

RAJIV V. DUBEY

Address:

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Professional Preparation:

Indian Institute of Technology	Mechanical Engineering	B.Tech. 1978
Clemson University	Mechanical Engineering,	M.S. 1982
Clemson University	Mechanical Engineering,	Ph.D. 1986

Appointments:

1998 - Present	Professor and Chair, University of South Florida
2001 - Present	Director, Rehabilitation Engineering & Technology Program
1998 - 1999	B. Ray Thompsan Professor, University of Tennessee
1995 - 1998	Professor, University of Tennessee, Knoxville
1991 - 1995	Associate Professor, University of Tennessee, Knoxville
1986 - 1991	Assistant Professor, University of Tennessee, Knoxville
1984 - 1986	Instructor, Clemson University
1981 - 1984	Graduate Research Assistant, Clemson University
1980 - 1981	Product Engineer, Voltas Ltd.
1978 - 1980	Design Engineer, Godrej & Boyce Mfg. Co.

Research Interests:

Design, simulation and testing of haptic interfaces and assistive devices for persons with disabilities; rehabilitation engineering; robotic/telerobotic applications in healthcare, space and undersea, nuclear waste management; Smart electro-mechanical systems and mechatronics; Dynamic systems and controls.

Industrial Experience:

Design and manufacturing of press tools, jigs, fixtures, and special purpose machine components. Experience with a wide range of manufacturing processes. Design and marketing of machine tools.

Honors and Awards:

Fellow, ASME; Favorite Professor in the College of Engineering Award from the Student Teacher Education Association, the University of Tennessee, Knoxville, 1987; National Science Foundation Research Initiation Award, July 1989; B. Ray Thompsan Professorship Award, University of Tennessee, 1998, Presidents' Award for Faculty Excellence, University of South Florida, 2003.

Related Sample Publications (last 5 years):

- [1] N. Pernalet, Wentao Yu, R. V. Dubey, W.A. Moreno "Development of an Intelligent Mapping Based TeleRobotic Manipulation System To Assist Persons With Disabilities". Int. Conference on Robotics and Automation (*ICRA 2002*). Washington DC. U.S.A. May 21-26, 2002.
- [2] N. Pernalet, R. Gottipati, S. Edwards, W. Yu, R. Dubey, "Scaled Teleoperation Approach for Measuring Manipulation Capabilities of Persons with Disabilities". *International Journal of Human-friendly Welfare Robotic Systems*, vol. 4, No. 1, April 2003.
- [3] W. Yu, R. Dubey, N. Pernalet, "Eye-Hand Coordination Assessment Using a Robotic Haptic Interface". *Proceedings of the IEEE ICRA 2004*, Vol. 1, pp. 305-310, April 26- May 1, 2004, New Orleans, LA, USA.
- [4] R. Alqasemi, E. McCaffrey, K. Edwards, R. Dubey, "Kinematic Analysis, Evaluation and Development of Wheelchair-Mounted Robotic Arms". *GESTS International Transactions on Computer Science and Engineering*, vol. 25, No. 1, pp. 49-60, December 2005.
- [5] K. Edwards, R. Alqasemi, R. Dubey, "Design, Construction and Testing of a Wheelchair-Mounted Robotic Arm". *Proceedings of the IEEE ICRA 2006*, May 15-19, 2006, Orlando, Florida, USA.

Other Sample Publications (last 5 years):

- [1] Rajiv V. Dubey, S.E. Everett, K. Manocha and N. Pernalet, "Teleoperation Assistance through Variable Velocity Mapping and its Application to Fitts Task", *IEEE Trans. on Robotics & Automation*, June 2001.

- [2] Norali Pernaleté, Wentao Yu, Rajiv V. Dubey, Wilfrido A. Moreno, "Augmentation of Manipulation Capabilities of Persons With Disabilities Using Scaled Teleoperation," *2002 IEEE/RSJ International Conference on Intelligent Robots and Systems (IROS 2002)*, EPFL, Switzerland, Sep. 30-Oct.4, 2002.
- [3] N. Pernaleté, W. Yu, R. Dubey, W. Moreno, "Telerobotic Haptic System to Assist The Performance of Occupational Therapy Tests by Motion-Impaired Users". *Proceedings of the 2003 IEEE Int. Conf. on Robotics and Automation (ICRA 2003)*, pp. 1247-1252, September 14-19, 2003, Taipei, Taiwan.
- [4] W. Yu, R. Dubey, N. Pernaleté, "Robotic Therapy for Persons with Disabilities Using Hidden Markov Model Based Skill Learning". *Proceedings of the 2004 IEEE International Conference on Robotics and Automation (ICRA 2004)*, Vol. 2, pp. 2047-2079, April 26- May 1, 2004, New Orleans, LA, USA.
- [5] W. Yu, R. Alqasemi, R. Dubey, N. Pernaleté, "Telemanipulation Assistance Based on Motion Intention Recognition". *Proceedings of the IEEE ICRA 2005*, pp. 1121-1126, April 18-22, 2005, Barcelona, Spain.

Synergistic Activities:

- Participation in Research of Experience for Undergraduates (REU) program since 2000.
- Active involvement in Research Experience for Teachers (RET) program since 2002.
- Involved in tech transfer to the state-based industries in the areas of rehabilitation engineering.
- Editorship: Associate Editor (1989 - 1997), IEEE Transactions on Robotics and Automation.
- Video Proceedings Committee Chair for IEEE International Conference on Robotics and Automation: 1993, Atlanta; 1996, Minneapolis; 1999, Detroit; 2000, San Francisco; 2002, Taiwan.
- Session Organizer and/or Chair at Major Conferences: Organized and/or chaired sessions at IEEE ICRA, ASME WAM, ACC, Japan-USA Symp. on Flex. Auto. and other national / international conferences.
- Member, VA Patient Safety Center Advisory Board, James A. Haley Veterans Hospital, Tampa Museum of Science & Industry (MOSI) Advisory Board.

Recent Collaborators:

A. Nelson (VA Hospital), Ed Quigley (Shriners Hospital), Sandy Quillen (Physical Therapy, USF)

Graduate Advisor:

J. Y. S. Luh (Clemson University, Retired)

Graduate and Postdoctoral Advisees:

S. Khadem, R. B. Magness (NASA), H. Zghal (Université de Tunis), R. Issa (West Texas A&M), S. March-Leuba, T. F. Chan, B. S. McGhee, H. Kanthraj, J. Sheffield, Brian Domiano (ORNL), L. Driss, A. Shah, A. Das, A. Al-Hababi, A. Gizeler, S. Everett (NASA), A. Barnette, L. Marshall, Y. Isoda, S. Richardson, K. Manocha, N. Pernaleté (West Michigan), B. Fritz (USF), S. Zekri, Ed McCaffrey, M. Jurczyk, S. Konda, R. Tammana, K. Barhale, A. Upadhyay, J. Dhanraj, W. Yu, R. Alqasemi, E. Veras, S. Carey, S. Sanford, D. Polzer, J. Lott, L. Altic, K. Edwards.

Recent Grants and Contracts:

- [1] Rehabilitation Engineering & Technology Program", Florida Dept of Education, \$7,776,522, USF Account # 21-05-090-LO, March 2, 2001 to September 30, 2007, PI.
- [2]"Demonstratin Project on Prosthetics and Orthotics," Department of Education, \$992,000, July 1, 2005 to June 30, 2008, Co-PI with Quillen, William.
- [3] "Technology Development for Patient Safety Research Center ," James A. Haley Veterans' Hospital, USF Account # 21-05-081-LO June 1, 1999 - September 30, 1999, \$55,125, PI.
- [4] "Human-Machine Cooperative Telerobotics," University of Tennessee, Knoxville, USF Account # 21-05-080-LO, January 1, 1999-March 31, 2000, \$125,000, PI.
- [5] "Human-Machine Cooperative Telerobotics," National Science Foundation, USF Account # 21-05-079-LO, January 1, 1999-April 30, 1999, \$12,000, PI.
- [6] "Human-Machine Cooperative Control of Telerobotic Systems using Dual-Point Impedance Control," U.S. Department of Energy, August 1, 1997 to July 31, 1999, \$583,508, PI.
- [7]"Robot Task Space Analyzer," U.S. Department of Energy, contract # DE-AR26-97FT34314, \$802,201, Sept 1997 to Dec 8, 1998, Co-PI with W. R. Hamel, M.A. Abidi, J. Osborn and M. Hebert (CMU).
- [8] "Human-Machine Cooperative Telerobotics for Complex Task Execution," National Science Foundation, Grant # IRI-9706161, February 1, 1997 to January 31, 1998, \$50,000, PI.
- [9] "Design and Development of Robotic and Telerobotic Systems," Lockheed Martin Energy Systems, Nov. 1, 1995 to October 30, 1998, # 99732, PA T-30, \$300,000, PI with W. R. Hamel.
- [10] "Generalized Theory for Telerobotic Control of Dissimilar Master with Redundant-Joint Slave," Sandia National Lab, # AD-0623 and # AP-2476, September 3, 1992 to October 20, 1996, \$428,578, PI.