Ramu Perumal

126 Spencer Lab.
Dept. Of Mechanical Engineering
Univ. Of Delaware
Newark, DE-19716
perumal@me.udel.edu

Lab phone: 302-831-3011
Home phone: 302-286-1491
Fax: 302-831-3619

EDUCATION

Ph.D. University of Delaware, expected August 2003
Department of Mechanical Engineering

B.E. Pune University, India, June 1997
Department of Mechanical Engineering

EXPERIENCE

Research Assistant, Department of Mechanical Engineering, University Of Delaware, 1999-Present

- Developing a mathematical model for the human skeletal muscle to be used in a controls algorithm for Functional Electrical Stimulation.
- Developed and customized a stimulation and data acquisition system in LabView for testing healthy subjects and patients with stroke, cerebral palsy, and knee joint problems.
- Built a kinematic model of the commercially available Compact Wrist Actuator.
- Constructed a mathematical model and designed the testing protocols for the passive properties of skeletal muscle.

Project Engineer, Grindwell Norton Ltd., Bombay, India, 1997-1998

- Designed test machine to measure radial and axial run outs in grinding wheels.
- Lead the project team at Grindwell Norton Ltd. for commissioning Vertical Turret Lathe for production.

Research Assistant, Department of Mechanical Engineering, Pune University, India, 1996-1997

- Designed and manufactured a new prototype drilling machine to be used in manufacturing industries and in hospitals for brain surgery.

SPECIAL SKILLS

- Programming in LabView, Matlab, Fortran, C, C++, and VBA for Excel.
- Team project management and design experience.

LANGUAGES

- Bilingual English/Hindi, studied German for four years, and proficient in Marathi and Tamil.

AWARDS

- Research Assistantship at the University of Delaware, 1999-Present
- Best Engineer Trainee Award at Grindwell Norton Ltd, 1998
- Among the top five students selected for the DGP Hinoday Industrial Award, Pune University, 1997.

PUBLICATIONS AND PRESENTATIONS

- "Modeling the length dependence of isometric force in human quadriceps muscles," R.Perumal, A.S. Wexler, J. Ding, and S. A. Binder-Macleod. *Journal of Biomechanics* **35**, 919-930 (2002).

- "Mathematical modeling of skeletal muscle under non-isometric FES," R.Perumal, A.S. Wexler, J. Ding, and S. A. Binder-Macleod. *28th Annual Northeast Bioengineering Conference* **April** 2002.

REFERENCES:

- Professor Anthony S. Wexler, Department of Mechanical and Aeronautical Engineering, University of California, Davis.
- Professor Stuart A. Binder-Macleod, Chair, Department of Physical Therapy, University of Delaware.