

Curriculum Vitae

Hoong-Chien (Paul) Lee

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Dr. H.C. Lee is University Chair Professor of Biophysics at the National Central University and was a Ministry of Education National Chair Professor (2006-2009).

He was educated at the Taipei Subordinate Middle School of the Normal University (1953-1959), National Taiwan University (BSc, 1963) and McGill University (MSc. 1967; PhD, 1969).

Dr. Lee was employed at the Canadian Chalk River Research Laboratories as a theoretical physicist from 1968 to 1993, progressing from postdoctoral fellow in 1968 to senior research officer in 1984. In 1992-1993 he was founding director of the Center for Mathematical Sciences. During this period his field of research was, in succession, nuclear physics, particles and fields, and mathematical physics. He also visited and worked at University of Toronto, McGill, Brookhaven National Labs., Niels Bohr Institute, National Taiwan University, Cambridge University, and Beijing Institute of Theoretical Physics.

In 1993 Dr. Lee returned to Taiwan, first chairing the physics department of the National Chung Hsing University from 1993 to 1995, then moving to the National Central University in 1995, where he is professor with the Department of Physics and, since 2006, head of the Graduate Institute of Systems Biology and Bioinformatics. In 1997 he turned to theoretical and quantitative biology, focusing on molecular evolution through the study of physical and statistical properties of genomic sequences. At NCU, he was the founding director of the Center for Complex Systems in 1996, which in 2003 spawned the Graduate Institute for Biophysics, first of its kind in Taiwan. In 2006 he led successful drives to found the Graduate Institute of Systems Biology and Bioinformatics, again a first in Taiwan, and the Center for Biotechnology and Biomedical Engineering. In recent years Dr. Lee has visited and worked at Universities of British Columbia and Montreal, Stanford, Hamburg University, Ottawa Institute of Systems Biology, Beijing Institute of Theoretical Physics, and Zhejiang University. Currently Dr. Lee is leading an interdisciplinary team including medical doctors to conduct systems biology studies of cancer by integrating DNA and protein array experiments, informatics and theoretical modeling.

Paul H.C. Lee

DATE AND PLACE OF BIRTH: 1941 August 12, Hong Kong

CITIZENSHIP: Republic of China

EDUCATION

Pei-Chun Primary School, Singapore, 1947

Subordinate Primary School of Jing-Hai Girls Middle School, Suzhou, 1948

Kowloon Tong Primary School, Hong Kong, 1948-1951

Hsin-An Public Primary School, Taipei, 1951-1953

Subordinate Middle School of the Normal University, Taipei, 1953-1959

Physics Department, National Taiwan University, Taipei, 1959-1963 (BSc.1963)

Physics Department, McGill University, Montreal, 1964-1968 (MSc., 1967; PhD, 1969)

CURRENT POSITIONS

Professor and Head, Graduate Institute of Systems Biology and Bioinformatics (2006-) and Professor, Department of Physics (1995-), National Central University
Visiting Professor, Institute of Modern Physics, Zhejiang University, Hangzhou (2005-).

EXPERIENCE

Chairman and Professor of Physics, Department of Physics, and first Head of Graduate Physics Institute, National Chung Hsing University, Taichung, Taiwan (1993-95)

Adjunct Professor, Department of Applied Mathematics, University of Western Ontario, London, Canada (1986-94)

Director, Centre for Mathematical Sciences (1992-93); Senior Research Officer, Theoretical Physics Branch (1985-93), Research Staff Member (1968-93), Chalk River Laboratories, AECL Research, Ontario, Canada.

SCHOLARSHIPS, FELLOWSHIPS, AWARDS

Ministry of Education (ROC) National Chair Professor (2006-2009)

University Distinguished Professor (National Central University, 2005-)

National Science Council Outstanding Research Award (2001-2002)

Fellow, Physical Society of the Republic of China (Elected 1997)

NSC Outstanding Research Award (1994-95)

NSC Research Awards (1993-, annually)

Natural Sciences & Engineering Research Council Grants (Canada) (1986-1994)

NATO Advanced Study Institute Award (1989)
 NATO Collaborative Research Grant (1988)
 Robinson College (Cambridge, UK) Fellowship (1987)
 NATO Advanced Research Workshop Award (1986)
 NATO Collaborative Research Award (1985)
 Royal Society Fellowship (UK) (1985)
 Canadian National Research Council Scholarships (1966-68)

VISITING POSITIONS

Institute of Systems Biology, University of Ottawa, Fall, 2005
 Santa Fe Institute, Summer, 2005
 Center for Bioinformatics, Hamburg University, Summers, 2004 & 2005
 Center for Mathematical Research, University of Montreal, August-October, 2002
 Stanford University, March-June, 2001
 Institute of Theoretical Physics, Beijing, Summers, 1988, 1989, 1992, 2001-
 Chalk River Labs, Simon Fraser University, TRIUMF and University of
 British Columbia, Summers, 1994-2000
 National Taiwan University, Summer, 1993
 Research Institute of Mathematical Sciences, Kyoto University, Summer, 1991
 Nankai Mathematics Institute, Tianjin, Summer, 1988
 Cambridge University, Summer, 1987; Spring, 1985
 National Taiwan University, Spring, 1984
 University of Alberta, Summer, 1981
 TRIUMF, Summer, 1979
 Niels Bohr Institute, Summer, 1978
 Brookhaven National Laboratory, Summers, 1978 & 1977
 McGill University, 1975
 University of Toronto, Spring, 1973

SERVICE

Program Review Committee, Central Advisory Committee,
 Academia Sinica, 2005–
 Member, Natural Science Division Advisory Committee,
 National Science Council, 2003–
 Coordinator, National Science Council Center for Theoretical Sciences Core
 Program on Biology Inspired Theoretical Sciences (BITS), 2000–
 Member, Ministry of Education Committee on Physics Terminology, 2000–
 Member, Executive Committee, National Science Council
 Center for Theoretical Sciences, 1997-2000
 Member, Council, Chinese Physical Society, 1997-2000
 Member, Advisory Board, Canadian Association of Physicists Summer
 Institutes, 1987-1992

Chairman, Particle Physics Division, Can. Assn. Phys., 1989
 Member, NSERC (Canada) Visiting Committee to National Centre
 for Mathematical Research, Université de Montréal, 1989
 Councilor, Institute of Particle Physics (Canada), 1986-89

JOURNAL REFEREE

Physical Review Letters
 Physical Review D, E
 Nuclear Physics A, B
 Physics Letters B
 European Physical Journal B
 BMC Bioinformatics
 PROTEINS: Structure, Function, and Bioinformatics
 Journal of Theoretical Biology
 GENE
 Journal of Bioinformatics and Computational Biology
 Advances in Complex Systems
 Genomics, Proteomics & Bioinformatics
 Journal of Information Science and Engineering
 Mathematical Biosciences
 Mathematical Analysis and Applications

ORGANIZATION OF SCHOOLS AND INSTITUTES

Organizer

BITS (Biology Inspired Theoretical Sciences) School and Workshop Series:
 I. *What can theoretical physicists do in biology?* NCU, Dec. 22-23, 1997
 II. *1st Cross-Strait BITS Workshop*, NCU, Chungli, June 15-17, 1998
 (Co-organized all cross-strait BITS workshops with Bailin Hao)
 III. *3rd BITS Workshop*, National Center for Theo. Sci., Shinchu, Jan. 22-23, 1999
 VI. *Advanced school on protein*, NCU and National Center for High Performance
 Computing, Shinchu, June 7-11, 1999
 V. *2nd Cross-Strait BITS Workshop*, ITP, Beijing, May 15-19, 2000
 VI. *3rd Cross-Strait BITS Workshop*, Donghua Univ., Hualian, Taiwan, July 8-12,
 2002
 VII. *4th Cross-Strait BITS Workshop*, Xiamen University, Xiamen, June 26-30, 2004
 VIII. *5th Cross-Strait BITS Workshop*, DongHai Univ., Taichung, June, 2006.
 IX. *6th Cross-Strait BITS Workshop*, Hunan Normal University, Changsha, June,
 2008
Workshop on Applied Mathematics, Chalk River, 1992
NATO Adv. Study Institute on Physics, Geometry and Topology, Banff, 1989
NATO Adv. Res. Workshop on Super Field Theories, Vancouver, 1986
Workshop on Kaluza-Klein Theories, Chalk River, 1983

Co-organizer

Symposium in Memorial to C.S. Wu, Taipei, 1997 Summer
Second Cross-Strait Workshop on High and Medium Energy Physics, Chungli
 1997 Summer
Spring School on Particles and Fields, Nantou, 1994 Spring
Can. Assn. Phys. Summer Institute on Field Theory in Two Dimensions,
 Edmonton 1988
Summer Institute on Quantum Field Theories, London, Ont. 1985

RESEARCH INTEREST

Before 1997: Many-body theory and nuclear physics (1968-73); Fundamental properties of electro-weak interaction in the nucleus (1974-82); Particle and fields (1983-1995); Yang-Baxter equation, knot theory, and quantum algebra (1988-1995); Complex systems (1995-1997).

After 1997: Theoretical, quantitative, and computational Biology. In particular, physical and statistical properties of genomic sequence (or, genomes as information carriers), comparative genomics, molecular evolution, genome growth and evolution. After 2006, emphasis began shifting to systems biology, where theoretical and quantitative biology are integrated with informatics and high throughput DNA and protein microarray data to tackle biomedical problems.

PUBLICATIONS

See List of Publications at the URL:

[<http://sansan.phy.ncu.edu.tw/~hcleee/pub/allpub.html>]

LECTURES

Numerous. For the approximately 100 international and external lecture given after 2002, see Talks Presented at the URL:

[http://sansan.phy.ncu.edu.tw/~hcleee/lec/list_of_talks.htm]

BEYOND ACADEMICS

Active in sports. Member of the track and fields teams in high school and university and participated in collegiate games. Did a number of sports as an adult, including tennis, cross-country skiing and windsurfing, and took part in amateur competitions. Of late the main sporting activity is jogging. Finish a marathon in 2002 (Hualian) and the 101 (building) race in 2006. For more than 30 years an early morning hour-long jog is part of a regular daily schedule.

Played second-violin parts in the (Taiwan) Youth Orchestra during high school and university years. Listening is now the main musical activity. Enjoy all categories of good music but is partial to works by Bach.

View the arts and literature as wonders of our civilization equal to science. A subscriber to the *The New York Review of Books* of long standing, for its long, thoughtful, and well-written articles on politics, books and culture.