

Timothy F. Havel

Scientist – Inventor – Entrepreneur

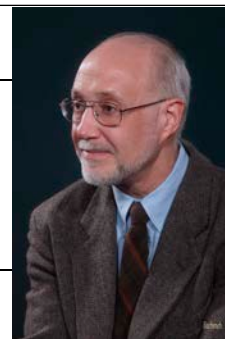
CONTACT INFO

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EMPLOYMENT

Current: Founder and CTO, Energy Compression Inc., Boston, MA
Developing a new grid-scale energy storage technology called Adsorption-Enhanced Compressed Air Energy Storage (AE-CAES), including engineering analysis, patent writing, market studies and team formation. Focused on contributing to society's long-overdue transition to a more sustainable energy infrastructure.

Research Affiliate, MIT Dept. of Mechanical Engin., Cambridge, MA
Research on energy storage in carbon nanotube "supersprings" (with Prof. Carol Livermore).

2007 – 2008: Research Associate, MIT Center for Technology, Policy & Industrial Development, Cambridge, MA
Built upon Sloan MOT thesis research by developing a system dynamics model of the semi-conductor industry value chain.

2000 – 2007: Principal Research Scientist, MIT Dept. of Nuclear Science and Engineering, Cambridge, MA
Designed experiments and performed data analysis on NMR experiments demonstrating the first prototypes of quantum computers.

1990 – 2000: Lecturer, Dept. of Molecular Pharmacology and Biological Chemistry, The Harvard Medical School, Boston, MA
Developed theory and software for the interpretation of NMR data on biological macromolecules.

1988 – 1990: Research Scientist, Biophysics Research Division, Univ. of Michigan, Ann Arbor, MI
Developed software for the determination of biomolecular structure from NMR & other data, which was widely marketed by Accelrys Inc.

1985 – 1988: Assistant Member, Dept. of Molecular Biology, The Scripps Research Institute, La Jolla, CA
Wrote software for and a book on conformational analysis by distance geometry.

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EDUCATION

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- 2007:** SM in the Management of Technology from MIT Sloan School of Management, Cambridge, MA
Thesis “Towards an Industrial Ecosystem for Power MEMS” surveyed the applications of top-down nanotechnology to energy transduction and outlined a technology roadmap for its future development.
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- 1985:** One year postdoctoral study with Prof. Andreas Dress, Fakultät für Mathematik, Uni. Bielefeld, Germany
Studied mathematical foundations of “distance geometry” applied to molecular conformation.
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- 1984:** Two years of postdoctoral study with Prof. Kurt Wüthrich in the Institut für Molekularbiologie und Biophysik of the Eidgenössische Technische Hochschule, Zürich, Switzerland
Responsible for computing the first protein structure to be determined in its native solution state by NMR spectroscopy, work which played a prominent role in Prof. Wüthrich’s 2002 Nobel Prize in Chemistry.
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- 1982:** PhD in Biophysics from the Univ. of California, Berkeley under the supervision of Profs. Irwin Kuntz and Gordon Crippen at UCSF
Thesis entitled “The Combinatorial Distance Geometry Approach to the Calculation of Molecular Conformation” was one of the earliest studies on the computational complexity of protein folding.
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- 1975:** BA in Chemistry from Reed College, Portland, OR
Concentrated on organic synthesis and molecular geometry.
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FUNDING

Directed or otherwise participated in 15 grants totaling approximately \$10 million from the NIH, the NSF, DARPA, NATO and the U.K. Ministry of Business, Innovation and Skills during the period 1987-2007.

PUBLICATIONS, LECTURES and PRODUCTS

Available on-line at <http://web.mit.edu/tfhavel/www>

PERSONAL

Citizenship: United States of America
Languages: German (reading)
Affiliations: ACS, APS, SIAM, ASES/ISES
