

Curriculum Vitae

Jun Xu

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SCHOLARLY INTERESTS

Computational modeling in biomedical applications

EDUCATION

- Ph.D.** Mechanical Engineering, State University of New York at Stony Brook, New York. (08/1998 – 08/2003)
- M.S.** Thermal Engineering, Tsinghua University, Beijing, China (09/1992 – 07/1995)
- B.S.** Mechanical Engineering, Beijing University of Aeronautics and Astronautics, Beijing, China (09/1988 – 07/1992)

PROFESSIONAL EXPERIENCE

- 11/04-present **Postdoctoral associate**, Physiology and Biophysics, Weill Medical College of Cornell University.
 - Computational modeling of neuronal cells under physiological and pathological conditions
- 09/03-10/04 **Postdoctoral Fellow**, Neuroscience, Georgetown University Medical Center.
 - Computational and experimental investigation of the sensitivity of axons to molecular gradients in a novel chemotaxis assay
- 08/98 – 08/03 **Research Assistant**, Mechanical Engineering, State University of New York at Stony Brook, NY.
 - Computational modeling of dynamic cell adhesion, rolling, and deformation in a microchannel

- Computational modeling of cerebrospinal fluid flow within the spinal cavity

07/02-10/02 **Intern**, GT Equipment Technologies, Inc. (GTi), Nashua, NH.

- CFD design of supercritical carbon dioxide cleaning chamber for micro-scale contaminants removal

07/95 – 07/98 **Assistant Professor**, Dept of Mechanical Engineering, Beijing University of Aeronautics and Astronautics

- Taught undergraduate courses: “Heat and Mass Transfer” and “Thermodynamics”

SKILLS

- **Programming Languages:** C, C++, Java, Java Script, HTML, SQL, Visual C++, Visual Basic, and Fortran
- **Operate Systems:** Unix, Linux, and Microsoft Windows
- **Database Systems:** SQL Server and Sybase.
- **Tools:** NEURON, MATLAB, AUTOCAD, FLUENT, CFDRC, FIDAP, and ANSYS

PROFESSIONAL AFFILIATIONS

- Member of American Society of Mechanical Engineers (**ASME**)
- Member of The Society of Neuroscience (**SFN**)
- Member of New York Academy of Sciences

RECENT PUBLICATIONS AND PRESENTATIONS

- Goodhill, G.J. & **Xu, J.**, 2005. The development of retinotectal maps: a review of models. *Networks: Computation in Neural Systems*, in press.
- **Xu, J.**, Rosoff, W.J., Urbach, J.S. & Goodhill, G.J., 2005. Adaptation is not required to explain the long-term response of axons to molecular gradients. *Development*, In press.
- Goodhill, G., **Xu, J.**, and Urbach, J., 2004, “Predicting the spatial and temporal scales required for the signal transduction networks underlying growth cone chemotaxis,” Cold Spring Harbor Laboratory Meeting: Axonal Guidance & Neural Plasticity. Sept., 18-22.
- **Xu, J.** and Zhang, H., 2003, “Computational Modeling of Dynamic Cell Adhesion, Deformation, and Rolling under Blood Flow in a Microchannel,” *ASME IMECE*, pp. 1-10.

- **Xu, J.** and Zhang, H., 2003 “Computational modeling of firmly adhered cell and blood flow interactions in a micro-channel,” Proceedings of ASME Heat Transfer Conference, pp. 1-10.
- **Xu, J.** and Zhang, H., 2002, “Cell adhesion and deformation under dynamic shear flow in a micro-channel,” BED-Vol.53, 2002, ASME Advances in Bioengineering.
- **Xu, J.** and Zhang, H., 2001, “Cell Rolling and Deformation in a Shear Flow: An Micro and Macro Integrated Model,” Annual Fall Meeting of the Biomedical Engineering Society, 2001.
- Sun, D. W., **Xu, J.**, Zhang, H., Wan, Y. P., Prasad, V., and Wang, G. X., 2000, “Numerical Studies of Interface Velocity and Temperature during Thermal Spray Process,” Proceedings of 1st Int. Thermal Spray Conf., “Thermal Spray: Surface Engineering via Applied Science,” (Ed., C. C. Berndt), ASM Int., pp. 195-201.
- **Xu, J.**, Ferland, M., Zhang, H., and Prasad, V., 2000, “Thermal Analysis of Solidification in a Czochralski-Type Rotating System,” Proceedings of the ASME Heat Transfer Division, HTD-Vol. 366-3, pp. 263-272.
- Zhang, H., Larson, D. J. Jr., Chen, T. H., and **Xu, J.**, 2001, “An Integrated Macro- and Micro-Scale Model for Detached Solidification in a Bridgman Growth System,” Proc. IMECE 2001/HTD-24197, pp. 1-11.