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## Peter J. Basser, Ph.D., Senior Investigator

Peter Basser received his A.B., S.M., and Ph.D. degrees in Engineering Sciences from Harvard University, where his doctoral research focused on experimental and theoretical aspects of flow in collapsible tubes. He received his postdoctoral training in Bioengineering as a Staff Fellow in the Biomedical Engineering and Instrumentation Branch (BEIP), NIH. In 1997, Dr. Basser moved to NICHD, where he became Chief of the Section on Tissue Biophysics and Biomimetics. There, his group focuses on various aspects of tissue biology, particularly using quantitative methods for studying structure/function relationships in soft tissues, and assessing their changes in development, disease and degeneration. Dr. Basser's group is primarily known for the invention, development, and clinical implementation of MR diffusion tensor imaging (DTI), and for explaining the physical basis of magnetic stimulation of nerve fibers.



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### Selected Recent Publications:

- **Y. Assaf, R. Z. Freidlin, G. K. Rohde, and P. J. Basser (2004)** New modeling and experimental framework to characterize hindered and restricted water diffusion in brain white matter, *Magn Reson Med* 52, 965-978.
  - **P. J. Basser (2004)** Scaling Laws for Myelinated Axons Derived from an Electrotonic Core-Conductor Model, *J Integr Neurosci* 3, 227-244.
  - **P. C. Miranda, M. Hallett, and P. J. Basser (2003)** The electric field induced in the brain by Magnetic Stimulation: a 3-D finite element analysis of the effect of tissue heterogeneity and anisotropy, *IEEE Trans. Bio. Med. Eng* 50, 1074-1085.
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