

**Curriculum vitae of THUY T. LE**

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[Thuy.Le@sjsu.edu](mailto:Thuy.Le@sjsu.edu)<http://www.engr.sjsu.edu/tle/>**EDUCATIONAL BACKGROUND**

1987 – 1990: Ph.D. in Engineering, University of California, Berkeley

1985 – 1987: M.S. in Engineering, University of California, Berkeley

1984 – 1985: B.S. in Nuclear Engineering, University of California, Berkeley

**AFFILIATIONS**

- Who's Who Among America's Teachers: The Best Teachers in America Selected By The Best Students
- Who's Who in Science & Engineering and Who's Who in America published by Marquis Who Who's
- Advisor and Founding member of the Strategic Alliance Vietnamese Ventures International (Savvi)
- Chairman of Board of Director of the United States-Vietnam Foundation
- Member of Editorial Board of "Special Issue of the Science & Technology Development Journal of VNU-HCM," ISSN 1859-0128, 2010
- Technical Program Committee of 2010 Solid State System Symposium – VLSI & Related Technologies
- Chairman of International Committee of the International Conference on Nuclear Power Plant Technology and Safety, 2010
- Program Co-chair of the 6<sup>th</sup> IEEE International Conference on Computer and Information Science (ICIS 2007)
- Member of the User Program Development Tools for the Grid Research Group (UPDT)
- Technical Program Committee of the 2006, 2005, and 2004 Grid Benchmark Workshops at the International Parallel and Distributed Processing Symposia (sponsored by IEEE and ACM SIGARCH)
- Technical Reviewer of the 2005 Journal in World Innovations in Engineering Education and Research
- Technical Reviewer of the International Journal of Computers and Applications (published by ACTA Press)
- Technical Reviewer, Program Committee Member, and Senior Session Chair of the IEEE/ACIS International Conference on Computer and Information Science (ICIS2006)
- Technical Reviewer and Session Co-chair of the 3<sup>rd</sup> and 4<sup>th</sup> International Conferences on Computing, Communications, and Control Technologies (CCCT2005 and CCCT2006)
- Technical Reviewer, Program Committee Member, and Session Chair of the IEEE/ACIS International Conference on Software Engineering Research, Management & Applications (SERA2005)
- Technical Reviewer of the 9<sup>th</sup> World Multi-conferences on Systemics, Cybernetics, and Informatics (WSC2005)
- Technical Reviewer of the 2<sup>nd</sup> International Conferences on Computing, Communications, and Control Technologies (CCCT2004)
- Technical Reviewer and Session Co-Chair of the IEEE and IIS 8<sup>th</sup> and 6<sup>th</sup> World Multi-conferences on Systemics, Cybernetics, and Informatics (SCI2004 and SCI2002)
- Session Co-Chair of the International Conference on Parallel and Distributed Computing and Systems (PDCS2002)
- Technical Committee Member of the International Conference on Parallel and Distributed Processing Techniques and Applications (PDPTA2002)
- General Chair of 3rd Annual Meeting For The Vietnamese North-American University Professors Network (VNAUP2001)
- Member of Advisor Board of 2005 and 2002 Vacets Technical International Conference (VTIC05 and VTIC02)
- General Chair of 2000 Vacets Technical International Conference (VTIC00)
- Technical Program Committee of the International Conference in Mathematic, Computation, and Supercomputer in Nuclear Application (1997)
- Technical Program Vice-Chair of 1997 Vacets Technical International Conference (VTIC97)
- Session Chair and Technical Program Committee Member of 1996 Vacets Technical International Conference (VTIC96)
- Savannah River Laboratory Total Quality Awards in software development and physics analysis (1992, 1993)
- George Westinghouse Signature Award of Excellence in software development (1991)
- California Community College Teaching Credentials in Engineering and Physics

### **SOME INVITED SEMINARS AND SPEECHES**

- Invited speaker at the American Academy of Art and Science meeting – "Emerging Nuclear Power in Regional Contexts: Southeast Asia," Singapore (November 2010)
- Invited speaker at the American Nuclear Society (Northern California Chapter) Dinner Banquet, San Francisco, California (2010)
- Invited speaker at the Engineering Curriculum Development Workshop at Hanoi University of Technology, Vietnam (2008) (sponsored by the Vietnam Ministry of Education and Training)
- Invited speaker at the "National Policy for the Development of Vietnam in Education, Science and Technology," International Meeting Center, Hanoi, Vietnam (2005) (sponsored by the Vietnam Department of State and Ministry of Science and Technology)
- Invited speaker at the "Grid Computing Seminars," Hanoi University of Technology, Vietnam (2004) (sponsored by the Vietnam Ministry of Science and Technology)
- Speaker at NSF sponsored meetings on "U.S.-Vietnam Joint Education and Research," Vietnam (2001).
- Invited seminar at the "Fujitsu International User Group Meeting," Tokyo, Japan (1998)
- Invited speaker at the "International Symposium on Atomic Physics," Vietnam (1999)
- Invited seminar at the Institute of Theoretical Physics, Vietnam (1999)
- Invited speaker at the NSF funded "U.S.-Vietnam Education and Joint Research Workshop," Sacramento (1996)

### **GRANTS**

- \$1.4M National Science Foundation (NSF) grant for multiyear supported joint research with SJSU and Berkeley faculty members in Civil Engineering and Mechanical Engineering Departments
- \$20K, College of Engineering Development Grant (2006-2009) for multidisciplinary student project in "Human Hybrid Power Vehicle"
- \$2.5K, College of Engineering Lottery Grant (Fall 2002)
- \$17K, Fujitsu America, Inc. (High Performance Computing Division), "Experimenting and Preparing Fujitsu UXP Platform For Grid Infrastructure" (Fall 2001 & Spring 2002)
- \$5K, NSF Division of International Programs, "U.S.-Vietnam Meetings on Joint Engineering/Science Education and Research" (Fall 2001)
- \$2.5K, College of Engineering Lottery Grant (Fall 2001)
- \$15K, Fujitsu America, Inc. (High Performance Computing Division), "The Development of Fujitsu UXP Globus Toolkit" (Spring 2001 & Fall 2001)
- \$29K, California Workforce Initiative Grant (Spring 2001)

### **PROFESSIONAL POSITIONS**

**2006 to present:** Professor (**2001 to 2006:** Associate Professor), San Jose State University, Department of Electrical Engineering.

- Teach and develop graduate and undergraduate courses in Probability and Statistical Signal Analysis, Probability and Random Signal Processing, Linear System Theory, Microprocessor-Based System Design, Digital System Interfacing, Advanced Digital System Design, System on Chip, Numerical Methods.
- Serve as research and project advisor in the areas of computer clustering and networking, digital system and logic design, microcontroller and microprocessor, computer architectures, digital communication, computational algorithms and software development.
- Seek funding to support M.S. student research projects and for research and development activities
- Serve as member of departmental committees such as EE Graduate Task Force committee, EE undergraduate Silicon Valley Scholarship committee, Code of Ethics committee, Undergraduate and Graduate Curriculum committee, etc.
- Serve as Department Associate Chair (Fall 2010 to date)
- Serve as Undergraduate Coordinator (Fall 2006 to Spring 2010)
- Serve as departmental ABET coordinator (Spring 2001 to Fall 2006)
- Serve as member of College of Engineering Curriculum Assessment committee (Spring 2001 to Fall 2006)
- Serve as member of University Assessment committee
- Serve as member of University International Task Force
- Serve as advisor and mentor for Vietnamese Engineering Students

**2001 to 2010:** Consultant, Fujitsu America Inc., High Performance Computing Division

**1993 to 2000:** Senior R&D Engineer, Fujitsu America, High Performance Computing Division

- Conduct research projects in the areas of parallel and distributed algorithms and application developments, parallel computer architectures and benchmark, parallel programming and languages, computer performance analysis, computational grid and architecture of grid computing.
- Initiate and prepare research proposals. Present progress reports to research sponsors.
- Author of the Fujitsu distributed-memory version of KIVA-3 and KIVA-3V combustion engineering codes.
- Author of the Fujitsu distributed-memory version of FLO97 Multigrid Computational Fluid Dynamic code.

**1996 to 2000:** Part-time faculty member, San Jose State University, Department of Electrical Engineering.

- Teach several graduate and undergraduate courses in electrical engineering.

**1993-1996:** Consultant, Sierra Nuclear Corporation, Scotts Valley, California.

- Served as an independent technical reviewer for documents and reports in the areas of design calculations and criticality analysis

**1990-1993:** Senior Research Engineer, Savannah River Laboratory, Scientific Computation Division:

- Performed research projects in the areas of computational nuclear physics and analysis, computational methods and algorithms. Conducted software benchmarking and porting, computer user training, software certification and documentation.
- Author and co-author of several large production codes: Three-dimensional diffusion theory code (GRIMH3) for nuclear reactor design and operations, three-dimensional radiation shielding analysis code (ROOMDOSE), one-dimensional "SEARCH" computer system, the "MARJORI" and "WINDEX" computer systems for the production of cross sections of resonance nuclides.
- Conducted several projects in radiation shielding and criticality safety analysis, nuclear reactor calculations & neutron physics, nuclear fuel cycle & spent fuel calculations, reactor safety analysis & charge design.

**1991-1993:** Part-time faculty member, University of South Carolina at Aiken, Mathematical Science and Engineering Department. Courses taught: Differential Equations, Engineering Graphics and CAD tool technologies.

**1989-1990:** Physics Instructor, College of Alameda, Department of Applied Art and Science. Courses taught: Engineering Physics, Photoelectronic Physics

**1989-1990:** Consultant, Sierra Nuclear Corporation, Scotts Valley, California.

- Performed design calculations for nuclear fuel storages and criticality analysis

**1987-1990:** Graduate Student Instructor, University of California at Berkeley

**1988-1990:** Research Assistant Scientist, Lawrence Berkeley National Laboratory, Physics Division. Conducted research on hydrogenated amorphous silicon structure, very-low noise pre-amplifier, radiation effects to electronic devices and digital systems, high-energy radiation shower.

**1985-1988:** Reactor Operator & Health Physicist Assistant, University of California at Berkeley

**1981-1982:** Electronic Technician, Aertech Industry, Sunnyvale, California. Tested and repaired pre-amplifiers of Jet communication systems

**1978-1980:** Electronic Engineer, Vietnam National Institute of Science, Saigon, Vietnam. Designed and implemented electronic counter systems with electron tubes. Designed and implemented digital alarm systems.

## BOOK REVIEW

- "Probability and Random Processes - With Applications to Signal Processing and Communications," by Scott L. Miller, Elsevier Science/Academic Press (2010)
- "A Practical Introduction to Hardware/Software Codesign," by Patrick Schaumont, John Wiley & Sons (2008)
- "An Introduction to Signals and Systems," by John A. Stuller, Thomson Engineering (2006)
- "Probability & Random Processes for Electrical & Computer Engineers" by John Gubner, McGraw-Hill Companies (2005)
- "Signals and Systems" by M.J. Roberts, McGraw-Hill Companies (2004)
- "Guide to Unix and Linux" by Harley Hahn, McGraw-Hill Companies (2004)
- "Probability for Electrical and Computer Engineers" by Charles W. Therrien and Murali Tummala, John Wiley & Sons Publishers (2002)
- "Free and Open Source Software" by Eric P. Delozier, John Wiley & Sons Publishers (2001)
- "Principles of Computer Architecture" by Miles J. Murdocca and Vincent P. Heuring, Addison Wesley Publishing (1999)

**PUBLICATIONS IN THE PAST 10 YEARS**

- Thuy T. Le and John H. Levan, "Performance Study of GPU- and FPGA-based 3-D Monte Carlo Computation Used in Dynamic Radiation Topotherapy," *Proceedings of the International Conference in Computational Medicine*, 2012
- Thuy T. Le and Prince Mehta, "The Design and Implementation of a Modular-Structured Ethernet Medium Access Controller (MAC) Core," *Proceedings of the Solid State System Symposium – VLSI & Related Technologies*, 2010
- Thuy T. Le, "From Light-Water Reactor to High-Temperature Gas-Cooled Reactor – Some Issues in Computational Core Physics," *Proceedings of the International Conference on Nuclear Power Plant Technology and Safety*, 2010
- Thuy T. Le and Hoa V. Le, "Perspectives on Computational Reactor Physics for Generation IV Nuclear Reactors," *Proceedings of the 8th National Conference on Nuclear Science and Technology*, 2009
- Hoa Van Le and Thuy T. Le, "Cyberknife Stereotactic Radiosurgery System as a Simulation Device for Proton Scanning Beam Dynamic Topotherapy," *Proceedings of the 8th National Conference on Nuclear Science and Technology*, 2009
- Thuy T. Le, Syeda Naema Hashmi, and Kurt McMullin, "Cyberinfrastructure Development for Design and Testing of Nonstructural Building Components," *Proceedings of the 14th World Conference on Earthquake Engineering (WCEE 2008)*.
- Thuy T. Le, Syeda Naema Hashmi, and Kurt McMullin, "Synchronizer - A Web-based Application to Enhance Capabilities of NEESCentral Web Portal," *Proceedings of the 7th IEEE/ACIS International Conference on Computer and Information Science (ICIS 2008)*
- J. H. LeVan, T. T. Le, R. P. Laureckas, and M. T. Dang, "A New Dynamic Topotherapy Using Stationary Sweeping Radiation Fan Beam and Moving Scanning Microbeam," *International Journal of Radiation Oncology Biology Physics, Volume 69, Issue 3*, November 2007
- Thuy T. Le, "Approximate Element Computational Time for Domain Decomposition in Parallel Finite Element Code," *Proceedings of the 6th IEEE/ACIS International Conference on Computer and Information Science (ICIS 2007)*
- Kirk Q. Vu and Thuy T. Le, "The Design of PCI Interface Core for the Embedded Message Passing Interface," *Proceedings of the 2007 VACETS International Conference*, Milpitas, California, June 2007 (VTIC07)
- Thuy T. Le, "Model the MPI Performance for non-Contiguous Data," *Proceedings of the 5th IEEE/ACIS International Conference on Computer and Information Science (ICIS 2006)*
- Thuy T. Le, John H. Levan, and Patricio I. Meneses, "High-Performance and Grid Computing for Study and Research in Infectious Diseases," *Proceedings of the Scientific Conference on Infectious Diseases and Tropical Medicine – Co-organized and sponsored by the Military Medical University of Vietnam and U.S. Naval Institute for Dental and Biomedical Research (NIDBR)*, June 2006
- Thuy T. Le and Jalel Rejeb, "A Detailed MPI Communication Model for Distributed Systems," *Journal of Future Generation Computer Systems*, Volume 22, Issue 3, pp 269-278, February 2006
- Jalel Rejeb, Kaginele, S., and Thuy Le, "Compact and Power Conscious Private-key Cryptosystem for Wireless Devices," *IEEE proceeding on Wireless and Mobile Communications*, pp 88-94, July 2006
- Jalel Rejeb, Le T.T, and Anand N., "High Speed and Reliable Anti-Spam Filter," *IEEE proceeding on Software Engineering Advances*, pp 66-69, Oct 2006
- Thuy T. Le, "A Dynamic Multilevel MPI Broadcast Scheme for the Grids," *International Journal of Computer and Information Science (IJCIS)*, volume 6, number 3, June 2005
- Chakravarthi Madaboosi, Jalel Rejeb and Thuy T. Le, "A Compact and Low-Power Implementation of the Montgomery Algorithm for a Public-Key Cryptosystem," *Proceedings of IASTED International Conference on Communication, Network, and Information Security (CNIS 2005)*
- Thuy T. Le, "Tuning System-Dependent Applications with Alternative MPI Calls – A Case Study," *Proceedings of the IEEE 3rd ACIS International Conference on Software Engineering, Research, Management and Applications (SERA2005)*
- Thuy T. Le, "An Effective MPI Broadcast Implementation for the Grid," *Proceedings of the 3rd International Conference on Computing, Communications, and Control Technologies (CCCT2005)*
- Thuy T. Le, "MPI Communication Characteristics for System-Dependent Application Tuning," *Proceedings of the IIS 9th World Multi-conference on Systemics, Cybernetics and Informatics (WMSCI2005)*
- Thuy T. Le, "MPI Performance of Various Multirail Infiniband Clusters," *Proceedings of the 2005 VACETS International Conference (VTIC05)*, Milpitas, California (June 2005)

- Thuy T. Le, "Reorganizing Engineering Curriculum for New Global Standard - A Personal Perspective," *Journal of World Innovations in Engineering Education and Research* – Special Volume, 2005
- Thuy T. Le, "Performance Factors in Modeling MPI Collective Communications," *Proceedings of the IEEE & IIS 8th World Multi-conference on Systemics, Cybernetics, and Informatics (SCI2004)*
- Thuy T. Le, "Interpreting the Assessment Results for the Program Enhancement - Experience with EC2000," *Congress Proceedings of the 4th UNESCO Global Congress on Engineering Education (UICE2004)*, Bangkok, Thailand (July 2004)
- Thuy T. Le, "The Correlation in Constituency Assessment Results from EC2000 Based Survey Questionnaire," *Proceedings of the iNEER International Conference for Engineering Education and Research (ICEER2004)*, Olomouc, Czech Republic (June 2004)
- Jalel Rejeb, Meenakshi Vohra, and Thuy T. Le, "IKE-based Secure Wireless and Mobile Networks," *Proceedings of the IEEE 6th Circuits and Systems Symposium on Emerging Technologies*, May 31 – June 2, 2004, Shanghai, China, pp. 567-570.
- Thuy T. Le and Jalel Rejeb, "Performance of Parallel Logic Event Simulation on PC-Cluster," *Proceedings of the IEEE 2004 International Symposium on Parallel Architectures, Algorithms, and Networks (ISPAN04)*, Hong Kong, China (May 2004)
- Michael Frumkin and Thuy T. Le, "Monitoring and Modeling Performance of Communications in Computational Grids," *Proceedings of the IASTED International Conference on Parallel and Distributed Computing and Systems (PDCS03)*, Marina del Rey, CA (Nov. 2003)
- Khoa N. Nguyen and Thuy T. Le, "Evaluation and Comparison Performance of Various MPI Implementations on an OSCAR Linux Cluster," *Proceedings of the IEEE International Conference on Information Technology: Coding and Computing*, (ITCC2003)
- Khoa N. Nguyen and Thuy T. Le, "Communication Characteristics of a PC Cluster," *Proceedings of the International Conference on Parallel and Distributed Processing Techniques and Applications*, (PDPTA2003)
- Thuy T. Le, "Evaluating Communication Performance Measurement Methods for Distributed Systems," *Proceedings of the IASTED International Conference on Parallel and Distributed Computing and Systems (PDCS02)*, MIT, Cambridge, Massachusetts (Nov. 2002)
- Thuy T. Le, "Performance of Parallel Applications on Computational Grids," *Proceedings of the IEEE & IIS 6th World Multi-conference on Systemics, Cybernetics, and Informatics (SCI 2002)*, Vol. XI, Computer Science II, pp.433-438, ISBN 980-07-8150-1
- Thuy T. Le, "MPI Communication Performance On the Two-Layered Crossbar Inter-Network," *Proceedings of the International Conference on Parallel and Distributed Processing Techniques and Applications (PDPTA 2002)*, Vol. IV, pp.1577-1583, ISBN 1-892512-90-4
- Thuy T. Le, "An Investigation of Communication Methods for Fujitsu UXP in Network of Supercomputers," *Proceedings of 2002 VACETS Technical International Conference (VTIC02)*, George Mason University, Fairfax, Virginia (May 2002)

### **SOME SIGNIFICANT TECHNICAL DOCUMENTS**

- "User's Manual for KEFF, MGBS, ARAY, TGAN, and TGAL Criticality Computer Codes," Department of Energy - Westinghouse Savannah River Co. WSRC-TR-93.
- "User's Manual for GRIMH3: Multi-Dimensional Diffusion Theory Code for Hexagonal Geometry Reactor," Department of Energy - Westinghouse Savannah River Co. WSRC-TR-92-504.
- "Programmer's Manual for GRIMH3: Multi-Dimensional Diffusion Theory Code for Hexagonal Geometry Reactor," Department of Energy - Westinghouse Savannah River Co. WSRC-TR-92-505.
- "User's Manual for GRIMHX and TRIMHX: Three Dimensional Hexagonal Static and Transient Diffusion Theory Codes," Department of Energy - Westinghouse Savannah River Co. WSRC-TR-91-663.
- "Verification, Validation, and Benchmarking Report for TRIMHX: A Transient Two- and Three-Dimensional Diffusion Theory Code," Department of Energy - Westinghouse Savannah River Co. WSRC-TR-92-044.
- "User's Manual for GILDA: An Infinite Lattice Diffusion Theory Code," Department of Energy - Westinghouse Savannah River Co. WSRC-TR-91-481.
- "Verification, Validation, and Benchmarking Report for GILDA: An Infinite Lattice Diffusion Theory Calculation," Department of Energy - Westinghouse Savannah River Co. WSRC-TR-91-503.
- "Verification, Validation, and Benchmarking Report for AXLIB4: A Processor to Generate JOSHUA Files of Axial Power Shapes versus Time," Department of Energy - Westinghouse Savannah River Co. WSRC-TR-91-430.