Curriculum Vitae
(December 15, 2010)

NAME Vikram Cariapa, Ph.D., P.E.

1. ADDRESS

Cariapa, V., Park, H., Cheng, C. “Reliability Analysis of Mass Finishing Processes.” Transactions of the NAMRC, v38, 169-176. (2010).

Cariapa, V., Park, H., Kim, J., Cheng, C., Evaristo, A.E.B. “ Effect of Abrasive content in media wear and material removal rate in centrifugal disk mass finishing machine.” Transactions of the NAMRC, v36, 341-348. (2008).

Cariapa, V., Park, H., Kim, J., Cheng, C., Evaristo, A.E.B. “Development of a metal removal model using spherical ceramic media in a centrifugal disk mass finishing machine.” International Journal of Advanced Manufacturing Technology**,** 39: 92-106. (2008).

Stango, R.J., Cariapa, V., Zuzanski, M., “Contact zone force profile and machining performance of Filamentary brush.” Transactions of the ASME ,Journal of Manufacturing Science & Engineering, Vol. 127, No.1, pp. 217-226, (2005).

Domblesky, J., Evans, R., Cariapa, V. “Material removal model for Vibratory Finishing.” International Journal of Production Research, Vol.42, No.5, 1029-1041, (2004)

Cariapa, V., "Investigation of Polishing Characteristics of Circular Filamentary Brushes." Processing of Advanced Materials**,** Vol. 2, pp. 25-35, (1992).

Cariapa, V., Stango, R.J., Chen, L., and Hermann, R., "Aspects of Process model for Automatic Control of Edge-Deburring with Filamentary Brush." Transactions of ASME, Journal of Engineering for Industry**,** Vol. 114, No. 3, pp. 294-300, (1992).

Cariapa, V., Akbay, K.S., and Rudraraju, R., "Applications of Neural Networks for Compliant Tool Polishing Operations." Journal of Materials Processing Technology**,** Vol. 28, No. 1-2, pp.241-250, (1991).

Stango, R.J., Matar, J.E., Cariapa, V., and Ryan, W.E., "Effect of Fabrication Parameters on Void Content for Filamentary Wound Composites." ASME Journal Manufacturing Review, vol. 4, No. 3, pp. 205-213, (1991).

Cariapa, V., "Multi-mode Machine Tools – A Concept that Improves Operations of Flexible Manufacturing Systems." International Journal of Productions Research, Vol.29, No.5, pp. 1069-1079, (1991).

Cariapa, V., Stango, R.J., Liang, S.K., and Prasad, A., "Measurement and analysis of Brushing Tool Performance Characteristics: Part II – Contact Zone Geometry." Transactions of the ASME, Journal of Engineering for Industry**,** vol. 113, No. 3, pp. 290-296, (1991).

Stango, R.J., Cariapa, V., Prasad, A., And Liang, S.K., "Measurement and Analysis of Brushing Tool Performance Characteristics: Part I – Stiffness Response." Transactions of the ASME Journal of Engineering for Industry**,** Vol. 113, No.3, pp. 283-289, (1991).

II. Refereed Abstracts

Dhuru, V., Hintz, J., Cariapa, V., and Ferguson, D., "Surface properties of Different Types of Orthodontic Wires,"

Johnson Controls, Stereolithography resin grant, 1991. ($3000).

Voell Machinery, Milwaukee, software grant, 1991. ($5000).

Briggs and Stratton Corp., "Brush Deburring of Aluminum Alloy Materials," 1989-90 with R.J. Stango. ($21,500).

Briggs & Stratton Corp., "Development of an Automated Deburring Process," 1990 with R.J. Stango. ($20,000).

Briggs & Stratton Corp., Equipment grant, 1989. ($15,000).

EKF Design and Development Corp., software grant, 1988. ($6,500).

DataMyte Corporation, Minneapolis, MN equipment grants 1987. ($24,000).

General Motors Corp., continuation grant for development of the Industrial Engineering Manufacturing Program, 1987 with J. Farrow. ($250,000).

CADKEY, Micro Control Systems Inc., software grant, 1987. ($50,000).

Allen-Bradley, equipment grant, 1986. ($1,000).

Briggs & Stratton Corp., equipment grant, 1984. ($1,200).

III. Development of External Educational Facilities

In addition to the foregoing equipment and research grants, several companies and institutions (MATC, Briggs & Stratton, Kearny & Trecker) have provided the use of their facilities for instructional and research purposes. (Estimated value: $ 150,000).

IV. Unfunded Proposals

NSF, October 1, 2009, Exploring Intrinsic Properties of Granular Media. ($ 737,071 for 36 months)

Marquette University Equipment Grant. February 27, 2009, A Non-Contact Surface Finish Measuring System. ($105, 000).

NSF, February 16, 2009, Discovering Transport Mechanisms for Composite Granular Materials. ($ 631,507 for 28 months)

A Mass Finishing Model to Predict Material Removal, NSF, Project Director, $350,927, Sep. 28, 2005.

Mass finishing based on Process Models for Material Removal, NSF, Project Director, $323, 824, Jan 31, 2005.

Development of a Water Quality Analyzer for Astronaut Habitat Monitoring using X-Ray Fluorescence Spectroscopy for Determining Chemical Constituents. Co Investigator with Warren Kelliher from NASA Langley, $286,129 for 3 years, Aug. 2004 - Aug. 2007.

NSF/Whitaker. “A methodology for reducing Health Care Costs: August 97-August 2000. ($878,387).

NSF. “Design and evaluation of media for centrifugal disk mass finishing machines” August 1997-August 1999. ($58,551).

Spinal Cord Society “Radio frequency bladder sealing machine” January 1997 – June 1997 ($32,100).

Brown and Sharpe Metrology Grant, “Metrology grant program” April 1995 ($ 11, 847).

NSF. “Investigation of characteristics of small holes produced by wire electrical discharge machining” November 1994 ($30,000).

Marquette University Research challenge grant. “Proof of concept of computerized edema sensing systems for patients with spinal cord injury.” January 1994. ($9900).

Marquette University Research challenge grant. “Entrepreneurial strategy and success in turbulent industries.” January 1994 ($10,000).

Paralyzed Veterans of America, “Development of a Miniature Portable Extremity Pump System,” January 1993 ($98,630).

Brown and Sharpe Metrology Grant, “MicroVal PFx Personal Coordinate Measuring Machine,” April 1993 ($61,950).

Cleaver Brooks, Milwaukee, WI, “Design of Experiments,” April 1993 ($15,000).

Marquette University Schmitt Fellowship. October 1992 ($8400).

Briggs & Stratton Corp., “Implementation of Adaptively Controlled Deburring with Nylon Abrasive Nylon Filamentary Brushes,” April 1990 ($49,500).

National Science Foundation, “Adaptive Control of Circular Filamentary Brushes in a Deburring Operation,” January 1990 ($59, 323).

NSF, “Principles and Applications of Robotic Assembly,” November 1989 ($93,380).

Chada, S., M.S. Thesis – "Morphology of 6061-T6 Aluminum Surfaces Generated by Steel Wire Bushing," (M.S. Thesis, August 1990, Director R.J. Stango).

9. SERVICE ACTIVITIES

I. Committee Memberships

Member, College Computer Resources Committee (1987-2000).
Member, Department Laboratory Committee (1987-present).
Member, Search Committee for Industrial Engineering Director (1988-1989).
Member, Marquette University Library Board (1986-1987).
Member, Milwaukee Area Technical College Curriculum Committee for Computerized Machining Technology (1988-1995).
Member, Milwaukee Area Technical College Curriculum Committee on Industrial Engineering (1988-1995).

II. Miscellaneous Service

(a) 1984-1987 and 1991, 2000 – 2004 – Faculty Advisor to Student Chapter of Industrial Engineers at Marquette University.
(b) 1987-1990 – Young Scholars Programs.
(c) 1984-Present – Engineering Open House.

10. COURSE INTRODUCTION AND DEVELOPMENT:

I. Graduate Courses Developed and Taught

ENMA 282: Reliability and Design Fail( )Tj(1995l4Tn10.39 0 2 0 0 12 72 (1995l4T6 0.337l4182.33))MC B

INEN 143 Manufacturing Engineering 1.
INEN 144 Manufacturing Engineering 2.
INEN 148- Design of Engineering Experiments.
INEN 151- Work Measurement and Methods Development (with laboratory),
INEN 153- Manufacturing Processes (with laboratory).
INEN 160- Flexible Manufacturing Systems (with laboratory.
INEN 163- Applied Robotics (with laboratory).
INEN 195-

installing Computer Aided Design workstations, rapid prototyping machines, computer numerical controlled (CNC) metal removal machines, industrial robots, sensors, control computers and programmable logic controllers. In this laboratory, all of the machines will be networked and connected to a lab server. This lab will generate different types of data. This includes real time analog data, real time digital data, continuous signals, intermittent signals, on/off status data etc. These different types of data will be generated by experiments involving the various pieces of equipment that have been identified earlier in this section. All the data that is generated will be fed into data bases that will be used for educating students in the Industrial engineering, Manufacturing engineering and Business programs. Kimberly –Clark Corporation, donated $35,000 for investigating the proof-of-concept for such a lab.

11. HONORS RECEIVED:

i. Society of Manufacturing Engineers Scholar – University of Arkansas (1983-84)
ii. Alpha Pi Mu – Honor Society of the Institute of Industrial Engineers (1981-84)
iii. Professional Engineers Registration in April 1993
iv. Institute of Industrial Engineers Chapter 45-Member of the Year (92-93)
v. Institute of industrial Engineers Chapter 45- President (93-94 and 94-95)
vi. Institute of industrial Engineers Chapter 45 Board (1993-present)
vii. NASA Summer Faculty 1993 (NASA/Marshall Space Flight Center, Huntsville, AL).
viii. NASA Summer Faculty 1994 (NASA/Marshall Space Flight Center, Huntsville, AL).
ix. NASA Summer Faculty 2003 (NASA Langley Research Center, Hampton, Virginia).
x. NASA Summer Faculty 2004 (NASA Langley Research Center, Hampton, Virginia).
xi. NASA Summer Faculty 2005 (NASA Langley Research Center, Hampton, Virginia).
xii. NASA Summer Faculty 2006 (NASA Langley Research Center, Hampton, Virginia
xiii. Marquette University Senior design team placed 6th out of 41 teams in the International Capstone Design Fair (ICDF) held in Seoul National University of Science and Technology on November 17th, 2010.

12. MEMBERSHIP IN PROFESSIONAL SOCIETIES:

i. Alpha Pi Mu
ii. Institute of Industrial Engineers, Senior Member (10/80).
iii. Society of Manufacturing Engineers, Senior Member (10/80).