

Xuan-Tu Tran

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Education

- Ph.D. in Micro Nano Electronics, [Grenoble INP](#), 2008. (Thesis title: “Test Method and Design-for-Test of Asynchronous Networks-on-Chip: Application to ANOC Network.”) This thesis was done at the [CEA-LETI](#), [MINATEC](#), Grenoble, France from January 2005 to December 2007. Defended in February 2008.
- M.Sc. in Radio-Electronics and Communication, [Vietnam National University, Hanoi](#), 2003. (Thesis title: “Design and Implementation of a System for Measuring and Transferring Data via Power-Line Networks.”)
- B.Sc. in Electronics and Communication, [Hanoi University of Science](#), 1999.

Appointments

- **2009 July-August:** Visiting professor at the CEA-LETI, MINATEC and at University of Paris-Sud 11 (France).
- **2008-present:** Lecturer, [The](#) University of Engineering and Technology (UET), Vietnam National University, Hanoi (VNU); Vice-Head of [Smart Integrated Systems Laboratory](#) (from April 2008); Head of VLSI Systems Design (VSD) Group (from 01/2009); Coordinator of International Training Programs at the UET (from 01/2009).
- **2003-2008:** Engineer-Researcher, ASIC design department, CEA-LETI, MINATEC, Grenoble, France
- **2000-2003:** Assistant Professor, Faculty of Technology, Vietnam National University, Hanoi.
- **1999:** Engineer-Researcher, Vietnam Institute of Electronics, Information, and Automation (VIELINA), Ministry of Industry, Vietnam.

Research Interests

- Design and Test of Networks-on-Chip (NoC), Systems-on-Chip (SoC),

* Aka: College of Technology or ColTech

- Asynchronous/Synchronous VLSI design,
- Design-for-Test/Testability (DfT),
- Video codec design (hardware)

Awards

- Award from the College of Technology, Vietnam National University, Hanoi for scientific research activities (2008).
- Fellowship from the CEA-LETI (3 years – from 01/2005 to 12/2007).
- Scholarship from Rhône-Alpes region (2006-2007)
- Scholarship from the CEA-LETI (1 year ½ - from 7/2003 to 12/2004)).
- Certificate of merit from College of Technology for undergraduate research advising (2002-2003).
- Diploma of merit from the National Youth Association for social activities (2002).
- Diploma of merit from Hanoi Youth Association for social activities (2001).
- Certificate of merit from Vietnam National University Youth Association (2000, 2001, 2002).
- Award of Association of Japanese Banks (Mitsubishi UFJ Foundation, Japan) for excellent results in study and research (1999)
- Certificate of merit from Hanoi University of Science for many achievements in study (1999).
- 2nd prize - Scientific Research Contest for students at Hanoi University of Science (1998)
- Certificate of merit from Hanoi University of Science for achievements and social activities (1997).

Research grants

- Research Grant from Vietnam National University (VNU-level project, N° QC.09.15): *Designing and Modelling of a High-speed Bus for Systems-on-Chip*. This project is funded by Vietnam National University, Hanoi
- Research Grant from Vietnam National University (VNU-level key project, N° PUF.08.06): *Design and Implementation of a System-on-Chip for Control and Environment Monitoring over Ethernet Network*. This project is co-funded by PUF (Pôle Universitaire Français) and Vietnam National University, Hanoi.

- Research Grant from Vietnam National University (VNU-level project, N° QC.08.18): *Design and Modeling of a Network Router for On-Chip Communication Architectures*. This project is funded by Vietnam National University, Hanoi.

Publications

Papers in peer-reviewed journals

- [1] **Xuan-Tu Tran**, Yvain Thonnart, Jean Durupt, Vincent Beroulle, and Chantal Robach. Design-for-Test Approach of an Asynchronous Network-on-Chip Architecture and its Associated Test Pattern Generation and Application. *IET Journal on Computers and Digital Techniques*, Volume 3, Issue 5, pp. 487-500 (DOI:10.1049/iet-cdt.2008.0072) September 2009.
- [2] Beigne, E.; Clermidy, F.; Lhermet, H.; Miermont, S.; Thonnart, Y.; **Tran, X.**; Valentian, A.; Varreau, D.; Vivet, P.; Popon, X.; Lebreton, H. An Asynchronous Power Aware and Adaptive NoC Based Circuit. *IEEE Journal of Solid State Circuits (JSSC)*, Volume 44, Issue 4, pp. 1167-1177 (DOI: 10.1109/JSSC.2009.2014206), April 2009.
- [3] **Xuan-Tu Tran**, Yvain Thonnart, Jean Durupt, Vincent Beroulle, and Chantal Robach. High-Speed Design-for-Test Architecture for Asynchronous NoC-based Systems-on-Chip. Submitted to *IEEE Transactions on Computers* (2008).

Peer-reviewed conference papers

- [4] **Xuan-Tu Tran**, Hai-Phong Phan, Van-Huan Tran, Quang-Vinh Tran, and Ngoc-Binh Nguyen. Design and Implementation of an AMBA AHB Compliant Bus Architecture on FPGA. In *Proceedings of the IEICE VLSI Design Technologies (VLD) conference*, Okinawa, Japan, March 2010.
- [5] Yvain Thonnart, **Xuan-Tu Tran**, Pascal Vivet, Edith Beigné, Fabien Clermidy, Jean Durupt. An Asynchronous Low-Power Innovative Network-on-Chip including Design-for-Test capabilities. In *Proceedings of the 2009 International Conference on Advanced Technologies for Communications (ATC 2009)*, pp. 59–62, Hai Phong, Vietnam, October 2009. (*Invited paper*)
- [6] P.T. Hong, Phi-Hung Pham, **Xuan-Tu Tran**, Chulwoo Kim. Analysis and evaluation of traffic-performance in a backtracked routing network-on-chip. In *Proceedings of the 2nd International Conference on Communications and Electronics (ICCE 2008)*, pp. 13–17, Hoi An, Vietnam, June 2008. (*Oral presentation*)
- [7] E. Beigne, F. Clermidy, J. Durupt, H. Lhermet, S. Miermont, Y. Thonnart, **T. Tran-Xuan (X.-T. Tran)**, A. Valentian, D. Varreau, P. Vivet. [An Asynchronous Power Aware and Adaptive NoC Based Circuit](#). In *Proceedings of the 2008 Symposium on VLSI Technology and Circuits*, Hilton Hawaiian Village, Honolulu, Hawaii, June 2008. (*Oral presentation*)

- [8] **Xuan-Tu Tran**, Yvain Thonnart, Jean Durupt, Vincent Beroulle, and Chantal Robach. A Design-for-Test Implementation of an Asynchronous Network-on-Chip Architecture and its Associated Test Pattern Generation and Application. In *Proceedings of the ACM/IEEE International Symposium on Networks-on-Chips (NOCS 2008)*, pp. 149–158, Newcastle upon Tyne, UK, April 2008. (*Oral presentation*)
- [9] **Xuan-Tu Tran**, Yvain Thonnart, Jean Durupt, F. Bertrand, Vincent Beroulle, and Chantal Robach. [Implementation of a Design-for-Test Architecture for Asynchronous Networks-on-Chip](#). In *Proceedings of the ACM/IEEE International Symposium on Networks-on-Chips (NOCS 2007)*, pp. 216–216, New Jersey, USA, May 2007. (*Poster*)
- [10] **Xuan-Tu Tran**, Jean Durupt, F. Bertrand, Vincent Beroulle, and Chantal Robach. How to Implement an Asynchronous Test Wrapper for Networks-on-Chip Nodes. In *Informal Proceedings of the 12th IEEE European Test Symposium (ETS 2007)*, pp. 29–34, Freiburg, Germany, May 2007. (*Oral presentation*)
- [11] **Xuan-Tu Tran**, Jean Durupt, F. Bertrand, Vincent Beroulle, and Chantal Robach. A DFT Architecture for Asynchronous Networks-on-Chip. In *Proceedings of the IEEE European Test Symposium (ETS 2006)*, pp. 219–224, Southampton, UK, May 2006. (*Oral presentation*)
- [12] **Xuan-Tu Tran**, Jean Durupt, F. Bertrand, Vincent Beroulle, and Chantal Robach. Conception en Vue de Test pour l'Architecture d'un Réseau sur Puce Asynchrone. In *Proceedings of Journées Nationales du Réseau Doctoral en Microélectronique (JNRDM 2006)*, pp. 504–507, Rennes, France, May 2006. (*Poster, in French*)
- [13] **Xuan-Tu Tran**, Vincent Beroulle, Jean Durupt, Chantal Robach, and F. Bertrand. Design-for-Test of Asynchronous Networks-on-Chip. In *Proceedings of the IEEE Workshop on Design and Diagnostics of Electronic Circuits and Systems (DDECS 2006)*, pp. 163–167, Prague, Czech, April 2006. (*Oral presentation*)
- [14] Dien-Tap Ngo and **Xuan-Tu Tran**. Control over the Power Lines. In *Proceedings of the Asian International Conference on Power System Protection*, pp. 578–581, Nanjing, China, October 2003. (*Oral presentation*)
- [15] Dien-Tap Ngo and **Xuan-Tu Tran**. Measure Temperature over the Power Lines. In *Proceedings of the 8th National Conference on Radio and Electronics (REV 2002)*, pp. 377–380, Hanoi, Vietnam, November 2002. (*Oral presentation*)

Others publications and technical reports

- [1] E. Beigne, P. Vivet, F. Clermidy, Y. Thonnart, A. Valentian, S. Miermont, H. Lhermet, **T. Tran-Xuan (X.-T. Tran)**, J. Durupt, D. Varreau, C. Bour. ALPIN: an Asynchronous Low-Power Innovative NoC. *Demonstration*, The 2nd ACM/IEEE International Symposium on Networks-on-Chip (NOCS 2008) & The 14th IEEE International Symposium on Asynchronous Circuits and Systems (ASYNC 2008).

- [2] **Xuan-Tu Tran.** Test Specifications for the Proposed DfT Architecture in ALPIN Circuit. *Internal technical report*, CEA-Leti, MINATEC.
- [3] **Xuan-Tu Tran.** A Survey of Design-for-Test Techniques for Systems-on-Chip. *Internal technical report*, CEA-Leti, MINATEC.
- [4] **Xuan-Tu Tran.** A Survey of Research and Practice Activities on Networks-on-Chips. *Internal technical report*, CEA-Leti, MINATEC.
- [5] **Xuan-Tu Tran.** Design and Implementation of a Viterbi Decoder for FAUST project. *Internal technical report*, CEA-Leti, MINATEC, Juin 2004. (*FAUST stands for Flexible Architecture of Unified Systems for Telecom*).
- [6] Dien-Tap Ngo and **Xuan-Tu Tran.** Truyền số liệu đo lường trên mạng điện lưới. *Tuyển tập các báo cáo tại Hội nghị toàn quốc về Đo lường, Điều khiển, và Giám sát môi trường*, Hanoi, 2003. (*Oral presentation, in Vietnamese*)

Thesis

- [1] PhD thesis: [Méthode de Test et Conception en Vue du Test pour les Réseaux sur Puce Asynchrones: Application au Réseau ANOC](#). (In French, defended on February 12th, 2008).
- [2] Master thesis: Design and Implementation of a System for Measuring and Transferring Data via Power-Line Networks.

Talks

- [1] Design for Test Approach for Asynchronous Networks-on-Chip. Joint Symposium on Applied Science, Information and Communication Technology (ASICT), Southeast University, Nanjing, China, May 2008.
- [2] On-chip Communication: Toward a reconfigurable and fault tolerant platform. NEC-ColTech joint workshop, Hanoi, September 2008.

Professional Activities

- Membership
 - Member of IEEE.
 - Member of the Radio-Electronics Association of Vietnam (REV).
- Program Committee Member (Conferences):
 - The 2010 International Conference on Advanced Technologies for Communication (ATC/REV), October 2010.
 - The 5th IEEE International Symposium on Electronic Design, Test & Applications (IEEE-DELTA), January 2010.

- The 2009 International Conference on Advanced Technologies for Communication (ATC/REV), October 2009.
- The 2008 International Conference on Advanced Technologies for Communication (ATC), October 2008. (TCP Secretary Board member)
- Reviewer:
 - Conferences: IEEE-DELTA 2010, ATC/REV 2009, IEEE-ETS 2008, HUT-ICCE 2008, ATC 2008.
 - Journals: Journal of Information and Communication Technologies (VN).
- Other Service:
 - Member of Conferences Organization Committee of the Radio-Electronics Association of Vietnam (REV).
 - Publication Chair of The 2010 International Conference on Advanced Technologies for Communications (ATC), 2010.
 - Session chair: IEEE-DELTA 2010.
 - Publication Chair of The 2009 International Conference on Advanced Technologies for Communications (ATC/REV), 2009.
 - Publication & Web Chair of The 2008 International Conference on Advanced Technologies for Communications (ATC), 2008.
 - EEATS PhD students' day (JDD 2006) – Organizing committee member.
 - Foundation committee of “Từ điển Công nghệ” (Techno Dictionary): <http://tudiencongnghhe.com>
- Advising:
 - Undergraduate Research Advising:
 - 2003 (1 student): Tran Quang Dat (K45-DTVT, 3rd price).
 - 2002 (3 students): Tran Duc Chung, Nguyen Kiem Hung, Pham Minh Trien (K44-DTVT, 1st price).
 - Undergraduate Advising:
 - 2010 (4 students): Bui Duy Hieu, Khuc Hao Mai, Đỗ Mạnh Tiến, Ngô Văn Chuyên (K51-DTVT).
 - 2009 (3 students): Pham Thi Lan, Nguyen Ngoc Mai (K50-DTVT); Le Xuan Hien (DTVT-K28, Hue University).
 - 2003 (3 students): Tran Duc Chung, Nguyen Kiem Hung, Pham Minh Trien (K44-DTVT).
 - Master Advising:

- 2010 (1 student): Nguyễn Văn Miên
- 2009 (3 students): Phan Hai Phong, Nguyen Thi Toan, Vu Thi Kim Nhung.

Visited Countries

- Japan (2010 - Kanazawa and Okinawa), Belgium (2006), China (2002, 2008), Czech (2006), France (2003-2008, 2009), Germany (2007), Italia (2003, 2008), Monaco (2007), Rome (2008), Spain (2007), Switzerland (2004, 2007), United Kingdom (2006, 2008).