# Biographical Sketch - Michael F. Thorpe

## (a) Professional Preparation

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|---|---|---|---|
| University of Manchester | *Physics* | B.Sc. | 1965 |
| University of Oxford | *Research in Condensed Matter Theory,* | D.Phil. | 1968 |
| Brookhaven National Laboratory | *Research Associate, Physics Department* | | 1968-1970 |

## (b) Appointments

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|---|---|
| 2005-present | Director of the Center for Biological Physics |
| 2003-present | Foundation Professor, Physics & Chemistry and Biochemistry, ***Arizona State University*** |
| 1997-2003 | University Distinguished Professor |
| 1980-1997 | Professor |
| 1976-1980 | Associate Professor, Physics & Astronomy Department, ***Michigan State University*** |
| 1974-1977 | Associate Professor |
| 1970-1974 | Assistant Professor, Department of Engineering & Applied Science, ***Yale University*** |

## (c) Publications

**Closely related publications**

A. J. Rader, Brandon M. Hespenheide, Leslie A. Kuhn and M. F. Thorpe
*Protein Unfolding: Rigidity Lost* Proceedings of the National Academy of Sciences 99, 3540–3545 (2002). http://physics.asu.edu/mfthorpe/219.pdf

Stephen Wells, Scott Menor, Brandon Hespenheide and M. F. Thorpe *Constrained Geometric Simulation of Diffusive Motion in Proteins* Physical Biology 2, S127-S136 (2005). http://physics.asu.edu/homepages/mfthorpe/237.pdf

Tatyana Mamonova, Brandon Hespenheide, Rachel Straub, M. F. Thorpe and Maria Kurnikova *Protein Flexibility using Constraints from Molecular Dynamics Simulations* Physical Biology 2, S137-147 (2005). http://physics.asu.edu/homepages/mfthorpe/238.pdf

Craig Jolley, Stephen A. Wells, Brandon M. Hespenheide, M.F. Thorpe and Petra Fromme *Docking of Photosystem I subunit C using a constrained geometric simulation* J. American Chemical Society 128, 8803 - 8812 (2006) http://physics.asu.edu/homepages/mfthorpe/242.pdf

Holger Gohlke and M.F. Thorpe *A Natural Coarse Graining for Simulating Large Biomolecular Motion* Biophysics Journal 9, 2115-2120 (2006) http://physics.asu.edu/homepages/mfthorpe/244.pdf

**Other significant publications**

D. J. Jacobs and M. F. Thorpe *Generic Rigidity Percolation: The Pebble Game* Phys. Rev. Letts. **75**, 4051–4054 (1995). http://physics.asu.edu/mfthorpe/175.pdf

Donald J. Jacobs, A.J. Rader, Leslie A. Kuhn and M.F. Thorpe *Protein Flexibilty Predictions using Graph Theory Proteins* **44**, 150–165, (2001). http://physics.asu.edu/mfthorpe/216.pdf

Valentin A. Levashov, Simon J. L. Billinge and M.F. Thorpe *Density Fluctuations and the Pair Distribution Function* Physical Review B **72**, 024111 (2005). http://physics.asu.edu/mfthorpe/230.pdf

B.M Hespenheide, D.J. Jacobs and M.F. Thorpe *Structural rigidity in the capsid assembly of cowpea chlorotic mottle virus* J. Phys.:Condens. Matter **16**, S5055–5064 (2004). http://physics.asu.edu/mfthorpe/235.pdf

A. Sartbaeva, S.A. Wells, M.F. Thorpe, E.S. Bozin and S.J.L. Billinge *Geometric modeling of perovskite frameworks with Jahn-Teller distortions: application to cubic manganites* Phys. Rev. Letters. **97**, 065501 (pages 1-4 ), (2006). http://physics.asu.edu/mfthorpe/243.pdf

Over 245 articles published in scientific journals, see http://biophysics.asu.edu/conf/admin/list/journals.php

## (d) Synergistic Activities

My group hosts the flexweb site; software to analyze the flexibility of networks , which features a monthly net-meeting, available online http://flexweb.asu.edu.

Patent # 6014449 issued in 2000 to M.F. Thorpe and D. J. Jacobs
*Computer Implemented System for Analyzing Rigidity of Substructures within a Macromolecule*

Fellow of the American Physical Society and Fellow of the British Institute of Physics.

Member of Sigma Xi, AAAS, American Chemical Society and the European Physical Society.

First North American Editor: Journal of Physics: Condensed Matter. (1995-1998).

Founding General Series Editor of *Fundamental Materials Science*, published annually by Kluwer Academic/Plenum Publishers since 1994 [10 volumes].

Co–organizer and organizer of more than 12 workshops/conferences including three **NATO** – **ASI**'s, many with associated publications –currently organize annual workshop in Tempe every May.

Distinguished Faculty Award from Michigan State University in 1989.

D.Sc. from University of Oxford in 1993.

Monash Distinguished Visiting Professor in 1996.

## (e) Collaborators and Other Affiliations

**Collaborators and Co-Editors:** R.I. Barabash, R.A. Barrio, S.J.L. Billinge, J. Chung, L.C. Davis, A.R. Day, P.M. Duxbury, P. Fromme, E.J. Garboczi, H. Gohlke, B. Golding, D. Hines, M.D. Jaegger, D.J. Jacobs, I-K. Jeong, M. Kilfoil, M. Kurnikova, M. Kanatzidis, S. Kycia, L.A. Kuhn, S.D. Mahanti, M.I. Mitkova, C. Moukarzel, N. Mousseau, C.G. Naumes, J.B. Parkinson, J.C. Phillips, T.J. Pinnavaia, Y.G. Rubo, K.Shirai, A. Sievers, S.A. Solin, M.J.M Treacy, W. Whiteley and M.I. Zavodszky

**Graduate and Postdoctoral Advisors:** Emeritus Professor Sir Roger Elliott, University of Oxford and Dr. Martin Blume, Brookhaven National Laboratory – currently Editor-in-Chief at the American Physical Society.

**Thesis Advisor and Postgraduate-Scholar Sponsor:** Total number of advisees: 17 graduate students and 11 postdoctoral.

**Graduates and Post Doctoral Associates advised in the past 5 years:** N. Chubynsky (University of Montreal), D Farrell, Adam Degraff, Adrian Huerta Hernandez, B. Hespenheide (Arizona State University), D.J. Jacobs (UNCC), C. Jolley, M. Lei (Brandeis), V. Levashov (ORNL), S. Menor, A.J. Rader (Indiana University-Purdue), Stephen Wells