

Columbia Mishra, Ph.D.

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Executive Summary

Experienced engineering leader with over 17 years' track record in systems engineering, thermal-fluids, and program management across diverse industries including space, semiconductors, consumer electronics, automotive, manufacturing, and oil & gas industries. American Society of Mechanical Engineers - ASME Fellow and strategic overseer, currently managing 36 Technical Divisions and a \$30 million budget for emerging technologies. Volunteer with ASME Student and Early Career Development Council (SECD) implementing initiatives to broaden STEM engagement and outreach. Technology leader in the space industry overseeing the full technical development of four different commercial satellite programs over \$800 million with experiences on multiple space programs including NASA's Artemis Mission to the Moon and proliferated low Earth orbit satellites. Founded and led a 60+ engineer technology development group at Intel, emphasizing market-ready solutions. Deep knowledge of thermal fluids systems, computational fluid dynamics (CFD), numerical modeling, consumer electronics and spacecraft engineering with research published in journals such as Nature Materials, Journal of Fluid Mechanics and 6 patents pending, 2 granted for innovation in thermal architecture and innovation in electronic systems. Advocate for technology policies with members of the U.S. Congress through ASME, and as co-founder of non-profit Global Space Industry Trade Association (GSITA), a continuation of advocacy work as the first international graduate student body President of UT Austin. Eager to bring this expertise to an engineering leadership role contributing to strategic growth and innovation.

Education

Ph.D. in Mechanical Engineering, Thermal Fluid Systems, The University of Texas at Austin
Dissertation: "Volume Averaged Phonon Boltzmann Transport Equation for Simulation of Heat Transport in Composites"
Advisor: Prof. Jayathi Y. Murthy

Master's in Mechanical Engineering, Texas Tech University
Thesis: "Efficient Analysis of General Creeping Motion of a Sphere inside a Cylinder"

Bachelor of Mechanical Engineering, Jadavpur University, Kolkata, India

Skills

Leadership: Project Management, Program Management, Organizational Leadership, Stakeholder Management, Conflict Management, Public Speaking, Fundraising, Leading through ambiguity ♦ **CFD/Thermal-Power Modeling:** Thermal Desktop, Icepak, FloTHERM, FLUENT, CFX, Thermal modeling, Numerical Models, PowerSI, PowerDC, Allegro, ANSYS Workbench, Nanoscale thermals ♦ **Languages:** C++, Python, MATLAB ♦ **Tools:** JMP, STK, SolidWorks, CREO ♦ ABAQUS, JAMA, Jira, Teamcenter, Agile Software Management, Proposal Writing, Mission Operations, Technical budgets

Experience

Maxar Space Systems, Systems Engineering and Program Manager, Palo Alto, California, 2020- Present

Technical leader overseeing the full technical development of four commercial satellite programs >\$800 million

Sirius XM 9, 10, 11, 12, Geo-communication Commercial Satellite Program

- Lead the multidisciplinary program systems engineering team with cradle-to-grave ownership of mission success including system safety and reliability, own system level development tradeoffs - full spacecraft development
- Interface as the primary technical contact for customer and address customer technical concerns
- As a technical leader, make the people on the team successful, leading by example - directing subordinates on technical matters and managing up to company leadership on resource allocation
- Own the program technical scope defining, managing, and communicating the technical baseline across program and all stakeholders
- Lead development teams through complex technical issue resolution efforts and risk management using the principles of risk classification

- Coordinate and project manage with the internal sub-system and payload teams to ensure balance between technical performance, cost, schedule, and risks
- Manage technical budgets, system margins and implementing improvements in systems engineering processes
- Cost Account Manager for ~\$400 million program develop and maintain an accurate time-phased forecast for multiple programs working intimately with budget and finance teams
- Performs a full range of supervisory duties which includes assigning and evaluating work; recommending personnel actions, and identifying training needs and developing employees.
- Fostered a collaborative and safe environment for the program team to be able to escalate problems easily and maintain high integrity in the designed space systems to achieve the highest standards in safety and practice ethical engineering

Proliferated Low Earth Orbit Spacecrafts, Internal Research & Development

- Systems lead for developing the next generation low earth orbit spacecrafts with high compute capabilities
- Supervised a team of 6 systems engineers, coordinating systems engineering development efforts for core avionics software development on schedule for software-in-loop (SIL) and hardware in loop (HIL)
- Assigned technical responsibilities, performed evaluations, delivered orientation and training to new team members
- Own platform level requirements including writing and lead decomposition efforts
- Developed the software requirements for both flight software and board software/firmware
- Created Interface Control Document for hardware to software and inter-software applications
- Created verification matrix and develop test, verification, and validation plans along with test procedures
- Created an inclusive environment for diverse team members and implemented strategies to engage remote employees be better integrated with the rest of the team

Power & Propulsion Element, Artemis, NASA Program

- Thermal lead for architecting spacecraft design for NASA's lunar Mission Artemis 2026 - Full thermal System integration of the PPE spacecraft: Responsible for thermal dissipations, thermal design, and architecture
- Provided guidance towards radiation analysis for NASA's PPE spacecraft, including modeling heat pipes, and appropriate boundary conditions for several dissipation units
- Modeled the lunar environment for the computational analysis of several components and full spacecraft model

Intel Corporation, Chair, Technology Development & Senior Thermal Engineer, Hillsboro, Oregon, 2016 - 2020

Technology Development & Pathfinding

- Founded the Technology Development Group for the Client Computing (CCG) Business Unit at Intel where I led a group of 60+ engineers through the innovation process and managed a portfolio of 20+ technology development projects with a focus on market readiness. We maintained a pipeline for technology to intercept the Intel Roadmap. Successfully mapped 10 innovation ideas to upcoming products responsible for CCG's \$7.7 billion revenue
- Implemented multiple new technologies and influenced multiple teams to bring innovation to client products on roadmap enabling performance gain for higher power mode for multi-die package architectures
- Owned plans on innovation pipeline projects and supported multiple computational fluid dynamics (CFD), numerical modeling innovation concepts and implementation.

Inventor & Chief Architect, Adaptive Thermal and Acoustics for intelligent systems, Intel Corporation (2018-2020)

- Invented the Adaptive Thermal and Acoustics for intelligent systems and led the idea to product in collaboration with an interdisciplinary team for the consumer market. As the lead inventor and project leader, I worked across the company with thermal, electrical, silicon design, developing prototypes meant for scaling to Intel's high volume manufacturing needs. I worked with the marketing team to get the technology adopted by Intel customers through changes in their manufacturing processes. My invention was launched as part of Intel's evo platform widely used by Samsung, Dell and other personal computer ODMs.

Intel Roadmap Support: Deliver thermal solutions for key Intel products using future nodes on 7/10/14nm

- Thermal architect for high-speed input-output IP influencing floor planning, Silicon on Chip (SoC) design for low and high-power mobile devices and desktops. Interface with power and performance, electrical, and PCB teams
- Transient thermal modeling for silicon die, semiconductor package including stacked geometries
- Developed full System computational fluid dynamics (CFD) modeling for active and passive systems in client products for tablets, passive and detachable systems, laptops in mainstream and high-performance market segments

- Integrated CFD analysis, fluid-structure interaction and multi-physics code algorithm development
- Designed experimental setup and data acquisition system to collect thermal solution performance test data
- Chair, Client Customer Focus Group to align customer interactions, priorities and identifying engineering collaterals
- Provided technical leadership to improve predictive capabilities of the CFD solver framework for chip design
- Led multiple working groups and task forces within the organization, inter-organizational stakeholder management

Resolution Enhancement Technology Design, Computational Lithography for Chip Manufacturing

- Delivered test masks, test patterns, sampling strategies, process models, defect detection strategies
- Developed Optical Proximity Correction (OPC) algorithms to perform layout correction for masks for 14nm and 10nm process nodes for metal interconnects
- Integrated multi-physics code algorithm for computational photolithography numerical models development
- Provided feedback to external teams on process capabilities to optimize design rules

American Society of Mechanical Engineers (ASME), Fellow and Volunteer, 2007- Present

Member-at-Large, Technical & Engineering Communities

- Council Member-At-large, Work with the TEC Vice President in developing and implementing long-term planning, key strategies, and growth in accordance with the professional and financial goals of ASME
- Oversee 36 Technical Divisions, 8+ technology groups, 7 conferences and all ASME journals
- Oversee **\$30 million** of technology divisions and group budget funding emerging technologies
- Identify and implement long-term planning towards ASME's strategic vision and financial goals
- Foster industry, academia, and government agency technical collaboration and exchange to further innovation in emerging technology areas including in the field of fluid mechanics, heat transfer, space technology

Conference Technical Program Chair, Summer Heat Transfer Conference (SHTC), ASME, 2020

- Lead the peer review process for over 250 papers and technical presentations
- Organized Students and Early Career Opportunities Panel with panelists from industry, academia, national labs

Heat Transfer Division, American Society of Mechanical Engineers (ASME), 2016 - Present

- Member, K-2 Long-Range Planning Committee
- Member, K-23 Diversity, Equity & Inclusion Committee
- Member, K-20 Computational Heat Transfer Committee

Early Career Leadership Program to Serve Engineering (ECLIPSE), ASME, 2019-2020

- One of the 10 high-potential early career engineers selected across globe to serve engineering
- Engage with the members of the United States Congress to advocate for innovation and technology policies

Student and Early Career Development Council, ASME, 2020-Present

- Team Lead, Employer Value Team, Early Career Engineer and Programming Committee, 2020-2021
- Member-At-Large, Student and Early Career Development, 2020-Present

Global Space Industry Trade Association (GSITA), Co-founder & Chief Technology Officer, July 2023 – Present

- GSITA is a non-profit to support underrepresented communities in the space industry
- Founding member advocating to advance and protect space workers. Operate and maintain an active clearinghouse of information and resources offered by members and relevant government leadership
- Foster a positive culture within the space industry that embraces diversity, equity and inclusion globally

Society for the Advancement of Material and Process Engineering (SAMPE), Board Member, CTO Technology Advisory Council, 2021- 2022

- Industry Council to discuss industry opportunities and challenges in advanced materials and processes
- Advised CTO on technology prioritization of material advancement focus areas for the society

Qualcomm Innovation Fellow, The University of Texas at Austin August 2014 - August 2016

- Developed modeling theory and tools for non-equilibrium electro-thermal transport in microelectronics for semiconductor manufacturing applications using computational fluid mechanics (CFD) finite volume method (FVM)

Apple Inc., Hardware Engineer, Cupertino, California, May 2014 - August 2014

- Performed thermal analysis in printed circuit boards for thermally aware designs

- Developed workflow for electrical-thermal analysis in printed circuit boards involving multiple CFD tools, multi-physics computational tools for the hardware electrical engineering team
- Identified key tool improvements, communicated requirements to vendors resulting better analysis and integration

Stress Engineering Inc., Analyst, Houston, Texas, August 2008 – August 2009

- Researched in Marine Assurance Engineering, Riser Analysis and Mooring System Analysis, Finite Element Analysis
- Conducted analyses of floating oil and gas production systems in time and frequency domains with focus on risers
- Processed real time data from floating systems to interpret and predict behavior of floating systems

Makino Asia Pte Ltd, Research & Development Engineer, Singapore, May 2008 – August 2008

- Successfully resolved technical complications in Makino's S33 CNC milling machine design critical to the production of high-precision aerospace components
- Performed analysis of thermal expansion in ball screw of S33 machines
- Designed and conducted experiments on milling machines for validation with surface finish in final products

Tata Motors, Intern, Jamshedpur, India, Summer 2005

- Conceptualized new Cylinder Head Line for quality and capacity enhancement
- Designed inspection fixture and gauges to check position of critical bores on Cylinder Head Cover Face

Awards And Recognition

- Fellow, American Society of Mechanical Engineers (ASME), 2023
- Emerging Leader Award, Society of Women Engineers (SWE), 2023
- Inducted to the Mechanical Engineering Academy of Distinguished Alumni at The University of Texas at Austin, 2022
- Lakshmi Singh Early Career Leadership Award, American Society of Mechanical Engineers, 2020
- Patent Recognition Award, Society of Women Engineers (SWE), 2023
- Outstanding Young Mechanical Engineer, Academy of Distinguished Alumni The University of Texas at Austin, 2022
- Department Recognition Award, Intel Corporation for "Designing Meteor Lake MTL thermal throttling behavior, and designing SW based solutions that allowed minimal impact to Hardware", 2020
- Qualcomm Innovation Challenge Fellow, "Non-Equilibrium Electro-Thermal Transport in Microelectronics", 2014
- Cockrell School of Engineering Student Leadership Award 2012, The University of Texas at Austin
- Global Beauty Awards, Pageant Oscars, "Best in Science" for Promoting Science & Technology Education, 2021
- Second Place, District level, Toastmasters International Speech Contest, 2021
- Best Poster Award, Graduate and Industry Networking, The University of Texas at Austin, 2016
- Warren A. and Alice L. Meyer Endowed Scholarship in Engineering from Cockrell School of Engineering, 2011
- The Bruce J. Heim Foundation Scholarship 2007, from ASME

Patents

- C. Mishra, C. Ruiz, J. Hermerding, S. Soe, N. Singh, H. Cao, "Apparatus and Methods for Thermal Management of Electronic User Devices", Patent US AC6412-US, 2019
- J. Paavola, M. Makinen, C. Mishra, M. Carbone, "Torsional Heat Pipe"; Patent: US PCT/16/370,918
- A. Chattopadhyay, B. Qiu, C. Mishra, C. Ruiz, et al, "Methods, apparatus, and systems to dynamically schedule workloads among compute resources based on temperature", US AC6089, 2020
- J. Paavola, M. Makinen, C. Mishra, R. Cardenas, "Light and small passive active combination cooling for low power devices", US AC7758, 2020
- J. Paavola, C. Mishra, J. Huttula, M. Carbone, "Cavity Surface Heat Pipe Design for Improved Thermal Performance in Cold Plate Interface", US AD2844-US, 2020
- C. Mishra et al, Cooling Systems, cooling structures and electronic devices and methods for manufacturing or operating cooling systems, US-20230337406-A1, 2020

Academic Experience

Graduate Researcher, Mechanical Engineering Department, The University of Texas at Austin, 2009 – 2016

- Modeled multiscale transport for thermal management and energy storage applications addressing sub-continuum
- Analyzed fluid structure interaction in MEMS devices for continuum to rarefied regime
- Researched nanoscale heat transport and thermal management for engineering systems using graphene and ultrathin graphite

Graduate Researcher, Mechanical Engineering Department, Texas Tech University, 2006 – 2008

- Developed general theory for Stokesian particulate flow inside cylindrical micro-channel

Project Assistant, Engineering Mechanics Unit, Jawaharlal Nehru Centre for Advanced Scientific Research, India, 2005

- Performed analytical research on flow of granular material in vibrated bed

Undergraduate Researcher, Mechanical Engineering Department, Jadavpur University, India, 2004 – 2006

- Investigated fin performance and optimization for multiple geometries under different wet conditions, using analytical and numerical heat and mass transfer

Teaching Experience

Graduate Teaching Assistant, UGS 302-Entrepreneurship, the University of Texas at Austin, Spring 2015

- Mentor students, prepare exams, provide feedback on startup pitches, market survey and final research paper
- Coordinated syllabus, guest entrepreneurs and helped faculty to manage the course

Head Teaching Assistant, ME 139L, Experimental Heat Transfer, the University of Texas at Austin, 2011 –2012

- Taught a class of 30 students, coordinated the syllabus, distributed grades to the full class, supervised 5 TAs and lab set-ups
- Average Course Instructor Survey Score: 4.6/5.0

Teaching Assistant, ME 3370-Fluid Mechanics, Texas Tech University, August 2007- May 2008

Presented lectures to undergraduate Fluid Mechanics class, graded and held special sessions for problem-solving

Leadership & Community Service

Fundraising

- Fundraised over \$15,000 for child education projects (Association for India's Development), food for daily wage workers in India (Miss India Oregon), and for graduate student policies advocacy with US Congress (Student Advocates for Graduate Education) - 3 separate fundraisers

Industry Advisor, CMU Rocket Command Team, Carnegie Mellon University, 2021-Present

- Provide students with technical guidance on the rocket competitions
- Discuss industry trends with students and share industry opportunities
- Mentor student members in the club

Maxar Women's Leadership Board, 2022 – Present

- Support Maxar's employee resource group through organizing development opportunities
- Champion for a diverse work environment through implementing strategic initiatives to promote diversity, equity and inclusion within the company

President, Graduate Student Assembly, The University of Texas at Austin, 2013-2014

- Elected as chief executive officer for campus-wide organization, serving as official voice of the 13,000 graduate students on campus to university administration, UT System Board of Regents, City of Austin, Texas Legislature, advocated for graduate students at the United States Legislature.

President, Graduate Engineering Council, The University of Texas at Austin, 2011-2013 (2-terms)

- Elected to represent over 2000 graduate students to university administration and Senate of College Councils. Organized Graduate and Industry Networking in 2011 and 2012.

Student Services Budget Committee, Voting Member, The University of Texas at Austin, 2013-2014

- Regularly met with campus leaders to establish financial policy for UT Austin and manage more than \$40 million annual budget for student services such as health services.

President, Women in Mechanical Engineering & Engineering Technology, Texas Tech University, 2007-2008

- Organized mentoring sessions for graduate and undergraduate women students
- Organized social events to promote camaraderie amongst female engineers

Secretary, Engineers Without Borders (EWB), TTU Chapter, January 2007 - April 2008

- As a member of the Projects Committee visited Juarez, Mexico in 2007 to work on renewable energy source for an elderly village run by local non-profit organization

Reviewer

- Journal of Solar Energy Engineering
- Journal of Thermophysics and Heat Transfer
- Transactions on Components, Packaging and Manufacturing Technology
- Summer Heat Transfer Conference, 2017- Present
- International Mechanical Engineering Congress and Exposition (IMECE), 2017-Present
- Track Chair, Advancements in Industry, IMECE, 2024
- Topic Chair, Computational Heat Transfer, IMECE, 2017-2018
- Topic Chair, Computational Heat Transfer, K-20 Committee, ASME Summer Heat Transfer Conference (SHTC), 2018
- Session Chair, Mobile, Telecommunication Systems, and Internet of Things, ITherm 2018- Present
- Session Chair, Applications of Computational Heat Transfer, Summer Heat Transfer Conference (SHTC), 2017

Mentoring And Volunteering

- Mentor, Maxar Space Mentoring Program, Maxar Space Systems, 2023- Present
- Mentor, Junior Achievement Program, Maxar Technologies, 2021-Present
- Core Committee Member, EXTEND, Employee Resource Group promoting inclusion within Intel, 2018-2020
- Mentor, Mind Matters of Portland, Oregon, Prepare first generation high school students for college, 2016-2020
- Mentor, Student Engineers Educating Kids (SEEK), Mentored students in Garcia Middle School, Austi, Texas, and collaborated with middle school students to design experiments demonstrating physics concepts and applications, 2009-2013
- Mentor with the Central Texas Discover Engineering program by the ASME student chapter at The University of Texas at Austin at the Walnut Creek Elementary and Garcia Middle School, 2009-2012
- Volunteer with Explore UT organization for the Cockrell School of Engineering, 2009-2016
- Volunteer with "Introduce a Girl to Engineering Day", Women in Engineering Program, 2009-2016

Service on Other Committees

- Society of Women Engineers Awards & Recognition Committee, SWE PRISM Award, 2024
- Selection committee Member for Lockheed Martin Award for Excellence in Engineering Teaching, 2011-2012
- Committee for Dean's Award for Outstanding Engineering Teaching by an Assistant Professor, 2011-2012
- Selection committee Member for Cockrell School of Engineering Student Leadership Award, 2012-2013
- Committee Member for Vick Advising Awards by Texas Exes, 2012-2013

Activities

- Private Pilot (In Training)
- Vice President of Education, Superspace Toastmasters, 2022 - Present
- Area Director, District 4, Bay Area, Toastmasters, 2021-2022

- Pageants
 - Judge, International Junior Miss -IJM 2023
 - Miss Asia California Global 2021
 - Miss India Oregon 2020
 - Miss India Intellectual Washington & Oregon 2019
 - Finalist, Miss India Texas, 2008

LANGUAGE SKILLS

- Proficient in reading, writing, and speaking English, Bengali, Hindi

PROFESSIONAL AFFILIATIONS

- American Society of Mechanical Engineers ♦ Society for the Advancement of Material and Process Engineering ♦ Institute of Electrical and Electronics Engineers ♦ Toastmasters International ♦ Society of Women Engineers

Publications

Number of Citations - 1849

- “Enabling Technologies needed for Space-Based Robotic Manufacturing and Assembly”, Space Robotics Technology Group - ASME Roadmap Report, 2024
- S. Bhaduri, R. Lewis, I. Sen, C. Mishra, M. Mona, “Excellence, Belonging, and the American Dream: An Auto-ethnographic Reflection on Being International Women Engineers in the United States”, American Society of Engineering Education (ASEE) Annual Conference & Exposition, 2023
- C. Mishra, J. Loy, S. R. Mathur, J. Y. Murthy, “Volume Averaged Phonon Boltzmann Transport Equation for Non-Gray Heat Transport in Nanoporous Composites”, ASME International Mechanical Engineering Congress & Exposition 2016
- C. Mishra, J. Loy, S. R. Mathur, J. Y. Murthy, “Volume Averaged Phonon Boltzmann Transport Equation for Heat Transport”, ASME 2016 HT/FE/ICNMM Heat Transfer, Fluids Engineering, & Nanochannels, Microchannels, and Minichannels Conferences, 2016
- S. Chen, Q. Wu, C. Mishra, J. Kang, H. Zhang, K. Cho, W. Cai, A.A. Balandin, R.S. Ruoff, “Thermal Conductivity of Isotopically Modified Graphene”, Nature Materials, 11, 203-207, 2012
- A. Heltzel, C. Mishra, R.S. Ruoff, A Fleming, “Analysis of an Ultrathin Graphite-based Compact Heat Exchanger”, Heat Transfer Engineering, Vol. 33, 11, 2012
- S. Chen, A.L Moore, W. Cai, J.W. Suk, J. An, C. Mishra, C. Amos, C.W. Magnuson, J. Kang, L. Shi, R.S. Ruoff “Raman Measurements of Thermal Transport in Suspended Monolayer Graphene of Variable Sizes”, ACS Nano, 5, 321–328, 2011
- S. Bhattacharya, C. Mishra, S. Bhattacharya, “Analysis of General Creeping Motion of a Sphere inside a Cylinder”, Journal of Fluid Mechanics Vol. 642:295–328, 2009
- A. Heltzel, C. Mishra, R.S. Ruoff, A Fleming, “Analysis of a Graphene/Ultrathin Graphite Heat Exchanger for Aerospace Thermal Management”, ASME/JSME 8th Thermal Engineering Joint Conference 2011
- S. Bhattacharya, C. Mishra, “Detailed Dynamics of Suspended Particles In a Pressure-driven Flow through a Bio-Conduit”, AIChE Annual Meeting, 2007
- B Kundu, C. Mishra, B Gayen, “Performance Analysis of Fins with Uniform Thickness for a Flat Primary Surface Subject to Combined Heat and Mass Transfer” 7th ISHMT–ASME Heat and Mass Transfer Conference, 2006

Select Invited Talks

Industry Talks

- “Pursuing Excellence, Belonging, and the American Dream - Strategies from International Women Engineers”, WE23, Society of Women Engineers (SWE), Los Angeles, October 27, 2023

- Invited Talk, American Society of Thermal and Fluids Engineers (ASTFE) 7th Thermal and Fluids Engineering Conference, Las Vegas, May 2022: **“Spacecraft Engineering: Designing Thermal Solutions for Different Orbits”**
- Invited Talk, Materials Innovation & Advanced Technology Leadership Forum, Anaheim, January 2022: **“Spacecraft Engineering: Opportunities and Challenges in Extreme Temperature Space Environments”**
- **“Mastering the Art of Story-telling- A soft-skill workshop”**, Engineering Festival (EFEST) Global, American Society of Mechanical Engineers (ASME), March 16, 2024
- Invited Talk, **American Society of Mechanical Engineers (ASME) Subject Matter Expert (SME) Webinar**, August 2021: **“Thermal Challenges across Industries: Commonalities & Uniqueness”**
- Invited Panel, **“Space Technology & Engineering”**, E-Fest Careers, ASME, November 2021
- Invited Participant to Workshop, “Space Robotics Technology Working Group”, International Design Engineering Technical Conferences & Computers and Information in Engineering Conference (IDETC), St Louis, September 2022
- **“Understanding Visa Woes/ Breaking Model-Minority Myths: Allyship International Women Engineers Need”**, WE22 World’s Largest Conference for Women in Engineering and Technology, Society of Women Engineers (SWE), Houston, October 20-22, 2022
- **“Strategic Planning: Diversity, Equity & Inclusion (DEI)”**, International Mechanical Engineering Congress & Exposition (IMECE) Columbus, October 30-31, 2022
- Invited Talk, ASME's TEC NEXt – The Symposium for Newly Elected Leaders Training for Success, March 2022: **“Roadmap to an Inclusive Engineering Environment & How You Can Help”**
- “Mentorship during Pandemic”, FutureME Talk, March 2021
- “Intersectionality - Women of Color in Mechanical Engineering”, Panelist, ASME iWME: Increasing Women In Mechanical Engineering Conference, January 2021
- “Careers in Mechanical Engineering”, Panelist, ASME Career Webinar, E-FEST, ASME, November 2020
- “Inclusivity in the Workplace”, Speaker, **Intel Oregon Leadership Conference**, October 2020
- “Celebrating Diversity”, Student Leadership Training Committee Conference, October 2020
- “Dare to Be YOU”, FutureME, American Society of Mechanical Engineers, **International Mechanical Engineering Congress & Exposition (IMECE)**, Salt Lake City, Utah, November 2019
- ASME FutureME Platform, EFEST Careers, Global Engineering Conference, November 11, 2022

Academic Talks

- Invited Talk, **“An Engineering Journey: From Transistors to Spacecrafts”**, Embry Riddle Aeronautical University (ERAU) Daytona Beach, Florida, September 19, 2022
- Invited Talk, Department of Mechanical Engineering, **Carnegie Mellon University**, October 2021: **“From Transistors to Spacecrafts: Challenges in Thermal Transport”**
- Invited Talk, Department of Mechanical Engineering, Jadavpur University, Kolkata, India, 2020: **“Microelectronics Cooling”**
- **Invited Guest Lecturer, NIN100** “Introduction to Engineering”, Undergraduate Course (200 students), Dept of Mechanical Engineering & Department of Production Engineering, **Indian Institute of Technology (IIT) Delhi**, February 2022
- Invited Talk, Department of Mechanical Engineering and Aerospace Engineering, **Indian Institute of Science (IISc)**, Bangalore, India, 2018: **“Phonon Transport in Nano Composites”**
- **Guest Lecturer, ME 542/642, Advanced Heat Transfer**, Graduate Course, **Portland State University**, Spring 2018
- Invited Panel, “Career Choices and job requirements”, Dept of Computer Science, Indian Institute of Technology (IIT) Ropar, June 2022
- Invited Panel, “Women In Engineering” with ISHRAE Students’ Chapter, Jadavpur University, India, January 2022

- Invited Talk, CodeHS, December 2021-2022, **“Hour of Code: Coding for a Litter-Free Community”**
- “Career in Space Engineering”, Rock Canyon High School, **Junior Achievement Program**, Colorado, March 2021
- “My Engineering Journey”, 6th grade, Emerald Middle School, San Diego, Spring 2021
- “Thermal Engineering”, High School Seniors in Portland school districts, **Chamber Engineering Academy**, Portland, 2020

SELECT MED A

SWE Emerging Leader 2023: <https://magazine.swe.org/emerging-leader-mishra-23/>

UT Austin Mechanical Engineering Academy of Distinguished Alumni :

<https://www.me.utexas.edu/connect/academy-of-distinguished-alumni/current-class/1658-columbia-mishra>

Woman Engineer :

<https://bt.e-ditionsbyfry.com/publication/frame.php?i=768407&p=14&pn=&ver=html5&view=issueViewer>

ASME Careers that Matter : <https://youtu.be/9MCfkDFwF7M>

Patents by Columbia Mishra : <https://patents.justia.com/inventor/columbia-mishra>

Coding for Spacecraft Design : <https://codinginthewild.com/coding-for-spacecraft-design-6a0d8f1f2bda>

ASME Dare To Be You : <https://www.youtube.com/watch?v=d02rcOMDvD0>

Coding for a litter free community : <https://youtu.be/Da7MPhpGFAE>

Minds Matter Podcast : <https://castbox.fm/channel/Minds-Matter-of-Portland-Podcast-id3204152?country=us>

Website : <https://columbiamishra.com/>

LinkedIn : www.linkedin.com/in/columbiamishra