BOARD OF TRUSTEES
UNIVERSITY OF THE DISTRICT OF COLUMBIA
UDC RESOLUTION NO. 2023 - 34

SUBJECT: ESTABLISHMENT OF A UNIVERSITY DISTINGUISHED CHAIR IN ENERGY EDUCATION

WHEREAS, the Board of Trustees of the University of the District of Columbia, pursuant to the authority set forth under D.C. Official Code; §38-1202.06(16), may generally determine, control, supervise, manage, and govern all the University; and,

WHEREAS, the U.S. Department of Energy (DoE) initially established an endowed fund at the University of the District of Columbia (the "University") with an initial amount of $250,000 to create a self-supporting fund that will be the foundation for a University Distinguished Chair devoted to the enhancement of education in energy with a particular emphasis devoted to renewable energy resources; and

WHEREAS, the initial endowment has matured and exceeded $1,000,000; and will be restricted both in its application to energy-related activities and in the amount that may be expended in any given year; and

WHEREAS, the University is now positioned to (1) establish a University Distinguished Chair in Energy Education and (2) to fund projects appropriate to the goals and objectives of renewable energy education; and

WHEREAS, the proposed activities will include: forming a Partnership Program and Advisory Committee with expertise in renewable energy and alternative energy sources to recommend activities that must be undertaken at the University as a part of program implementation; creating workshops in energy education for the benefit of students, faculty and our community; working with the Department of Energy and Environment (DOEE) to create an educational component related to alternative energy and energy conservation; and revitalizing "zero energy" on the University campus as a unique place for demonstrating innovative technology concepts in energy education; and

WHEREAS, funding from the endowment shall annually support a $25,000 salary supplement for the holder of the University Distinguished Chair in Energy Education and a $25,000 discretionary fund to support proposed activities in renewable energy and alternative energy sources with disbursements to align with the University's fiscal year; and

WHEREAS, the University Distinguished Chair in Energy Education shall be created for the exclusive purpose of advancing the educational mission of the University, the President of the University, upon the recommendation of the Chief Academic Officer, shall award the University Distinguished Chair in Energy Education to a University Administrator or tenured faculty member, for of up to five years, who has significantly enhanced the reputation and image of the University by providing leadership in energy education and by significantly advancing the mission through teaching and research in renewable energy; and

WHEREAS, the University Distinguished Chair in Energy Education shall develop an annual spending plan and provide annual progress reports on the energy education activities supported by the endowment to the Chief Academic Officer; and

WHEREAS, Devdas Shetty, Ph.D., Dean of the School of Engineering & Applied Sciences, has been recommended as the inaugural University Distinguished Chair in Energy Education based on his knowledge, educational background and experience, and accomplishments as an internationally recognized scholar, administrator, and elected fellow into the American Society of Mechanical Engineering; and

WHEREAS, after a review of his credentials, it has been determined that Devdas Shetty, Ph.D., is well qualified for such a University Distinguished Chair.

NOW, THEREFORE BE IT RESOLVED, that the Board of Trustees approves the recommendation of Devdas Shetty, Ph.D., as the inaugural University Distinguished Chair in Energy Education at the University of the District of Columbia, effective October 1, 2023, with all the rights and privileges thereunto appertaining.

BE IT FURTHER RESOLVED, that a copy of this resolution be entered permanently into the minutes of this Board and that copies be sent to the U.S. Department of Energy.

Submitted by the Operations Committee: August 24, 2023

Approved by the Board of Trustees: September 12, 2023

Christopher D. Bell
Chairperson of the Board

UNIVERSITY OF THE DISTRICT OF COLUMBIA
OFFICE OF THE CHIEF ACADEMIC OFFICER

LAWRENCE T. POTTER, JR., Ph.D.
CHIEF ACADEMIC OFFICER

July 25, 2023

MEMORANDUM

TO: Ronald Mason, Jr., J.D.
President

FROM: Lawrence T. Potter, Jr., Ph.D.
Lawrence T. Potter, Jr., Ph.D.
Chief Academic Officer

SUBJECT: The 2023 – 2024 University Distinguished Chair Recommendation

In accordance with the endowment funds provided through the U.S. Department of Energy to establish a Distinguished University Chair and financial support towards educational activities supporting renewable energy and alternate energy forms, I recommend **Dr. Devdas Shetty,** Dean of the School of Engineering & Applied Sciences and Professor of Mechanical Engineering, to receive the inaugural Distinguished University Chair in Energy Education which provides a salary supplement of $25,000 and a discretionary fund to support advance the UDC educational mission through a series of established activities that will be designed to strengthen teaching, research, and public services in renewable energy and alternate energy forms, effective October 1, 2023, for a period up to five years. The associated activities and deliverables will be outlined in a Board-approved resolution.

The Energy Education Endowment will provide the supplemental funding for this University Distinguished Chair. This recognition and funding align with existing named Chairs in the UDC Law School supported by an endowment provided through the Law School Foundation.

APPROVED FOR AWARD

By: _____ 7/28/2023
Ronald Mason, Jr., J.D. Date
President, UDC

Curriculum Vitae

DEVDAS SHETTY, Ph.D., P.E
School of Engineering and Applied Sciences
University of District of Columbia, Washington DC
(Devdas.shetty@udc.edu; [redacted])
Fellow, ASME, Fellow IEOM and Member Connecticut Academy of Science & Engineering

Academic Administrative Appointments

Current Position

2012 - **University of District of Columbia, Washington DC** (From Fall 2012)
Dean, School of Engineering and Applied Sciences (SEAS)
Professor of Mechanical Engineering,

Dr. Shetty serves as the leader of the School of Engineering and Applied Sciences (SEAS) overseeing the academic departments. He provides strong leadership to SEAS, because of which the student enrollment has increased. External funded grants have increased several times. He set up partnerships with industries, acquired resources to modernize the laboratories, and created an environment for student success in the national level design competitions. These activities have resulted in SEAS securing high ranking in engineering and computer science programs in terms of quality and affordability.

Summary of Achievements in Previous Administrative Appointments

2007 Dec. – 2009 Dec.
Lawrence Technological University
Dean, College of Engineering, Southfield, Michigan.

The College of Engineering is the largest of the four colleges with 2500 students. I provided leadership for academic matters, financial affairs, accreditation, external relationships and overall college administration including budget management, evaluation of faculty and staff, long-range planning, curriculum development, international relationship and student recruitment.

- Led the University on International partnerships with leading institutions in China, India, Middle east and Mexico. This initiative has increased international presence at Lawrence Technological University.

- Led successfully planned effort in enhancing the visibility of Lawrence Technological University. As a result of my efforts, Lawrence Tech. is now ranked in the top 25% under US News and World Report.

- Implemented new academic programs including interdisciplinary disciplines.
  - Architectural Engineering (5 years integrated Masters)
  - Industrial Operations Engineering (Undergraduate)
  - Masters in industrial engineering (Masters)

- New Certificate Programs (Alternate Energy and Defense Manufacturing)
- Ph. D programs in Engineering. Secured approval for Doctoral program from North Central Commission

- Worked with "Focus Hope" in Detroit and Detroit -City Magnet School on joint programs to engage minority students for careers in Engineering, and Science.

- Authored a white paper along with eighteen Michigan Deans of Engineering on K-16 Partnerships in Engineering: Fostering Diversity and Growth in Knowledge based workforce of Michigan.

- Established an endowment to rename the Mechanical Engineering department as Leon Lynton Department of Mechanical Engineering.

- Devised new programs to improve student retention and student learning.

- Guided the transformation of faculty grantsmanship. Achieved a fifty percent increase in proposals and grants.
- I led initiatives in producing graduates with entrepreneurial mindset with leadership qualities. Secured a major curriculum grant from Kern Foundation to promote entrepreneurship at Lawrence Tech.

- Created a master plan for a new engineering building. Established additional state-of-the-art laboratories for freshman design courses and capstone projects.

- Created special funds for faculty development and professional education in the Lawrence Tech. College of Engineering.

- Facilitated the creation of Centers of Excellence in selected areas and managed the funding of some of these Centers.

- Conducted a *World Bank* funded training program on "innovation and leadership" for the heads of engineering colleges in India and other countries.

1988- 2012 University of Hartford, West Hartford, Connecticut *(1988 Sept. - July 2012)*
Dean of Research
Professor of Mechanical Engineering,
First Vernon D. Roosa Distinguished Professor in Manufacturing Engineering
Director, Engineering Applications Center (1991 -2007)
Associate Dean, CETA (1999-2007)

Industry and Academic Partnership: Created a research-based educational partnership with regional industries. Developed and led the Engineering Applications Center to a level of regional

prominence. Formed alliances with more than 50 major corporations, such as Pratt & Whitney, General Electric, Carrier Corporation, OTIS Elevators and others. Attracted affiliation funding at an average of $200,000 each year from 1991 to 2007. The Engineering Applications Center (EAC), cited as strength of the College by every visiting ABET team emerging as the college focal point.

Partnering with Community Colleges: Implemented a joint program with CT community colleges in collaboration with the Connecticut College of Technology. This program has created an efficient path for community college graduates to transfer into engineering and technology. At the same time, it has facilitated diversity in the campus.

Efforts in Promoting Diversity*:* Secured grants from United Technologies Corporation, American Society of Mechanical Engineers (ASME) to promote participation of women in science, engineering, technology and architecture.

Curriculum Innovation*:* I led a group of faculty members to a successful $1.1 grant from the NSF to integrate engineering design with mathematics, the basic sciences, the humanities, and the social sciences. The College was one of only seven institutions in the country to receive this grant. I brought together 25 interdisciplinary faculty members to work on integration of engineering, humanities and social sciences. The educational curriculum developed by my team has become a national model curriculum.

Graduate Programs: As a founding member of the graduate committee in engineering, I oversaw the inception of the new graduate programs and provided a leadership in guiding the curriculum development of graduate program at the College of Engineering. I led the efforts in creating a dual master's in engineering/Master of Business Administration program. Working with American Society of Mechanical Engineers, I developed specialized on-line distance education courses for professional certification on Engineering Management.

International Relations: Initiated bilateral agreements with several Universities in India, China, Malaysia and Middle East. Crafted and delivered short courses, training programs workshops in several countries.

Accreditation: Led successful efforts for accreditation and re-accreditation from Accreditation Board of Engineering and Technology (ABET). Developed successful faculty workshops focused on outcome-based learning.

Interdisciplinary Research and Academics: Recipient of several multidisciplinary academic and research grants up to $11M. I worked with Connecticut Center for Advanced Technology (CCAT) and US Air force of Sponsored Research for the Laser Innovation Center in Connecticut.

Citations: Connecticut Academy of Science and Engineering cites my research contribution for its impact on the understanding of surface measurement; for significant intellectual achievements in mechatronics; and for contributions to product design. My publications include four textbooks, and

about 220 technical papers. These books have been adopted by many educational institutions in the USA and abroad.

1983-1988 Albert Nerkin School of Engineering, the Cooper Union for the Advancement of Science and Arts, New York 10003
Associate Professor, Mechanical Engineering, Tenured: 1985
Project Director, Cooper Union/St. Vincent's Hospital Program (1985-87)

The Cooper Union, located in New York City, is a tuition free institution for higher learning with programs in Arts, Architecture and Engineering. I joined as Assistant Professor in 1983 and progressed through Associate Professorship with tenure. I provided leadership in grants, curriculum development, and supervised hospital centered biomedical projects.

1978-1983 University of the West Indies, Trinidad & Tobago, West Indies
Assistant Professor, Mechanical Engineering

1975 -1978 United Nations Center for Computer Aided Manufacturing,
(Central Manufacturing Engineering Institute, CMTI- Bangalore, India)
Senior Technical Officer and Scientist-in-Charge, Engineering Design

EDUCATION

INDIAN INSTITUTE OF TECHNOLOGY **(I.I.T.),** Delhi, India
Ph.D., Mechanical Engineering, (1976)

National Institute of Technology, Surathkal, India
M. Tech., Industrial Physics Engineering

National Institute of Technology, Surathkal, India
B.E., Mechanical Engineering,

Harvard University, Cambridge, 2009
Institute for Management and leadership in Education

FELLOW STATUS and ELECTION TO THE ACADEMY

Fellow, ASME, American Society of Mechanical Engineers, 2020
Fellow, IEOM, Industrial Engineering Operation Management 2019
Member, Connecticut Academy of Science and Engineering, 1999

ADDITIONAL POSTGRADUATE STUDIES AND TRAINING

- MIT, Special Program, Mechanical Engineering Department, 1998.
- Stanford University, Palo Alto, CA. Mechanical Engineering, 1990
- University of Birmingham, U.K. Lucas Institute of Engineering, 1983
- Technical University of Nova Scotia, Canada, Automation, 1979-1980
- Purdue University, IN. National Institute on Robotics and Automation, 1986.

OTHER RESEARCH APPOINTMENTS

- Dean of Research, College of Engineering, Technology & Architecture

- Program Director, NSF -Action Agenda Program on Curricular Reform (1998-2004)
- Director MIT-UOH Collegium on Manufacturing Productivity Institute (1990-2000)
- Project Director, Cooper Union St. Vincent's Hospital Program
- Coordinator, Technical University of Nova Scotia and the Caribbean, Program sponsored by the Canadian government. (1980-1983)

HONORS AND AWARDS

- Fellow ASME, 2020 (American Society of Mechanical Engineering)
- Fellow IEOM, Industrial Engineering and Operation Management
- 2021 BEYA -STEM National Award, presented at BEYA'21, February 2021, Washington DC-Award presented by Dr. Lawrence Potter, Chief Academic Officer, UDC
- 2019 University of District of Columbia Honorable Ronald H Brown Distinguished Leadership Founders Day Award for outstanding contribution as leader in academics.
- International Award and conferred the title of "Fellow IEOM" at the 2019 Global Conference on Industrial Engineering & Operation Management at Bangkok, Thailand, March 2019
- 2016 National Award for Academic Leadership from IEOM, International Society of Industrial Engineering and Operation Management
- 1997 Edward S. Roth National Award for Manufacturing Standards Curriculum Innovation, Society of Manufacturing Engineers, MI
- 1994 James E. and Frances W. Bent Award for Outstanding Scholarly or Artistic Creativity. Presented at the University Commencement.
- 2007 Epsilon Pi Tau (EPT) International Society Award for academic leadership, College of Technology, CT,
- 2005 Silver Medal from the Connecticut Quality Council for Innovation at the Engineering Applications Center, Awarded in October 2005
- Elected member Connecticut Academy of Science and Engineering (**CASE**).
- 2003 ASME Curriculum Award for innovative integrated engineering curriculum (Awarded in the special session of ASME International Conference)
- 2000 American Society of Mechanical Engineers Distinguished Faculty Award
- 2000 Society of Manufacturing Engineers, SME Honor Award, Hartford, CT

PATENTS

Tyagi, P and Shetty, D "*Pumpless Solar Energy Based Air Heater and Method*" U.S. Patent Number: 10775 058 issued on 9.15/2020

Shetty, D and Fast, A., "*Wheelchair Attachment"* – A utility US Patent Serial Number 11/697934; Assigned - University of Hartford, Two patents 2010; 2014.

Shetty, D., Fast, A and Campana C "*Ambulatory Suspension System for Rehabilitation"* U.S. Patent 7462138B2, December 2008; Assigned to the University of Hartford.

Shetty, D and Henry Neault "*A new technique and methodology for surface roughness evaluation using computer vision"* U.S. Patent, February 23, 1993. No. 5,189,490. Assigned to the University of Hartford. The product is used by the aerospace industry.

"Centering Instrumentation for Alignment and Measurement in Machine Tools, 1978. Technology licensed to Spectra systems.

"Precision Profile Grinding Attachment for Surface Grinding Machine" 1978. Manufactured under license by Central Machine Tools Institute.

TEXTBOOKS

- Shetty, D*.,* ***Product Design for Engineers, New*** textbook by Cengage Learning Publications, Ohio, USA ISBN: 978-1-133-96204-5, 2016, International Edition 2018

- Shetty, D. and Kolk, R., ***Mechatronics System Design*****. (2nd)** 2011 Cengage Publications. Toronto, Canada. US edition ISBN -13:978-1-4390-6198-5 and international edition ISBN 10:1-4390-6198-X (2011).

- Shetty, D., Kolk, R., ***Mechatronics System Design*****.** 1998 and 2011 International Thompson Publications. Universities in the USA and abroad have adopted the textbook.

- Shetty, D., ***Design for Product Success***. SME Publications, Dearborn, Michigan ***(2002*****)** International edition with publishing rights to USA, UK and Asia has been given to McGraw Hill

- Shetty, D., Kolk, R., Solution Manual for *Mechatronics System Design* (2nd) **Cengage** Publications, Toronto, Canada. 2011 U.S Ed. 2012 International Ed.

SAMPLE of JOURNAL AND CONFERENCE PUBLICATIONS (Total approximately 250)

"Investigating the relation between balance confidence and balance ability in older adults" by Thompson, L, Badache, M, Brusamolin, J, **Shetty, D.** et.al. Journal of Aging Research August 2021

Shetty, D and Campana, C "*Exploring Transition into Industry 4.0 with Case Studies on Four Engineering Education Disciplines"* EDULEARN23**,** 15th annual International Conference on Education and New Learning Technologies, Spain, July 2023

Shetty, D "*Strategy for Systematic Education of Robotics, Drones and Unmanned Systems through Case Studies,"* EDULEARN23, 15th annual International Conference on Education and New Learning Technologies, Spain, July 2023.

Shetty, D., Kotian, R., Sequeira, S., Umesh, P., and Gangadharan, KV "*Development of portable ground control station for real time data monitoring of an Unmanned surface vessel"* Proceedings of International Mechanical Engineering Congress and Expo.IMECE2023, Accepted for presentation at New Orleans, October 29- Nov 2, 2023, IMECE 2023-114071

Shetty, D., Kotian, R., Sequeira, S., Umesh, P., and Gangadharan, KV "*An Economical Approach towards Bathymetric mapping of Shallow Water basins using Unmanned Surface Vehicles."* Proceedings of International Mechanical Engineering Congress and Exposition IMECE2022 - 97015, October 30- November 3, 2022, Columbus, OH

Shetty, D, Thompson, L, Sanchez, P and Campana, C "*Improving the performance of Ambulatory Gait Training System for Rehabilitation by Mechatronics and Design Simulation*" Proceedings of International Mechanical Engineering Congress and Exposition IMECE2021 -71487, November 1-5, 2021

Shetty, D. "*Experimental Investigation, Modeling and Simulation for Industry 4.0 Case Studies in Rainwater Harvesting, and Predictive Maintenance"* Proceedings of International Mechanical Engineering Congress and Exposition IMECE2021, November 1-5, 2021

"Multidirectional Overground Robotic Training Leads to Improvements in Balance in Older Adults" Published in Journal of Robotics as part of the Special Issue Robots for Health and Elderly Care. **Robotics 2021, 10, 101.** https://doi.org/10.3390/robotics10030101; mhttps://www.mdpi.com/journal/robotic, Lara A. Thompson, Mehdi Badache, Joao Augusto Renno Brusamolin , Marzieh Savadkoohi and **Devdas Shetty**

The Future of Things: "*Simulations and Next Generation Manufacturing"* at the EDUCON, IEEE, March 2020. Thomas Eppes, Ivana Milanovic and **Devdas Shetty**

Engineering Curriculum in Support of Industry 4.0 by Tom A. Eppes, Ivana Milanovic, Reihane Jamshidi and **Devdas Shetty** International Journal of Online and Biomedical Engineering, IJOE 2020

Jiajun Xu, **Devdas Shetty**, Abiose Adebayo. "Undergraduate Experiential Learning Experience through Industrial Sponsored Capstone Project on Thermal-Fluids Science," *2019 American Society of Thermal and Fluids Engineers (ASTFE) Conference*, 2019.

Xu, J and **Shetty D**., "*Implementation of Student Presentation-based Learning Approach in Engineering Curriculum'*, **Journal of Engineering Education Transformation**, V 31, 2018, ISSN 2349-2473

Shetty D and Tyagi P., "*Trends in the Measurement of Engineered Surfaces in Aerospace System from Rough to Nano Measurement Range"* Devdas Shetty and Pawan Tyagi IMECE 2018-89983, Session 16-5-1 November 14, 2018

Lara A. Thompson, Jiajun Xu and **Devdas Shetty**, "*DEVICES TO AID MOBILITY: Biomedical Engineering-focused Undergraduate Senior Capstone Design Projects*" IMECE 2018-86826, Nov 9-15, 2018, Pittsburg, PA

"Strategies for Robust Mechatronics Systems: using (1) Mechatronic Instructional Platform (2) Web based virtual experimentation" **Shetty, D,** Pruthviraj and Gangadharan 2017 International Mechanical Engineering Congress and Exposition, IMECE2017 Nov 2017, Tampa, Florida,

"Design for Disassembly as a sustainable product evaluation method" **Shetty, D**., and Xu, Jiajun, International Mechanical Engineering Congress, IMECE2017 Nov 2017, Tampa, Florida, USA

Zhang, Nian and Shetty, Devdas, "*An Effective LS-SVM Based Approach for Surface Roughness Prediction in Machined Surfaces" Journal* **of Neurocomputing,** NEUCOM-D-15-01001R1, Elsevier, January 2016

Shetty, Devdas and Ahad Ali, (2015),"A new design tool for DFA/DFD based on rating factors", **Assembly Automation, Vol. 35** Issue 4, pp. 348 – 357, 2015.

Shetty, Devdas, Campana, Claudio; Ghosh Suhas and Manzione, Lou *"Strategy for developing a model for sustainable product design and manufacture"* Proceedings of the ASME 2015 International Mechanical Engineering Congress & Exposition, IMECE 2015-52325, November 13-19, 2015, Houston, Texas, USA

Shetty, Devdas, Xu, Jiajun "*A new technique for evaluating disassembly and maintenance using an example of underground escalator"* Proceedings of the ASME 2015 International Mechanical Engineering Congress & Exposition, IMECE 2015-52325, November 13-19, 2015, Houston, Texas, USA

Shetty, Devdas, Poudel, Naresh and Ososanya, Esther "Design *of robust mechatronics products by multibody simulation approach and embedded processing"* Proceedings of the ASME 2015 International Mechanical Engineering Congress & Exposition, IMECE 2015-52325, November 13-19, 2015, Houston, Texas, USA

N. Kumar, **S.** Haghani and D. Shetty**,** *"Wearable Wireless Inertial Sensors for Estimation of Gait Parameters and Its integration with Portable Harness Ambulatory System for Rehabilitation",* Presented at the IMECE 2014, Nov. 2014, Montreal Canada.

Shetty, Devdas, Nazaryan, Nikoloi and Claudio Campana "*Application of a He–Ne infrared laser source for detection of geometrical dimensions of cracks and scratches on finished surfaces of metals*" Journal **of Optics and Lasers in Engineering***,* August 2013 Elsevier Publications, USA

Shetty, D and Nazaryan, N "*Investigation of new generation of ceramic and single crystal piezoelectric materials for helicopter blade and UAV actuation"* Presented at the International Mechanical Engineers Conference IMECE 2013, San Diego, November 2013, IMECE Proceedings

Shetty, D and Manzione, L "Survey of Mechatronic Techniques in Modern Machine Design"- Research Article Series, **Journal of Robotics,** Volume 2012, Article ID 932305, doi: 10.1055/2012/932305

Shetty, D and Giriapur, Arun, "*New Approach in Mechatronics Education through Project-Based Learning, an effort in International Collaboration"* Presented at the American Society of Engineering Education Conference, ASEE, June 2013

Shetty, D and Hill, Jonathan, "*Precision measurement method of misalignment, cracks, contours and gaps in aerospace industry"* American Society of Engineering Education Conference, ASEE, San Antonio, June 2012

Silvia Pellegrini, Devdas Shetty and Louis Manzione "*Study and Implementation of Single Minute Exchange of Die (SMED) Methodology in a Setup Reduction Kaizen"* 3rd International Conference on Industrial Engineering and Operations Management, IEOM July 2012, Istanbul, Turkey

Shetty, D and Manzione L "*Micro UAVs - Design Trends Using Mechatronic Trends" ASME* 2012 International Mechanical Engineering Congress & Exposition, Denver, November 2012- Houston, IMECE-Proceedings

Shetty, D and Manzione L "*Additive Manufacturing: Exploration of Porosity and Form Features using Layer by Layer Deposition "ASME* 2012 International Mechanical Engineering Congress & Exposition, Denver, November 2012- Houston, IMECE-Proceedings

Shetty, D and Manzione L "*Modeling and Experimental Evaluation of Monocrystalline Piezoelectric Materials for Electromechanical Actuation "ASME* 2012 International Mechanical Engineering Congress & Exposition, Denver, November 2012- Houston, IMECE-Proceedings

Shetty, D and Manzione L "*Unmanned Aerial Vehicles (UAV) - Design Trends "ASME* 2011 International Mechanical Engineering Congress & Exposition, Denver, November 2011- IMECE-64518. Proceedings

Shetty, D., Dinan R., Campana. C and Gurimitkala A. "*Opto-mechanical methodology for feature detection of contours".* ASME 2011 International Mechanical Engineering Congress & Exposition, Denver, November 2011- IMECE-64220. Proceedings

Shetty, D., Ghosh, S and Berry, T. "*Non-contact laser-based hybrid measurement methodology"* ASME 2011 International Mechanical Engineering Congress & Exposition, Denver, November 2011- IMECE-63954. Proceedings

Shetty, D and Manzione L. "*Virtual product design using innovative mechatronics techniques for global supply chain"* ASME 2011 International Mechanical Engineering Congress & Exposition, Denver, November 2011- IMECE-64228. Proceedings

Shetty, D and Hill, J. "*Optical Instrumentation for Vibration Measurement and Monitoring".* **International Journal of Precision Engineering and Manufacturing,** JPEM-No 3, Vol. 12, June 2011

Shetty, D., and Manzione, L., "*Product design using virtual simulation"* World Conference on Innovative Virtual Reality, ASME, Milan, Italy. June 2011

Shetty, D, Cummings, R., *"Survey-based spreadsheet model on lean implementation"* **International Journal of Lean Six Sigma,** pp. 310-334, October 2010, Emerald Group Publishing Ltd. USA

D. Shetty, and A. Ali*, "A Model for the Total Productive Manufacturing Assessment and Implementation",* **Journal of Advanced Manufacturing Systems,** Vol. 8, No. 2, pp. 1-20, 2010

Shetty, D, Manzione L and Ali A., *Optimization and Simulation in Design and Manufacturing using Mechatronics Techniques* Proceedings of the IERC 2010, Mexico, Paper 924, June 2010

Shetty, D., Fast, A., and Campana C., "*Mechatronic Integration in the Design of Ambulatory Rehabilitation Device".* Proceedings of the ASME 2010 International Mechanical Engineering Congress & Exposition, IMECE2010, November 12-18, 2010, Vancouver, British Columbia, Canada.

Shetty, D., Campana, C., and Moslehpour, S., "*Standalone surface roughness analyzer"* **IEEE Journal of Instrumentation and Measurement,** March 2009, Vol. 58, No.3 pp. 698-706
Eppes, T., Milanovic, I., and Shetty, D., "*Laser Percussion Drilling Modeling Utility"* **Journal of Laser Applications,** May 2009, Volume 29, Issue 2, pp 102-109

Shetty, D., Eppes, T., Campana, C., Filburn, T., and Nazaryan, N., "*New approach to the inspection of cooling holes in aeroengines"* **Journal of Optics and Laser Engineering,** Volume 47, Issue 6, June 2009, Elsevier, 0143-8166, 2009

Keshawarz, M. et.al and Shetty, D., "*A Mechatronics Program as an alternative to separate programs in Electrical and Mechanical in Developing Countries"* AC 2009-1589. Proc. ASEE Conference, Texas, June 2009

D. Shetty, L. Manzione and C. Imbert.," International Experience and a Model for University/Industry Partnership" *2009 Annual ASEE Global Colloquium on Engineering Education, Budapest, Hungary October 12-15, 2009*

D. Shetty and L. Manzione *"Trends in Smart Manufacturing and Mechatronics* "
Presented at the 2009 ASME International Manufacturing Science and Engineering Conference (MSEC), Proceedings ASME/MSEC 2009, Purdue University, October 2009

Shetty, D., Fast, A., and Campana C., "*Mechatronic Integration in the Design of Ambulatory Rehabilitation Device".* Proceedings of the ASME 2010 International Mechanical Engineering Congress & Exposition, IMECE2010, November 12-18, 2010, Vancouver, British Columbia, Canada

Shetty, D, Manzione L and Ali A., Optimization and Simulation in Design and Manufacturing using Mechatronics Techniques Proceedings of the IIEC 2010, Mexico, Paper 924, June 2010

Shetty, D and Eppes, T., "*Mechatronic Approach to the Inspection of Cooling Holes in Aero-engines"* Presented at the 2008 IEEE/ASME International Conference on Mechatronic and Embedded Systems, Beijing, October 12-16, 2008, IEEE-MESA

Shetty, D "AC 2008-2138 "*Design of a Methodology for the Inspection of Broaching Tool" Presented* at the 2008 American Society of Engineering Education (ASEE) Conference and Exposition, June 2008, Pittsburg, 2008

Ilumoka, A, and Shetty, D "*Acoustic Signature Prediction for Laser Drilled Holes Using Neural Networks"* Presented at the ANNIE Conference, Proc. ANNIE, November 2008

Shetty, D., and Hill, Jonathan. "*Smart Sensor Instrumentation Development Example Including the New Paradigm of an FPGA Based System".* Presented at the 2007 ASEE International Conference, Hawaii, June 2007, Conference Proceedings

Shetty, D., and Eppes, Tom. "*Precision Positioning and Vibration Measurement Using Intelligent Instrumentation and Simulation Tools".* Presented at the 2007 ASEE International Conference, Hawaii, June 2007, Conference Proceedings

Eppes, T., Milanovic, I., Shetty, D. and Bornas, J *"Laser Percussion Drilling: Enhanced Modeling Utility",* International Congress on Applications of Lasers & Electro Optics, ICALEO, Orlando October 2007,

Coleman, S., Shetty, D and Eppes, T "*Financing strategies used by small and mid-sized firms using laser manufacturing technology to supply the aerospace industry*", **Journal of Entrepreneurial Finance and Business**, April 2007

Adil Widaatalla, Devdas Shetty, Tom Eppes and Saleh Keshawarz *"Optimization of Parameters for Effective Laser Welding of Aerospace Components"* Published in *the Technology Interface, an* **Electronic Journal of Engineering and Technology**, Vol 7, No.2, 2007, ISSN 1523-9926

Shetty, D., Eppes, T, Milanovic, I and Bornas, J "Dr*illing Routine for Estimating, Analyzing and Modeling of Laser Processing"* Presented at the International Congress on Applications of Lasers & Electro Optics, ICALEO 2006

Shetty, D and Widaatal, A., "*Optimization of Parameters for Effective Welding of Aerospace Components"* Presented at the International Congress on Applications of Lasers & Electro Optics ICALEO 2006,

Shetty, E, Eppes, T., Campana, C and Nazaryan, *"Optical Inspection of Laser Drilled Cooling Holes in JET-engine Blades"* Presented at the International Congress on Applications of Lasers & Electro Optics ICALEO 2006.

Shetty, D. and Coleman, S. "*Financing strategies used by small and mid-sized firms using laser manufacturing technology to supply the aerospace industry"* **International Congress on Applications of Lasers & Electro Optics,** ICALEO 2006, October 2006

Shetty, D., and Eppes, T "*New Approach to the Inspection of Cooling Holes in Aero-Engines"* Presented at Advanced Laser Applications Conference - ALAC, Novi, Michigan, September 2006

Noriega, S, and Shetty, D "*Non-contact Vibration Detection Instrument and Methodology"* Presented at the SPIE Optics-East Conference, Boston, October 2006

Shetty, D., Noriega, S and Eppes, T "*Precision Vibration Analysis Using Laser Based Technique"* Presented at the 2006 American Society of Engineering Education (ASEE) Conference and Exposition, June 2006

Shetty, D, Lifeng, C and Campana, C "Integration *of Modern Software Tools for Special Mechanism Design and Component Prototyping"* IMECE 2006, International Mechanical Engineering Congress and Exposition, November 2006,

Shetty, D, "*Modern Software Tools for Design and Prototyping"* Keynote lecture at the Caribbean Industrial Engineering and Management Conference, Port of Spain, Trinidad, West Indies, June 2006

Shetty, D, Nazaryan, N and Campana, C "*Inspection Algorithm and Mathematical Procedure for the Measurement of Cooling Holes in Aero-Engines""* IMECE 2006, International Mechanical Engineering Congress and Exposition, November 2006,

Shetty, D., Keynote Lecture at the International Conference on CAD/CAM, Automation and the Factory of the Future, Vellore July 20-23, 2006- *"Advances in Product Design and Innovative Approaches"*

*Eppes, T and Shetty, D "**DREAM"** Drilling Routine for Estimating, Analyzing and Modeling of Laser* Processing – A new software release for manufacturing industries and paper presentation at the 2nd national Laser Hole Drilling Conference, Convention Center, Hartford, October 26-27, 2006.

Shetty, D., Vishweshwaran, C and Campana, C. "*A New Approach for Design for Manufacturing*" Presented at the 2005 International Conference of Production Research, Salerno, Italy, and August 2005.

Shetty, D., Ramasamy, S., and Choi, S. "*Noncontact Visual Measurement System Integrating LabVIEW with MATLAB"* **International Journal of Engineering Education,** Vol. 21, 2004.

Shetty, D., and Tamaldin, N., et al. "*Utilizing Neural Networks for Mechatronics"* Chapter 19 in **E-Manufacturing: Business Paradigms and Supporting Technologies**. Springer Verlag, 2004

Shetty, D., and Vishweshwaran, C. "*A New Design Tool for DFA/DFD Based on Rating Factors"* Presented in the 2004 International Forum on Design for Manufacturing and Assembly," Providence, Rhode Island, June 22-23, 2004, Proceedings.

Shetty, D., Teerasak, A., and Choi. S.J. *"Graphical User Interface Product Simulator for Motion Control of Machine Path."* Presented at the American Society of Engineering Education (ASEE) Conference, Utah, and June 2004.

Shetty, D., and Campana, C. "Design of Machine Vision Systems for Improving Solder Paste Inspection." Presented at the International Mechanical Engineering Congress & Exposition, November 2004, Los Angeles. CA.

Shetty, D., and Sahay, C. "Integrated Innovative Mechanical Engineering Curriculum." **National Curriculum Award.** Presented at the ME Chairs Special Session, 2003 International Mechanical Engineering Congress & Exposition, November 2003, Washington D.C.

Shetty, D., and Campana, C. “Ambulatory Rehabilitation Suspension System.” Presented at the American Society of Mechanical Engineers, 2003 International Mechanical Engineering Congress & Exposition, November 2003 Washington D.C.

Shetty, D., and Suresh, R. “Noncontact Techniques for Liquid Droplet Inspection.” Presented at the American Society of Mechanical Engineers, 2003 International Mechanical Engineering Congress & Exposition, November 2003, Washington D.C.

Shetty, D., and Choi, S.J. “International Collaboration and Virtual Instrumentation in Mechatronics Education.” 19th International Conference on CAD/CAM, Robotics and Factories of the Future, Kuala Lumpur, Malaysia. July 2003.

Campana, C., and Shetty, D. “Rapid Prototyping for Intelligent Instrumentation.” 19th International Conference on CAD/CAM, Robotics and Factories of the Future, Kuala Lumpur, Malaysia. July 2003.

Jaramillo, P., Adrezin, R., and Shetty, D. “Analysis & Optimization of Design Parameters for a Wooden Baseball Bat.” Presented at the American Society of Mechanical Engineers, 2003 International Mechanical Engineering Congress & Exposition, November 2003 Washington D.C.

Shetty, D., and Suresh, R. “Inventive Design Approaches for Non-Contact Inspection.” Presented at the ICPR Americas and Neural Network Conference, St. Louis, November 2002.

Shetty, D., et al. “Integrated Engineering Curriculum.” Presented at the American Society of Engineering Education (ASEE) Conference, Montreal, June 2002 (with Leone, Alnajjar, Keshawarz, Nagurney & Smith).

Shetty, D., et. al. “Neural Network for Online Inspection and Process Control.” 18th International Conference on CAD/CAM, Robotics and Factories of the Future.” July 3-5, 2002, Porto, Portugal. **Journal of Engineering Manufacture** (Communications in Manufacturing and Design).

Shetty, D., et al. “Mechatronic Technology Demonstrator Research: An Educational Experience” (Richard Kolk, Jun Kondo, and Claudio Campana). Presented at the ASEE National Conference June 2002, Montreal, Canada.

Shetty, D., et al. “Integrating Engineering Design with Humanities, Social Sciences and Mathematics.” Presented at the ASEE National Conference, Albuquerque, NM, June 2001 (with Leone, Alnajjar, Keshawarz, Nagurney and Smith).

Shetty, D. “Designing for Product Success.” Presented at the ASEE National Conference, Albuquerque, NM, June 2001

Shetty, D., and Rawolle, K. “A New Methodology for Ease-of-Disassembly in Product Design.” **Advances in Design for Assembly**, ASME Press, NY, 2000. (Also presented at the American Society of Mechanical Engineers, 2000 International Mechanical Engineering Congress & Exposition November 5-10, 2000, Orlando, Florida)

Shetty, D., et al. “Embedded Instrumentation for Online Measurement in Automated Manufacturing.” Proceedings of the 16th International Conference on CAD/CAM, Robotics and Factories of the Future, University of West Indies, Trinidad & Tobago, June 2000 (pp. 932-940) (with Claudio Campana and Jun Kondo).

Shetty, D. “Experimental Approach for Online Inspection Using New Laser Based Techniques.” Proceedings of 15th International Conference on Production Research University, Limerick, Ireland, August 9-13, 1999 (with Claudio Campana, Jun Kondo and Arnold Grot).

Shetty, D., and Kolluri, K “Concurrent Product and Process Development in the Aerospace Industry.” Proceedings of the 15th International Conference on Production Research,” University of Limerick, Ireland, August 9-13, 1999.

Shetty, D., and Campana, C. “Intelligent Decision Making Based on On-Line Non-Contact Measurement during Machining Process.” Proceedings of the ASME International Mechanical Engineering Conference and Exposition, Anaheim, California. November 1998. Published in ***Manufacturing Engineering*****,** Vol. 1161.

Campana C., and Shetty, D. “Process Improvement using Assembly Analysis Method.” In ***Concurrent Design for Manufacturing*****,** DE Volume 99/MED, Anaheim, California. 1998.

Campana C., and Shetty, D. “On-Line Surface Roughness Inspection for Supervisory Control.” Proceedings of the1998 United Technologies Engineering Coordination Activities (UTECA) Conference, Connecticut, April 1998.

Shetty, D., and Han, Q. “Methodology and Modeling of a Laser Based In-process Surface Finish Inspection Probe” Proceedings of the Thirty-Second International MATADOR Conference, UMIST, Manchester, UK. July 1997, pp. 597-602.

Shetty, D., and Campana, C. “Autonomous Machining Center Using Intelligent Supervisory Strategy” Proceedings of the Thirty-Second International MATADOR Conference, UMIST, Manchester, UK, July 1997, pp. 189-196.

Shetty, D., and Smith, L. “Freshman Engineering-Principles of Engineering and Design.” Presented at the Joint Conference on Engineering Education, West Point, NY, April 1997.

Shetty, D., and Motiwalla, L. “Real Time Architecture for Advanced Quality Monitoring in Manufacturing.” ***The International Journal of Quality & Reliability***, Vol. 13, No. 5, June 1996, pp. 91-104.

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Shetty, D., and Hamdani, Z. “Advances in On-line Surface Roughness Inspection for Supervisory Manufacturing,” Proceedings of the Japan-USA Symposium on Flexible Automation, MIT, Boston. July 7-10, 1996.

Shetty, D., et al. “Telemeterized Sensing System for Hip Implant.” Proceedings of the 1996 ASME International Annual Conference, Atlanta, GA, 1996 (with Nowak, Leone & Soni).

Shetty, D., and Fast, A. “Temperature Measurement in Orthopedic Knee Joints.” Proceedings of the ASME International Winter Annual Conference. Atlanta, GA, 1996.

Shetty, D., and Hamdani, Z. “Real Time Quality Central using On-line Surface Roughness Inspection.” Proceedings of the International Conference in Manufacturing, CIRP. August 8-10, 1996, Storrs, CT, USA.

Shetty, D., with Motiwalla, L. “Intelligent Sensing for Real Time Control” **Journal of Applied Manufacturing and Control**, Vol. 7, No. 2, 1995

Shetty, D., Kolk, R., and Godbout, L. “Mechatronic Control Using Visual Programming.” *Recent Advances in Mechatronics*, UNESCO, pp. 633-637; Presented at the International Conference on Recent Advances in Mechatronics, ICRAM, Turkey, August 1995.

Shetty, D. “Optimization of Surface Roughness Analyzer using Robust Design.” Proceedings of 13th International Conference on Production Research, Jerusalem, Israel, August 1995, pp. 701-703.

Shetty, D. “Automatic Synthesis of Optimum Design Layout by Algorithmic Approach.” Proceedings of the13th International Conference on Production Research, Jerusalem, Israel, August 1995, pp. 482-1185.

Shetty, D. “A Study in Design for Environment-Passive System for Vehicle Rear-End Collision Avoidance.” **Journal of Concurrent Engineering,** December 1994, ASME, New York,

Shetty, D., Godbout, L., and Kola, R. "Interdisciplinary Modeling and Design Techniques in Mechatronics." Proceedings of the American Society of Engineering Education Annual Conference, Edmonton, Canada, June 1994.

“Sensor System for the Precision Measurement of Interfacial Force and Micromotion in a Simplified Hip Replacement” (with Kidd, S.) Proceedings of the American Society of Mechanical Engineers, Winter Annual Meeting, Chicago, Nov.1994.

“New Technique to Measure the Roughness of Engineering Surfaces Independent of Surface Orientation.” **Advances in Industrial Engineering**, Elsevier Publications, 1993. (Also presented at the plenary session, International Conference of Production Research Lappeenranta, Finland. August 1993)

“Improving the Quality of Engineering Education with Multi-course CAD/CAM Experience.” Proceedings of the ASME, Winter Annual Meeting, New Orleans.1993

“Mobility Enhancement Vehicle: A Rehabilitation Tool.” Proceedings of the ASME 1993 Winter Annual Meeting, New Orleans.

“Production Oriented Design: An Integrated Approach to Design for Manufacturing.” Presented at the National Design Engineering Conference, March 1993.

"New Experiments in Non-Contact Inspection of Ground Turbine Blades.**” Lasers in Engineering,** Vol. 1, pp. 159-184, 1992

“The Resolved Motion Rate Control of a Cylindrical Coordinate Cylindrical Robot.” **International Journal of Applied Engineering Education**, Vol. 8, 1992.

“Concurrent Product and Process Design Applied to the Manufacture of Aerospace Component.” Published in Advances in Concurrent Engineering, ASME Winter Annual Conference, Los Angeles, Nov. 1992

“Quality Function Deployment Technique Applied to Curriculum Design.” Proceedings of the1992 ASEE Annual Conference, Toledo, Ohio, June 1992

“Improving the Quality of Surface Roughness Testing Instrumentation by Robust Design Methodology.” OPTCON’92, SPIE Conf. Industrial Applications of Optical Inspection, Metrology and Testing, Vol. 1821, November 1992

“Computer Expert for Tool and Die Estimation.” Proceedings of the 2nd International Conference on Information Technology, Singapore, July 3-7, 1991, also presented as a **Keynote Lecture** in a Plenary Session.

"Modeling and Simulation of Microcomputer Controlled Fluid Power Systems Using Multi Rate Sampling" (with Godbout, Shertukde, Jordan). Proceedings of the1991 ASME Winter Annual Meeting, Atlanta, December 1991.

"Expert System Methodology for Optimum Metal Selection." **Journal of Intelligent Processing of Materials.** Vol. 21, 1990; pp. 113-126. (Also presented at the American Society of Mechanical Engineers Winter Annual Meeting, 1990, Dallas)

"Compliant Based Gripper for Precision Robotics Assembly." Proceedings of the I.E.E.E. Conference, IEEE Proceedings on System Engineering, Pittsburgh, Pennsylvania, Aug. 1990, pp. 335-40.

"Packing Algorithm for Irregular Shapes and Its Computer Simulation." Proceedings of the International Conference on Production Research, ICPR, China, August 1991.

"Integration of CAD Concepts in Multi-course Laboratory Experience." Proceedings of the ASEE Summer Conference, New Orleans, June 1991; Special session of the National Science Foundation (NSF) Laboratory Instrumentation Program.

"An Expert Template for Flow Net Construction." (With Keshawarz, M.S.) Proceedings of Ninth National Conference on Microcomputers in Civil Engineering, 1991.

"A Computer Simulation of Recursive Two Dimensional and Three-Dimensional Packing Algorithm and Its Application in Manufacturing." Proceedings of the International Conference on Production Research (ICPR), UK 1989.

"Experiments on Laser Inspection of Turbine Blades." **Machining Characteristics of Advanced Materials**. Vol. 16, ASME 1989. (Also, at the American Society of Mechanical Engineers Winter Annual Meeting, San Francisco, December 1989)

"User Friendly Task Level Robot Control and Vision System" (with Begun, M, *Cooper Union*). **Journal of Computers in Education,** Vol. 8. No. 4, 1988, pp. 32-38.

"Microprocessor Control of a Constant Velocity Hydraulic Winch System." Proceedings of the International Conference on Fluid Power, October 11-13, 1988, Chicago, IL.

"Harmonic Drive Based End-Effector for the Cylindrical Robot." Proceedings of the 66th Annual ASEE Conference, October 1988. Hartford, CT.

“Expert System for Guided Design.” (With LeMee, John) Proceedings of the Third International Conference on Expert Systems, December 1988, Los Angeles, CA.

“A Recursive Bin Packing Algorithm for CAD/CAM Applications.” ASME International Computers in Engineering Conference, August 1987, Proceedings Vol. 00399B, pp. 53-57.

“User Friendly Task Level Robot Control and Vision Systems.” Proceedings of the ASEE Annual Conference, Reno, Nevada, June 1987.

“Group Technology and CAD Data Base for Garment Manufacturing.” Proceedings of the Ninth International Conference on Production Research, Cincinnati, Ohio, August 1987, pp. 1322-1327.

“Bin Packing Algorithm and Performance Comparison to Simple Level Algorithms.”– (with Chung, M. from Cooper Union). Proceedings of the Nineteenth International Conference on Production Research (ICPR), Cincinnati, Ohio, August 1987. pp. 1243-48.

“Personal Computer-based System to Evaluate the Performance of Muscle Groups.” (With Adrezin, Keesler, Kliphon, and Sverdlik) Advances in Bioengineering, ASME Winter Annual Meeting, Boston, December 1987.

“Design Analysis and Control Algorithm of a Cylindrical Coordinate Robot.” Proceedings of the12th ASME Design Automation Conference, Columbus, Ohio, ASME Design Engineering (86-DET-07), October 1986.

“Application of FMS Techniques for the Design of an Automated Garment Plant.” Proceedings of the Conference on CAD on Microcomputers, State University of New York, Farmingdale, NY, April 1986.

“Microcomputer Control of Multi-Degree of Freedom Cylindrical Robot.”– **IEEE Proceedings on Man, Machine, and Cybernetics** (IEEE-CH-2364-8/86; LCC 86-8159), Atlanta, Georgia, October 1986.

“Sensor Integration of the Articulated Robot Gripper.” Proceedings of the Japan-U.S. Symposium on Flexible Automation, Osaka, Japan, July 15-20, 1986, pp. 383-386.

“Kinematics and Dynamic Analysis of Cylindrical Robot.” Proceedings of the1986 International Conference of Instrumentation & Control Engineers, SICE '86, Tokyo, Japan, July 20-25, 1986, pp. 987-990.

"An Adaptive Shadow Algorithm in Computer Graphics" (with Hoffer, E. of Cooper *Union*). Proceedings of the International Conference on Computer Aided Design and Applications, IASTED, June 18-21, 1985, Paris, France, ISBNO-88986-075-5

"The Design of a New Patella Alignment Brace" (with Hausdorff of J. *Cooper Union*). Advances in Bioengineering, Proceedings of the ASME Winter Annual Meeting, Miami, November 1985.

"Computer Controlled Fluid Power System for Planning and Shaping Machines." Proceedings of the ASME Winter Annual Meeting, New Orleans, LA, December 1984. Paper 84-WA/DSC-14.

"Criteria for the Design of FMS Cell." Proceedings of the International Conference on Robotics and Factories of the Future, Charlotte, NC, December 4-7, 1984.
"Computer Identification of Machined Surfaces." **Journal Testing & Evaluation**, Vol. 12, No. 6, November 1984, pp. 375-379.

"Evaluation of Engineering Surfaces by Diffraction Pattern Analysis" (with Imbert, C.). **Journal of Engineering Materials & Technology**, Vol. 106, No. 3, July 1984, pp. 216-218.

"A Technique for the Simulation of Robot Manipulators" (with W. Huang and G. Romano) **Journal of Applied Simulation and Modeling**, pp. 110-113. Also published in Proceedings of the International Conference on Simulation and Modeling, ASM 84, San Francisco, CA, June 1984

"Monitoring of Bulk Materials in Transit Using Microprocessor Aided Quality Control." **Journal of Microcomputer Applications**, Vol. 2, November 1983, pp. 13-16.

"Computer Controlled Fluid Power System for Machine Tool Application."– **Journal of Hydraulics and Pneumatics**, November 1983.- The paper received best paper award in the Design Paper Contest, organized by the International Fluid Power Society, Hydraulics and Pneumatics, Cleveland, Ohio.

"A New Technique for the Evaluation of Machined Surfaces by Diffraction Pattern Analysis." Proceedings of the ASME Winter Annual Meeting, Boston, MA, November 1983.

"Simulation and Modeling Aids for the Design of Flexible Manufacturing Systems." Proceedings of the International Conference on Simulation and Modeling, ASM 83, Florida, November 1983, pp. 114-117.

"Programmable Fluid Power Systems for Contouring." Winning paper in the National Fluid Power Design Contest, October 1982. Published in **Journal of Hydraulics and Pneumatics**."1983.

"Monitoring of Bulk Materials in Transit Using Microprocessor Aided Quality Control." Proceedings of the IASTED International Symposium on Applied Simulation and Modeling. ASM 82, San Diego, CA, July 1982.

"Application of Low-Cost Automation in the Caribbean"– (with Gift, S.). Proceedings of the American Society of Mechanical Engineers Winter Annual Meeting, November 1982, Phoenix, AZ. 82-WA/TS-6.

"Electro-Hydraulic Servo Control for Wave Energy System"– (with Graham, J.). Proceedings of the IASTED International Symposium on Applied Simulation and Modeling, ASM 82, San Diego, CA, July 1982.

"State-of-the-Art of Automatic Inspection and Recent Applications in the Caribbean"– (with Graham, J.). **Canadian Industrial Computer Bulletin**, CICS/ACLL, Vol. 1, No. 3, October 1982.

"Robot Linked CNC Lathes and Milling Machines: Comparison with Conventional Systems." Proceedings of the UPADI 82 American Congress on Costs and Engineering Economics, Puerto Rico, Aug 1982.

"Laser Evaluation of Cutting Angle and Surface Finish." **Journal of Testing and Evaluation,** Vol. 10, No. 1, January 1982, pp. 25-27.

"An Investigation into the Suitability of Wave Energy Extraction System for the Eastern Caribbean." Proceedings of the 5th Miami International Conference on Alternate Energy Sources, December 13-15, 1982.

"Fluid Power Applied to Wave Energy Extraction Systems." Proceedings of the International Conference on the Applications of Fluid Mechanics & Fluid Power to Energy and Environmental Problems, University of Patras, Greece, June –July 1981, pp. 28-44.

"Automatic Sizing of Fish Using Fluidics Devices"– (with Graham, J.). Proceedings, of the 5th International Conference on Automatic Inspection and Product Control, Stuttgart, Germany, June 23-27, 1980, pp. 235-245.

"Techniques in Automatic Sorting of Fish." 35th Midwest Conference of American Society of Quality Control (ASOC), October 9-10, 1980, Tulsa, Oklahoma, pp. 102-106.

"Evaluation of Blades by Optical Computing." **West Indies Journal of Engineering**, 1981, Vol 7, pp. 59-70.

SAMPLE of GRANTS SECURED for *Research and Education*

2019-2024 $5M NSF CREST Center for Nanoscale Research and Education
Principal Investigator: Pawan Tyagi,
Co-Principal Investigators: Shetty, Klein, Xu and Dang

2019-2022 $**3M** NASA MIRO Center **NASA Center for Advanced Manufacturing** in Space Technology & Applied Research (CAM-STAR)
Principal Investigator: Jiajun Xu,
Co-Principal Investigators: Shetty, Tyagi, Klein, Xu and Wang and Haghani

2018- 2024, $6.7M, Professional Research Experience Program at UDC from National Institute of Standards and Technology **(NIST)**
Principal Investigator: Kate Klein,
Co-Principal Investigators: Shetty, Ososanya, Thompson, Tyagi and Wang

2019-2022, $3M, Department of Energy-National Nuclear Security Administration (DOE-NNSA) funded Additive Manufacturing Post Processing Partnerships (AMP3) Consortium of four universities and three industries.
Principal Investigator: Pawan Tyagi, Co-Principal Investigators: Shetty, Klein, Xu

2017-2019, $500,000 Co-PI, Acquisition of Laser Rapid Manufacturing System, BEAM: Broadening Education through Advanced Manufacturing at UDC", **Department of the Army,** US Army Research, Development and Engineering Command, Amount: $500,000.

2017-2019, Co-PI in **NSF** funded grant to promote research on rehabilitation and balance and further enhancement of Ambulatory Suspension System (PI: Dr Thompson)

2010-12 Program Manager of the $3.4 Million, Unmanned Aerial Vehicle (UAV) project to design, develop, and test the Hybrid Projectile at Army Yuma Proving Ground. Research on Hybrid Projectile was funded by U.S. Army Research, Development and Engineering Center (ARDEC), New Jersey.

2009 Curriculum grant from Kern Foundation on Entrepreneurship. "Integration of Entrepreneurial Mindset in Engineering Students" $1.25 million grant to educate and introduce entrepreneurial mind set in Lawrence Tech engineering students.

2005 Principal Investigator**, $**1.3 Million grant for "Laser Applications in Advanced Manufacturing and Education" from the Air Force Office of Sponsored Research.

2004 Principal Investigator United Technologies Corporation, Education Grant for the Introduction of MEMS Curriculum at the University of Hartford, 2004-2005.

2003 Principal Investigator United Technologies Corporation, Education Grant for the Introduction of Mechatronics Concentration at the University of Hartford, 2003-2004.

1998-2002 Principal Investigator, $ 1.1 Million grant from the National Science Foundation Grant on Action Agenda for Curricular Reform. "Integration of Design throughout the Curriculum by involving Humanities, Sciences and Social sciences" (September 1998-2002)

1999-2001 Robert and Helen Kleberg Foundation. Grant of $65,000 for the Design and Development of Rehab Walker Support System (in association with the Albert Einstein Hospital of Medicine, New York).

1997-1999 Principal Investigator, Society of Manufacturing Engineering Foundation (Michigan); $71,000 grant for Engineering Curriculum Innovation, (August 1997).

1996-1997 Co-Principal Investigator, Orthopedic Research Grant from University of Connecticut Health Center for research on micro sensors (1996) (Co-PI Dr. Nowak)

1995-1997 Principal Investigator, Society of Manufacturing Engineers, $387,000 Foundation Grant for Manufacturing-Related Research and Curriculum Development SME,

1995-1998 Principal Investigator, Research Grant from Albert Einstein Medical Center, NY, for investigation of telemeterized animal implants (Co-PI Dr. Avital Fast).

1993 Principal Investigator, $804,000 Foundation Grant for Manufacturing Research and Instruction. Society of Manufacturing Engineers, Highest award ever given by SME to a private university (

1993 Co-Principal Investigator, Yankee Ingenuity Grant Award; $94,000 from the State of Connecticut Competitive Grant for research on Telemeterized Measurement of Parameters of Prosthetic Device at the interface zone. (Sept. 1993).

1992 Principal Investigator, Two General Electric Concurrent Engineering Awards for and Research in Manufacturing Engineering. (1991 - 93), University of Hartford, CT.

1992- Principal Investigator, Vincent Coffin Grant for research on Flexible Manufacturing, MIT-UOH Collegium on Manufacturing Productivity Institute, jointly with MIT faculty.

1991 Principal Investigator, National Science Foundation Grant, $57,000 - Improvement of Quality by Multi-course Integration in the CIM Program (August 1991). NSF

1991 Principal Investigator, Society of Manufacturing Engineering, Education Foundation grant, $79,000 for the enhancement of Mechanical Engineering Courses (July 1991).

1990 American Society of Engineering, Education Fellowship Award at Stanford University (July, August 1990).

1987-1989 Principal Investigator, Cooper Union, Research Foundation Grant, Recursive Bin Packing Algorithm for 2D and 3D analysis (1987-1988).

1989 Principal Investigator, Vincent B. Coffin Grant Award for Research on Heuristic Irregular and Regular Packing Algorithms (April 1989).

1988 Principal Investigator, $121,000 NSF Award, – "Introduction of Comprehensive Computer Aided Design and Computer Aided Manufacturing Techniques in Undergraduate Mechanical Engineering Education, Cooper Union (August 1988).

1988 Principal Investigator, Society of Manufacturing Engineering, Foundation Competitive Grant Award in "Solid Modeling" (July 1988).

1987 Principal Investigator, Abner Levine Foundation Award with St. Vincent's Hospital, New York, to conduct design studies and research work in "Computer Aided Design and Expert Systems" Cooper Union (1987).

1986 Program Director of $100,000 Hartford Foundation Grant on Bio Medical Engineering. The Cooper Union School of Engineering collaborated with several New York City hospitals on education and research.

1987 Sloan Foundation Award to "Design of Expert CAD Systems- Make New York City a Better Place" Sloan Foundation 1987 Award to the Cooper Union, NY

1986 First Autodesk Corporation Grant on "University Advanced Research Education on CAD/CAM" at Cooper Union

1986 Principal Investigator, AT & T Award $300,000 for a "Manufacturing Automation and Factory of the Future Plan at the Cooper Union."

1986 NSF Award for the National Institute for Educating Students on Robotics and Automation" at Purdue University, Indiana. July-August 1986

1986 NSF Award, Japan-U.S. Symposium on "Flexible Automation and Robotics" sponsored jointly by NSF and ASME.

1984 Principal Investigator, Intel computing challenge grant award, "Online simulation of robotics work cells at the Cooper Union", NY (1984-1985). Award from Intel Corp.

1984 Principal Investigator, Foundation Research Investigation Award on "Computer Identification of Machined Surface." Society of Manufacturing Engineering Research Foundation Competitive Award, MI, 1984

SCIENTIFIC REVIEW PANELS

Reviewer for various grant awards including NSF TUES-ILI, MRI, Faculty Enhancement Programs; Reviewer of proposals from State Agencies; Reviewer for ASME Journal Publications and International IMECE Papers; Reviewer for ASEE Journal Publications, Ph D thesis reviewer for several institutions.

BOARD AFFILIATIONS

I had been a member of the Board of several organizations including Board of Council of Engineering Deans, AMIE Board, Board of CONNSTEP, CT (State and federally funded industry organization), Board of Entegram, CT (E-Commerce Organization) Board of Montgomery Engineering College

INTERNATIONAL ACADEMIC PARTNERSHIP

Established international academic partnerships between University of District of Columbia, LTU and University of Hartford with several Universities and Research Institutions in China (several), South Korea, India (several examples), Canada, Peru, West Indies, Nigeria, South Africa and Middle east.

He had been invited Keynote Invited speaker/chair at scientific sessions at international conferences/symposia in China, India, Singapore, Thailand, Bahrain, Trinidad and Tobago, Mexico besides several places in USA.

OTHER EXTERNAL SERVICE

- Invited presentation at United Nations, November 2015
- Chairman, Society of Manufacturing Engineering, (1999 – '05)
- Connecticut Academy of Science and Engineering-Elected Member
- External Reviewer for ABET,
- Ph. D Thesis evaluator for several Universities in UK, India, Trinidad, S. Korea
- Led a World Bank sponsored Capacity Building seminar for Heads of Engineering
- Conducted international workshops on Product Design, Mechatronics, Advanced Manufacturing, Robotics and Laser Applications in the USA and in several countries.

NATIONALITY: United States of America

UNIVERSITY OF THE DISTRICT OF COLUMBIA 1851

FISCAL IMPACT STATEMENT

TO: The Board of Trustees

FROM: Managing Director of Finance David A. Franklin

DATE: August 24, 2023

SUBJECT: Approval for Dr. Devdas Shetty, Dean of the School of Engineering & Applied Sciences, to be named the inaugural University Distinguished Chair in Energy Education at the University of the District of Columbia

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Conclusion

In conclusion, there is no fiscal impact associated with the granting of the title University Distinguished Chair to Dr. Devdas Shetty, Dean and Professor of Mechanical Engineering in the School of Engineering & Applied Sciences.

The proposed resolution is for the approval of granting the title to Dr. Shetty, who joined UDC as Dean in August 2012. Dr. Lawrence T. Potter, Jr., Chief Academic Officer has conducted a review and prepared a recommendation to then - President Ronald Mason, Jr., naming Dr. Shetty as the inaugural University Distinguished Professor in Energy Education. This award and recognition will be funded with the Energy Education Endowment created by the U.S. Department of Energy in 1996 at UDC.

Background

Dr. Devdas Shetty is an exemplary teacher, scholar, mentor, and academic dean who has demonstrated and provided evidence of an active and longstanding record of excellence in teaching, research and scholarly inquiry, grantsmanship, publications, and service. His comprehensive record meets and exceeds the requirements for this named Chair.

The Chief Academic Officer and then - President Mason affirmed the recommendation. After consulting with President Edington, this recommendation and background information along with a resolution is forwarded for the granting of the title to the Board of Trustees.

Financial Impact

This request has been approved based upon the information provided. There are no anticipated risks at this time.