

Resume

Name

Prof. GuanHua Chen

Research Interests

Theoretical and computational chemistry, theoretical biophysics, and materials science. In particular, electronic and nuclear dynamics of organic materials in condensed phases, structure-property relationship of polymeric materials, charge transfer in biomolecules and protein folding.

Education

Ph.D. (5/92): *Chemical Physics*

California Institute of Technology, Pasadena, CA

Advisor: Prof. William A. Goddard III

Thesis: Superconductivities of High-T Materials Alkali Compounds of Buckminsterfullerene

B.Sc. (6/86): *Physics, Fudan University, China*

Professional Experience

May, 2010-Present:

Head of the Department of Chemistry, University of Hong Kong, Hong Kong.

Sep, 2007-Present:

Courtesy Professor, Department of Physics, University of Hong Kong, Hong Kong.

Sep, 2006-Present:

Professor, Department of Chemistry, University of Hong Kong, Hong Kong.

Dec, 1999-Sep. 2006:

Associate Professor, Department of Chemistry, University of Hong Kong, Hong Kong.

July, 1996-Dec. 1999:

Assistant Professor, Department of Chemistry, University of Hong Kong, Hong Kong.

June, 1996-July, 1996:

Visiting Scientist, Department of Chemistry, Hong Kong University of Science and Technology, Kowloon, Hong Kong; with Dr. YiJing Yan.

July, 1993-April, 1996:

Postdoctoral Fellow, Department of Chemistry, University of Rochester, New York; with Prof. Shaul Mukamel.

June, 1992-June, 1993:

Postdoctoral Fellow, Beckman Institute, California Institute of Technology, Pasadena, California; with Prof. William A. Goddard III.

July, 1987-May, 1992:

Graduate Research Assistant, Department of Chemistry, California Institute of Technology, Pasadena, California; with Prof. William A. Goddard III.

Honorary Positions

2005-Present:

Guest Professor, University of Science and Technology of China

2005-Present:

Senior Visiting Scholar, Tsinghua University

2002-2006:

Guest Professor, Dalian Institute of Chemical Physics

2002-2005:

Courtesy Professor, Zhongshan University

2003-2005:

Senior Visiting Scholar, Fudan University

1999-Present:

Guest Professor, Northeast Normal University

Awards

Outstanding Young Researcher Award 2001-2002, The University of Hong Kong

National Natural Science Award (First Class), Education Ministry of China (2008)

International Genetically Engineered Machine Competition, Bronze Award (2008)

Professional Services

- 1. Editorial Board Member: Journal of Computational and Theoretical Nanoscience; Molecular Simulation*
- 2. Guest Editor, Special Section, Journal of Computational and Theoretical Nanoscience, vol 3, 2006*
- 3. Co-Chairman of International Workshop on One-dimensional Nanostructured Materials: Properties, Devices and NEMS, June 26-29, 2007, Nanchang, China*
- 4. Co-Chairman of International Workshop on Computational Methods for Nanoscale Systems, Dec. 11-13, 2006, The University of Hong Kong, Hong Kong*
- 5. Co-Chairman of the International Workshop on Theoretical and Computational Chemistry of Complex Systems in conjunction with 3rd Chinese Theoretical and Computational Chemistry Conference, Jan. 3-7, 2005, Hong Kong*

Publication records

Five Representative Publications within recent five years

- 1. "Dynamic admittance of carbon nanotube-based molecular electronic devices and their equivalent circuit", C.Y. Yam, Y. Mo, F. Wang, X.B. Li, G.H. Chen, X. Zheng, Y. Matsuda, J. Tahir-Kheli and W.A. Goddard III, Nanotechnology 19, 495203 (2008).*
- 2. "Time-dependent density-functional theory for open systems", X. Zheng, F. Wang, C.Y. Yam, M. Yan and G.H. Chen, Phys. Rev. B 75, 195122 (2007).*
- 3. "Elementary building blocks of graphene-nanoribbon-based electronic devices", Z.P. Xu, Q.S. Zheng, G.H. Chen, Appl. Phys. Lett. 90, 223115 (2007).*
- 4. "Quantum mechanical investigation of field emission mechanism of a micrometer-long single-walled carbon nanotube", X. Zheng, G.H. Chen, Z.B. Li, S.Z. Deng and N.S. Xu, Phys. Rev. Lett. 92, 106803 (2004).*

5. "Electronic structure and charge distribution of potassium iodide intercalated single-walled carbon nanotubes", C.Y. Yam, C.C. Ma, X.J. Wang and G.H. Chen, *Appl. Phys. Lett.* 85, 4484 (2004).

Five Representative Publications beyond recent five years

1. "Energy dissipation mechanisms in carbon nanotube oscillators", Y. Zhao, C.C. Ma, G.H. Chen, and Q. Jiang, *Phys. Rev. Lett.* 91, 175504 (2003).
2. "Linear-scaling time-dependent density functional theory", ChiYung Yam, Satoshi Yokojima and GuanHua Chen, *Phys. Rev. B* 68, 153105 (2003).
3. "Electronic Structures and Optical Properties of Open and Capped Carbon Nanotubes", WanZhen Liang, XiuJun Wang, Satoshi Yokojima and GuanHua Chen, *J. Am. Chem. Soc.* 122, 11129 (2000).
4. "The Valence-Bond Charge Transfer Model for Nonlinear Optical Properties of Charge Transfer Organic Molecules", Daqi Lu, Guanhua Chen, Joseph W. Perry and William A. Goddard III, *J. Am. Chem. Soc.* 116, 10679 (1994).
5. "The magnon pairing mechanism of Superconductivity in Cuprate Ceramics", Guanhua Chen and William A. Goddard III, *Science* 239, 899 (1988).

Scientific pedigree

- Guanhua Chen obtained his Ph.D. in Physics in June 1992 from Prof. William A. Goddard III, Professor at Caltech (California Institute of Technology) in Pasadena CA
- William A. Goddard III obtained his Ph.D. in Engineering Science in October 1964 at from Prof. Pol Duwez, Professor at Caltech (California Institute of Technology) in Pasadena CA
- Pol Duwez received his D.Sc. in 1933 from Prof. Emile Henriot at U. Brussels in Belgium
- Emile Henriot received his D.Sc. in Physics in 1912 from Marie Curie, Professor at the Sorbonne, Paris France
- Marie Curie received her D.Sc. in 1903 from Prof. Becquerel at the Ecole Phys. Chim. Ind, Paris France