSAA, my NIST (Dynamic Behavior of Al6061-T6) and my Case New Holland grants.

[1] I have many more presentations of scholarship (oral and posters) either delivered by me, my colleagues, or my students. Available upon request.

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wilfredo.moscoso@wichita.edu, office 316-978-7612, cell 316-260-3240

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Special developments secured with advisor's funding: The student was placed as Guest Research Engineer, National Institute of Standards and Technology (NIST), Mechanical Performance Group, Summer 2019.

Pavan Bhavsar PhD co-Advisor Summer 2023
Dissertation Title: High Bandwidth Cutting Force Measurement during the Cutting of a 7075-T6 and its Application to Measure the Evolution of Flow Stress within Developing Shear Bands

Changlong Cui PhD co-Advisor Expected, Spring 2024
Dissertation Title: Dynamic Flow Stress Modeling and Measurement while Machining with Chip Pulling

Ridge D. Towner MS-Thesis Advisor/Committee Sole Chair Expected, Spring 2024
Thesis Title: CNC Machine Control for High Tolerance Production

Aditya Pandey MS-Thesis Main Advisor/Committee Chair Fall 2023
Thesis Title: A Study of Stress and Temperature Distribution on Tool Face while Cutting Materials Prone to Shar Banding
Funding: Partially funded from my DOE/NNSA/SSAA grant (**Approx. $5,000**).

Xuan Y. Lee MS-Thesis Advisor/Committee Sole Chair Spring 2023
Thesis Title: Evaluation of a Hybrid Cold-Spray and Machining Method for Computerized Fabrication of Parts with High Surface Integrity

Odai M. Nassar MS-Thesis Main Advisor/Committee Chair Spring 2020
Thesis Title: Study of the Effect of Vibration on Accuracy of 3DPrinted Parts via Vat Photopolymerization

Rajesh Ananda-Kumar MS-Thesis Main Advisor/Committee Chair Fall 2018
Thesis Title: A Study of the Machinability of Additively Manufactured Inconel 625
Funding Partially funded from my DOE/NNSA/SSAA and my LimitState grants (**Approx. $25,000**).

Arvind Natarajan MS-Thesis Main Advisor/Committee Chair Fall 2018
Thesis Title: A Study of Temperature Effects in Modulation-Assisted Machining
Funding Partially funded from my DOE/NNSA/SSAA grant (**Approx. $2,000**).

Jean Garcia-Gonzalez MS-Thesis Main Advisor/Committee Chair Fall 2015
Thesis Title: Tool Rake Face Temperature Distribution by Near Infrared Thermography, Industrial, Systems and Manufacturing Engineering
Funding: Partially funded from my faculty startup and my WSU URCA grant (**Approx. $40,000**).

Attampola Arachchige MS-Project Advisor/Committee Sole Chair Fall 2023
Project Title: A Systematic Overhaul of an Assembly Line to Enhance Efficiency, Capacity and Ergonomics

Arvind Murali MS-Project Advisor/Committee Sole Chair Spring 2022
Project Title: Implementation of Lean Six Sigma Methodologies to Improve Productivity on Manufacturing Assembly Lines

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J. UNDERGRADUATE RESEARCH SUPERVISED AT WSU

Student Name	Project Sponsor	My Role	Project Dates
Jimmy Brasuell	CofE Summer Research Stipend	Faculty Advisor	Summer 23 - present

Funding: $4,000
Project title: Modeling Mechanical and Thermal Stability in Aircraft Manufacturing Tooling
Products: Pending completion.

Joshua Naval	CofE Summer Research Stipend	Faculty Advisor	Summer 17 - Spring 18

Funding: $3,620
Project title: Cryogenic Machining for Aerospace Manufacturing: Evaluation of Tool Temperature
Products: Presentations at 1) WSU CoE Open House and 2) the Undergraduate Research and Creative Activity Forum (URCAF), 3) Journal manuscript with graduate student collaborators.

Job Arredondo	SHPE Research Stipend	Faculty Advisor	Summer 15 - Spring 16

Funding: $4,950
Project title: Effects of Modulation/Cooling in Machining: Prelim. Design of a Modulation-Assisted Mach. Setup
Products: 1) Formal report to SHPE 2) Provided laboratory data that assisted a graduate student complete the design of a modulation-assisted machining setup.

Tyler McGinnis-Extine	CofE Summer Research Stipend	Faculty Advisor	Summer 14 - Spring 15

Funding: $3,840
Project title: Effect of dwell time and dwell length on friction coefficient in machining
Products: Presentations at 1) WSU CoE Open House, 2) the Undergraduate Research and Creative Activity Forum (URCAF) and, by invitation, 3) the Undergraduate Research Day at the Capitol, Topeka, Kansas.

K. UNDERGRADUATE STUDENTS ENROLLED IN HONORS COURSEWORK

Student Name	Course	My Role	Dates
Julia Buie	IME 222 and IME 222L	Instructor	Spring 22 - completed
Ayse Yildirim	IME 258	Instructor	Spring 23 - pending report
Harshit Awasthi	IME 258 and IME 222L	Instructor	Fall 23 - pending report

L. COURSES DEVELOPED/TAUGHT AT WSU

My teaching load for the first two of the last three years was at the unusually high level of **three (3) courses per regular semester + two (2) or three (3) summer courses**. This high teaching load has been necessary to cover demand in our crescent Product Design and Manufacturing Engineering undergraduate program and our graduate programs in Industrial Engineering, and to provide very valuable service to the College of Engineering, through my two largest courses, IME 222 and IME 258, which often see enrollment of 75 and 50 students per group, respectively. In recent semesters my department has hired additional instructors and my teaching load is coming back to the normal level of two (2) Fall courses and two (2) Spring courses.

Wilfredo Moscoso-Kingsley, PhD
Associate Professor
Department of Industrial, Systems and Manufacturing Engineering
Wichita State University
1845 Fairmount St, Wichita, KS, 67260-0035
wilfredo.moscoso@wichita.edu, office 316-978-7612, cell 316-260-3240

CURRICULUM VITA

I consistently rank "very good" to "high" on my Student Perception of Teaching Effectiveness (SPTE) and rank similarly in the recently adopted Course Evaluation & Surveys (CES). I also hold the **Wallace Excellence in Teaching Award** 2020.

I also have a rating of 5.0/5.0 with 99% would take again and a 3.0 level of difficulty, after 137 reviews at Rate My Professors: https://www.ratemyprofessors.com/professor/1960927

A breakdown of my teaching load per semester follows below.

Course/Credits	**My Role**	**Approximate Enrollment per Group**
IME 222-Engineering Graphics/2	Instructor/Developer	75
IME 222L-Engineering Graphics Lab/1	Coordinator/Developer	Not applicable
IME 258-Manuf. Methods and Materials I/3	Instructor	50
IME 258L-Manuf. Methods and Mtrls. I Lab/1	Coordinator	12
IME 425-Kinematic and Dynamic Design/3	**New Course Developer**/Instr.	20
IME 558-Manuf. Methods and Materials II/4	Instructor/Developer	25
IME 558L-Manuf. Methods and Mtrls. II Lab/0	Instructor/Developer	12
IME 676-Aircraft Manuf. and Assembly/3	Instructor/Developer	24
IME 775-Computer Integrated Manuf./3	**New Course Developer**/Instr.	30
IME 960M – Advanced Topics in CIM/3	**New Course Developer**/Instr.	1
IME 777-Graduate Colloquium/0	Coordinator/Instructor	100

Course Load Per Semester. Last three (3) years of eleven (11) years of experience teaching at WSU.

Semester	**#**	**Course Name**	**Credit Hours**	**Contact Hours per week**	**Content/Delivery**
Summer 2021	1	IME 258 - Manufacturing Methods and Materials I	3	3	Lecture and Lab
	2	IME 676 - Aircraft Manufacturing and Assembly	3	3	Lecture and Lab
	3	IME 775 - Computer Integrated Manufacturing	3	3	Lecture and Lab
Fall 2021	1	IME 425 - Kinematic and Dynamic Design	3	3	Lecture and Lab
	2	IME 222 - Engineering Graphics – group 1	2	2	Lecture
	3	IME 222 - Engineering Graphics – group 2	2	2	Lecture
Spring 2022	1	IME 558 - Manufacturing Methods and Materials II	4	3	Lecture and Lab
	2	IME 558L - Manufacturing Methods and Materials II L – group 1	0	3	Lab
	3	IME 558L - Manufacturing Methods and Materials II L – group 2	0	3	Lab
	4	IME 222 Engineering Graphics – group 1 (**regular and honors versions**)	2	2	Lecture
	5	IME 222 - Engineering Graphics – group 2	2	2	Lecture

Summer 2022	1	IME 258 - Manufacturing Methods and Materials I	4	3	Lecture and Lab
	2	IME 676 - Aircraft Manufacturing and Assembly	3	3	Lecture and Lab
Fall 2022	1	IME 425 - Kinematic and Dynamic Design	3	3	Lecture and Lab
	2	IME 775 - Computer Integrated Manufacturing	3	3	Lecture and Lab
	3	IME 960M - Advanced Topics in Computer Integrated Manufacturing	3	1	Lecture and Lab
Spring 2023	1	IME 258 - Manufacturing Methods and Materials I (**regular and Honors versions**)	3	3	Lecture and Lab
	2	IME 558 - Manufacturing Methods and Materials II	4	3	Lecture and Lab
	3	IME 558L - Manufacturing Methods and Materials II L – group 1	0	3	Lab
	4	IME 558L - Manufacturing Methods and Materials II L – group 2	0	3	Lab
	5	IME 222 - Engineering Graphics	2	2	Lecture
Summer 2023	1	IME 258 - Manufacturing Methods and Materials I	3	3	Lecture and Lab
	2	IME 676 - Aircraft Manufacturing and Assembly	3	3	Lecture and Lab
Fall 2023	1	IME 425 - Kinematic and Dynamic Design	3	3	Lecture and Lab
	2	IME 258 - Manufacturing Methods and Materials I (**regular and Honors versions**)	4	3	Lecture and Lab
	3	IME 777 – Graduate Colloquium	0	0	Seminar/Invited Guest Speakers/Graded Students
Spring 2024	1	IME 258 - Manufacturing Methods and Materials I	3	3	Lecture and Lab
	2	IME 558 - Manufacturing Methods and Materials II	4	3	Lecture and Lab
	3	IME 558L - Manufacturing Methods and Materials II L – group 1	0	3	Lab
	4	IME 558L - Manufacturing Methods and Materials II L – group 2	0	3	Lab

M. NOTABLE SYNERGISTIC ACTIVITIES

In Progress:

1. **Currently forming a student "3D Experience Club" at Wichita State University**. The club is expected to function as a hub to foster engineering research and industry funded projects to be driven by students of Wichita State University. Funding from the Dassault Systemes Foundation are being requested to help form the club and start student-led projects. The club is expected to be formally formed in Fall 2024. A first meeting has been held with students who showed interest.

2. **Coordinating "3D Experience" training sessions for engineering faculty of Wichita State University**. We hold weekly meetings with faculty on Thursday mornings, Fall 2023 to present.

3. **Member: Society of Manufacturing Engineers**, 2013 to present.

Completed:

4. **Organized the 3D Experience Seminar and Workshop for students and faculty**, Wichita State University, Spring 2024.

5. **Gave a speech to faculty at Wichita State University, sharing applications of my adoption of KEEN Entrepreneurial-Mindset learning in my IME 558 - Manufacturing Methods and Materials II course**, Wichita State University, Fall 2023.

N. SERVICE

In Progress:

1. Proceedings Editor, Conference Proceedings, Industry, Engineering and Management Systems (IEMS) Conference, 2023 to present.

2. Track Chair, Complex Systems Performance and Improvement, Industry, Engineering and Management Systems (IEMS) Conference, 2023 to present.

3. Track Chair, Manufacturing Science and Engineering Conference (MSEC), 2024 to present.

4. Member of the Faculty Senate, Wichita State University, Wichita, Kansas, 2023-present.

5. Chair, Faculty Search Committees formed for recruitment of an Assistant Professor of Industrial Engineering for academic years 2019-2020, 2021-2022 and 2023-2024, Wichita State University, Wichita, Kansas.

6. Member of the T&P Committee of the Department of Industrial, Systems and Manufacturing Engineering, Wichita State University, Wichita, Kansas, 2020-present.

7. Member: Awards Committee of the Department of Industrial, Systems and Manufacturing Engineering, Wichita State University, 2017 to present.

Completed:

8. Member, Dorothy and Bill Cohen Honor College scholarship committees: McGregor Scholarship Committee 2022-2023 and 2023-2024 and Koch Scholarship Committee 2015-2016 and 2016-2017, Wichita State University, Wichita, Kansas.

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9. Member of the Tenure & Promotion (T&P) Committee of the College of Engineering, Wichita State University, Wichita, Kansas, 2023-2024.

10. Judge, Wallace Invitational for Scholarship in Engineering – Group Design Activity Competition, Fall 2022, Wichita State University, Wichita, Kansas.

11. Chair: College of Engineering Awards Committee, Wichita State University, 2021.

12. Member: College of Engineering Awards Committee, Wichita State University, 2017 to 2021.

13. Chair: Awards Committee of the Department of Industrial, Systems and Manufacturing Engineering, Wichita State University, 2017 to 2021.

14. Member, Committee for Master of Science in Materials Science and Engineering, 2019-2020, Wichita State University, Wichita, Kansas.

15. Member, Committee for Certificate in Additive Manufacturing, 2019-2020, Wichita State University, Wichita, Kansas.

16. Faculty Advisor, WSU SME Student Chapter, Wichita State University, Wichita, Kansas, 2013-2021.

17. Coordinator on behalf of the Department of ISME: College of Engineering Open House, Wichita State University, 2013 to 2017.

18. Volunteer Panelist/Reviewer for the NSF-CMMI-MME, 2015 and 2016.

19. Track Chair: North American Manufacturing Research Conference (NAMRC), 2014 and 2016.

20. Liaison, Latin American & Caribbean Consortium of Engineering Institutions/WSU, Wichita State University, Wichita, Kansas, 2014.