# WRTLT'01 The Second Workshop on RTL ATPG & DFT

## November 22-23, 2001, Nara, Japan

(Naramachi-center, 38 Higashiterabayashi-cho, Nara-shi, Nara 630-8362, Japan)

**Sponsored by** IEEE Computer Society Test Technology Technical Council **In cooperation with** Technical Group on Fault Tolerant Systems, IEICE





## Website for WRTLT'02: http://www.ip.elec.mie-u.ac.jp/~wrtlt02/

#### SCOPE

The Workshop on RTL ATPG & DFT (WRTLT) provides an international forum for interchanging ideas and implementation experiences on register transfer (RT) level automatic test pattern generation (ATPG) and design for testability (DFT). For systems on chip (SOC) devices, it has become a real hot topic to improve VLSI testability using high-level descriptions. Now in its 2nd year, just after the ATS'01, papers are solicited on all aspects of RT-level testing techniques. Photocopies of accepted papers will be handed out at the workshop site. We hope and expect the workshop will provide all participants with new ideas and food for thought through informal interactions and discussions.

#### **Topics of interest include**(but not limited to)

- Functional fault modeling
- RT-level ATPG
- RT-level DFT
- RT-level BIST
- Relationship between RTL and gate level testing

#### IMPORTANT DATES

Submission: July 31, 2001 => twelve noon, August 10, Japan Standard Time.

Acceptacnce: August 31, 2001

• Final version: to be announced

• Registration: Advance registraton due: October 20, 2001

=> On-site registration

• Reception: November 21, 2001. 19:00-21:00.

At a restaurant, "Kissa Naramachi", 1st Floor, Naramachi Center.

(Snack and drink will be served. Please join.)

• Workshop: November 22-23, 2001

For up-to-date information refer to this WRTLT'01 web site or contact the workshop chairs.

## Final Program (Updated 11/15 2001)

WRTLT'01 Final Program (11/15 2001)

WRTLT'01 Advance Program (Updated 10/06 2001)

## Advance Registration Instructions and Registration Form

Advance registration due: October 20, 2001

#### Access & Accommodations

(Updated 11/01 2001, access to Nara)

#### Access

You can find an access to Nara here. If you come to Nara from Kyoto after ATS'01, we recommend to use a Kintetsu line other than a JR line. KINTETSU Kyoto station is adjacent to JR Kyoto station, and both are close to Righa Royal Hotel KYOTO (the place of ATS'01). Here is a MAP around Nara-Machi center and stations. KINTETSU Nara station is an underground station. If you go to the hotels, use the EXIT 4 and go up to the ground. If you go to Nara-Machi center, use the EXIT 2.

#### Accommodations

We keep some rooms for WRTLT'01 participants in Hotel Fujita NARA (English page) and NARA Washington Hotel Plaza (<u>Japanese page</u>). We also hold a banquet at Hotel Fujita NARA. Please use the following Hotel Reservation Form. For guaranteed reservation send the completed form by Oct. 31, 2001 to the HOTEL.

Hotel Fujita NARA (PDF, Word) (Updated 10/18 2001, Fax number was incorrect) Nara Washington Hotel Plaza (PDF, Word) (Updated 9/18 2001)

## Call for Papers



## **Organization**

General Chair

Hideo Tamamoto (Akita University, Japan) tamamoto@ie.akita-u.ac.jp

Program Co-Chairs

Kazuhiko Iwasaki (Tokyo Metropolitan University, Japan) iwasaki@eei.metro-u.ac.jp Xiaowei Li (Peking University, China) lxw@pku.edu.cn

Finance Chair

Hiroshi Yokoyama (Akita University, Japan) yokoyama@ie.akita-u.ac.jp

Local Arrangements Chair

Michiko Inoue (NAIST, Japan) kounoe@is.aist-nara.ac.jp

Program Commitee

S. Fukumoto, Japan T. Inoue, Japan X. Wen, USA S. Gupta, USA Z. Li. China C-W. Wu, Taiwan K. Hatayama, Japan T. Masuzawa, Japan S. Xu, China T. Hayashi, Japan K. Saluja, USA H. Youn, Korea T. Hosokawa, Japan Y. Sun, China D. Zhang, China

W. Huang, China J. P. Teixeira, Portugal

## WRTLT Steering Committee

Chair:

Yinghua Min (Academia Sinica, China)

#### **Members:**

Hideo Fujiwara (NAIST, Japan) Kazuhiko Iwasaki (Tokyo Metropolitan University, Japan) Xiaowei Li (Peking University, China) Kewal K. Saluja (University of Wisconsin, USA) Terumine Hayashi (Mie University, Japan) Hideo Tamamoto (Akita University, Japan) J. Paulo Teixeira (IST/INESC, Portugal) Dafang Zhang (Hunan University, China) Alex Orailoglu (University of California, USA)

## Links

- Nara City Tourism Section's Home Page
- Nara Prefecture
- Nara City
- Naramachi-center (Japanese)
- ATS'01 Web site

## WRTLT'01 Final Program

Registration (Meeting room 4, Naramachi center 3F) 19:00 - 21:00 Nov. 21 8:40 - 18:00 Nov. 22 9:00 - 15:00 Nov.23 Technical Session (Meeting room 2, Naramachi center 3F) Nov. 21, 2001 Reception 19:00 - 21:00 (Kissa Naramachi, Naramachi center 1F) Nov. 22, 2001 Opening 9:00 - 9:15 Invited talk 9:15 - 10:00 (45-min) Chair : K. Iwasaki VCore Based Design Technology for the Next Generation SOC M. Muraoka - Semiconductor Technology Academic Research Center, Japan Session 1 10:20 - 12:00 (100-min) Chair : K. Hatayama 1.1: Why RTL ATPG? Y. Min - Chinese Academy of Sciences, China A Scheduling Method in High-Level Synthesis for RTL Acyclic Partial Scan Design T. Inoue, T. Miura, A. Tamura - Hiroshima City University, Japan H. Fujiwara - Nara Institute of Science and Technology, Japan Modeling and Organizing of RTL Transfer Faults
Z. Yin, Y. Min, X. Li - Chinese Academy of Sciences, China Partial Scan Testing on the Register-Transfer Level 1.2: 1.3: B. S. Greene - C-Level Design Inc., U.S.A. S. Mourad - Santa Clara University, U.S.A. Lunch Steering Committee Meeting (members only) (Meeting room 1, Naramachi center3F) 12:00 - 13:30 Session 2 13:30 - 14:45 (75-min) Chair : T. Masuzawa Design for Consecutive Testability of Systems-on-a-Chip with Built-In Self Testable 2.1: Cores T. Yoneda, H. Fujiwara - Nara Institute of Science and Technology, Japan Memory-Based Reconfigurable Chip Architecture and Its RT-Level BIST 2.2: Y. Yamada, Y. Ichinoseki, K. Ichino, S. Fukumoto, K. Iwasaki - Tokyo Metropolitan University, Japan M. Sato - Hitachi, Ltd., Japan Circular ScanBIST: A Highly Efficient BIST Technique for Sequential Circuits K. S. Kim - Intel Corporation, U.S.A. 2.3: Session 3 15:00 - 16:15 (75-min) Chair : S. Fukumoto Devising an RT-Level ATPG for uProcessor Cores F. Corno, G. Cumani, M. Sonza Reorda, G. Squillero - Politecnico di Torino, Italy 3.1:

Constraint Driven Pin Mapping for Concurrent SOC Testing

Corporation, U.S.A.

Y. Huang, S. M. Reddy - University of Iowa, U.S.A.
N. Mukherjee, C. Tsai, O. Samman, Y. Zaidan, Y. Zhang, W. Cheng - Mentor Graphics

3.3 : A DSP-based Test Scheme and Its Optimization for Systems on a Chip H. Hu, S. Yihe - Tsinghua University, China

Session 4

16:30 - 18:00 (90-min) Chair : K. Saluja

Semi-Random Testing for Combinational Circuits

S. Xu, J. Chen - Shanghai University, China Module-based Hierarchical Test Generation for Combinational Circuits at Register-4.2: Transfer Level

X. Huang, D. Zhang, Y. Min - Human University, China A flexible platform for the functional validation of programmable circuits 4.3:

R. Velazco, F. Faure - TIMA Laboratory, France
Non-Scan Design for Testability for RTL Circuits Based on Conflict Analysis 4.4 :

4.5:

4.6:

D. Xiang, S. Gu - Tsinghua University, China
An FSM-Based Programmable Memory BIST Architecture
P.-C. Tsai, S.-J. Wang - National Chung-Hsing University, Taiwan, ROC
A Non Scan DFT Method using Functional Information of Operational Modules
H. Date, T. Hosokawa, M. Muraoka - Semiconductor Technology Academic Research Center, Japan

Banquet (Garden room, Hotel Fujita 1F)

18:30 - 20:30

#### Nov. 23, 2001

Session 5

9:00 - 10:15 (75-min)

Chair : Z. Li

High-Level Analysis for Effective Test 5.1:

J. A. Abraham - The University of Texas at Austin, U.S.A.

5.2: Test Requirement Analysis for Low Cost Hierarchical Test Path Construction

Y. Makris - Yale University, U.S.A.

A. Orailoglu - U. C. San Diego, U.S.A. A design for hierarchical testability for RTL data paths using extended data flow 5.3:

graphs

S. Nagai, S. Ohtake, H. Fujiwara - Nara Institute of Science and Technology, Japan

Session 6

10:40 - 11:30 (60-min)

Chair : H. Li

Low Power Test Compatibility Classes: Exploiting regularity for simultaneous reduction 6.1: in test application time and power dissipation

N. Nicolici - McMaster University, Canada B. M. Al-Hashimi - University of Southampton, U.K. Test Power Reduction for Full Scan Sequential Circuits by Test Vector Modification 6.2:

S. Kajihara, K. Ishida, K. Miyase - Kyushu Institute of Technology, Japan

Lunch

11:30 - 13:00

Session 7

13:00 - 14:40 (100-min)

Chair : S. Xu

Path Delay Test Generation for Standard Scan Designs Using State Tuples 7.1:

Y. Shao, S. M. Reddy - University of Iowa, U.S.A. I. Pomeranz - Purdue University, U.S.A.

7.2:

Compact TPG Design for a Deterministic BIST Scheme
T. Hayashi, T. Suzuki, T. Shinogi, H. Kita, H. Takase - Mie University, Japan
Efficient RT-level Test Generation Techniques based on Refinement of Finite-state

Machines

H. Li, Y. Min - Chinese Academy of Sciences, China 7.4:

A Compacted Test Plan Table Generation Method for RTL Data Path Circuits

T. Hosokawa, H. Date, M. Muraoka - Semiconductor Technology Academic Research Center, Japan

Tour

7.3:

14:40

Todaiji Temple tour (the Great Buddha etc.)

## **Regular Session**

Nov. 22

**Opening** 

9:00 - 9:15

Invited talk

9:15 - 10:00

VCore Based Design Technology for the Next Generation SOC

M. Muraoka - Semiconductor Technology Academic Research Center, Japan

Session 1

10:20 - 12:00

Chair: \*\*\*

1.1: Why RTL ATPG?

Y. Min - Chinese Academy of Sciences, China

- 1.2: A Scheduling Method in High-Level Synthesis for RTL Acyclic Partial Scan Design
- T. Inoue, T. Miura, A. Tamura Hiroshima City University, Japan
- H. Fujiwara Nara Institute of Science and Technology, Japan
- 1.3 : Modeling and Organizing of RTL Transfer Faults
- Z. Yin, Y. Min, X. Li Chinese Academy of Sciences, China
- 1.4: Partial Scan Testing on the Register-Transfer Level
- B. S. Greene C-Level Design Inc., U.S.A.
- S. Mourad Santa Clara University, U.S.A.

#### Lunch

#### Steering Committee Meeting (members only)

#### 12:00 - 13:30

_			_
<b>\</b>	CCIA	nn	,
	ssi		

13:30 - 14:45

**Chair: \*\*\*** 

- 2.1: Design for Consecutive Testability of Systems-on-a-Chip with Built-In Self Testable Cores
- T. Yoneda, H. Fujiwara Nara Institute of Science and Technology, Japan
- 2.2: Memory-Based Reconfigurable Chip Architecture and Its RT-Level BIST
- Y. Yamada, Y. Ichinoseki, K. Ichino, S. Fukumoto, K. Iwasaki, M. Sato Tokyo Metropolitan University, Japan
- 2.3 : Circular ScanBIST: A Highly Efficient BIST Technique for Sequential Circuits
- K. S. Kim Intel Corporation, U.S.A.

Session 3

15:00 - 16:15

**Chair: \*\*\*** 

- 3.1 : Devising an RT-Level ATPG for uProcessor Cores
- F. Corno, G. Cumani, M. Sonza Reorda, G. Squillero Politecnico di Torino, Italy
- 3.2 : Constraint Driven Pin Mapping for Concurrent SOC Testing
- Y. Huang, S. M. Reddy University of Iowa, U.S.A.
- N. Mukherjee, C. Tsai, O. Samman, Y. Zaidan, Y. Zhang, W. Cheng Mentor Graphics Corporation, U.S.A.
- 3.3 : A DSP-based Test Scheme and Its Optimization for Systems on a Chip
- H. Hu, S. Yihe Tsinghua University, China



- 5.2: Test Requirement Analysis for Low Cost Hierarchical Test Path Construction
- Y. Makris Yale University, U.S.A.
- A. Orailoglu U. C. San Diego, U.S.A.
- 5.3: A design for hierarchical testability for RTL data paths using extended data flow graphs
- S. Nagai, S. Ohtake, Hideo Fujiwara Nara Institute of Science and Technology, Japan

Session 6

10:40 - 11:30

**Chair: \*\*\*** 

- 6.1 : Low Power Test Compatibility Classes: Exploiting regularity for simultaneous reduction in test application time and power dissipation
- N. Nicolici McMaster University, Canada
- B. M. Al-Hashimi University of Southampton, U.K.
- 6.2: Test Power Reduction for Full Scan Sequential Circuits by Test Vector Modification
- S. Kajihara, K. Ishida, K. Miyase Kyushu Institute of Technology, Japan

Lunch

11:30 - 13:00

Session 7

13:00 - 14:40

**Chair: \*\*\*** 

- 7.1: Path Delay Test Generation for Standard Scan Designs Using State Tuples
- Y. Shao, S. M. Reddy University of Iowa, U.S.A.
- I. Pomeranz Purdue University, U.S.A.
- 7.2 : Compact TPG Design for a Deterministic BIST Scheme
- T. Hayashi, T. Suzuki, T. Shinogi, H. Kita, H. Takase Mie University, Japan

7.3: Efficient RT-level Test Generation Techniques based on Refinement of Finite-state Machines
H. Li, Y. Min - Chinese Academy of Sciences, China
7.4: A Compacted Test Plan Table Generation Method for RTL Data Path Circuits
T. Hosokawa, H. Date, M. Muraoka - Semiconductor Technology Academic Research Center, Japan
Tour
15:00 -

return to the top page

## REGISTRATION



Advance registration instructions and Registration Form (PDF)



Click right buttm on your mouse to save this file

## **ADVANCE REGISTRATION INSTRUCTIONS**

Advance registration due: October 20, 2001

To register, mail or fax your complete registration form with payment to:

Hiroshi Yokoyama, WRTLT'01 Finance Chair

Dept. of Computer Sci. and Eng., Akita University

1-1 Tegata Gakuen-cho, Akita-shi, Akita 010-8502, JAPAN

Phone: +81-18-889-2776 Fax: +81-18-837-0408

E-mail: yokoyama@ie.akita-u.ac.jp

No registration form will be accepted after November 9, 2001 (postmarked cut-off).

After November 9, 2001, there will be on-site registration only.

## **Registration Fee:**

Workshop registration fee includes admission to all technical sessions, coffee breaks, reception, banquet and a copy of the workshop digest of papers. The student fee does not include banquet. The banquet ticket may be purchased separately by accompanying persons and students for 6,000 yen per person.

#### Before Oct 20, 2001:

IEEE/CS Member	Non-Member	Student
22,000 yen	30,000 yen	8,000 yen

#### After Oct 20, 2001:

IEEE/CS Member	Non-Member	Student
27,000 yen	36,000 yen	10,000 yen

#### Payment:

• Payment by bank transfer: (recommend)

The account name must be written as:

WRTLT FINANCE YOKOYAMA HIROSHI

Account No. 668455

Tegata Branch (Branch # 133), Akita Bank (Bank # 0119), Akita, Japan

• Payment by bank draft:

Make sure to indicate WRTLT FINANCE YOKOYAMA HIROSHI and your name on it.

• Payment by credit card: Unavailable.

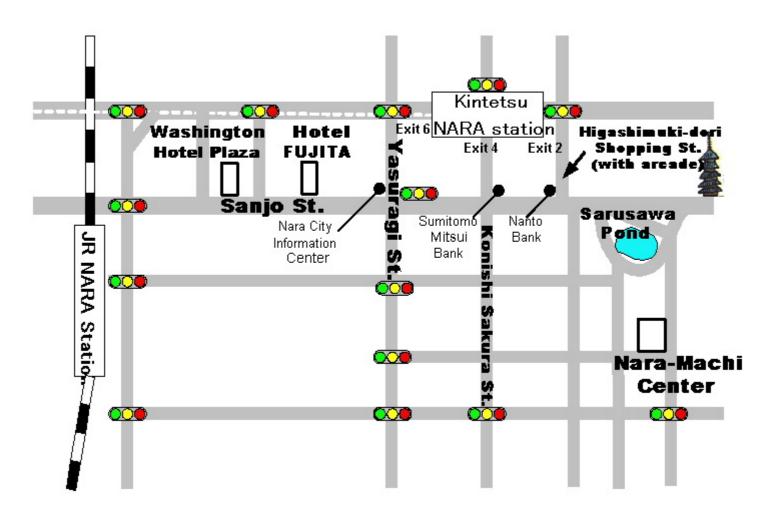
## **Refund Policy:**

No refunds will be made unless written request for cancellation is received prior October 20, 2001.

## For Japanese:

日本国内からの送金は銀行振込みでお願いいたします。上記口座は、日本語では以下のようになります。

WRTLT FINANCE 横山洋之,または WRTLT FINANCE ヨコヤマヒロシ 秋田銀行 手形支店 普通預金 668455



## **Hotel Reservation Sheet**

Please complete this form and send to:

Hotel Fujita Nara (47-1 Shimosanjo-cho, Nara-city, Nara 630-8236 Japan)

Facsimile: +81-742-22-0255 Telephone: +81-742-23-8111

The hotel will let you know whether acceptable or not after it would receive this sheet.

Please send it by 2001/10/31.

#### PARTICIPATION:

**WRTLT'01 (Workshop on RTL ATPG & DFT)** (2000/11/22-23)

Name			
Address			
City		Country	
Telephone		Facsimile	
I shall be accompanie	ed by: Name		
Check-in Date	Check-out D	ate	Stay nights
Room type: Please ma	ark below which room you want	to stay	
For one person	on		
	Single room	8,500	yen (per night)
	Twin room for single use	13,000	yen (per night)
For two pers	ons		
	Twin room	8,000	yen (per night and per one person)
Room charge	es include breakfast and service	fare, but exclud	de tax.
Please mark below w	hich room you want to stay		
	Non Smoking room		Smoking room
Signature			Date

hotelform-fujita.doc 1

## **Hotel Reservation Sheet**

Please complete this form and send to:

NARA WASHINGTON HOTEL PLAZA (31-1 Shimosanjo-cho, Nara-city, Nara 630-8236 Japan)

Facsimile: +81-742-27-0484 Telephone: +81-742-27-0410

The hotel will let you know whether acceptable or not after it would receive this sheet.

Please send it by 2001/10/31.

#### PARTICIPATION:

WRTLT'01 (Workshop on RTL ATPG & DFT) (2000/11/22-23)

name		
Address		
City	Country	
Telephone	Facsimile	
I shall be accompanied by: Name		
Check-in Date	Check-out Date	Stay nights
Room type: Please mark below wh	ich room you want to stay	
For one person		
Single r	oom 8,500	yen (per night)
Room charges include brea	akfast and service fare, but exclu	de tax.
Please mark below which room you	ı want to stay	
Non Sm	oking room	Smoking room
Signature		Date

hotelform-washington 1

## CALL FOR PAPERS WRTLT'01

Workshop on RTL ATPG & DFT November 22-23, 2001, Naramachi-Center, Nara, Japan

#### Sponsored by

IEEE Computer Society Test Technology Technical Council

#### In Cooperation with

Technical Group on Fault Tolerant Systems, IEICE





#### **General Chair**

Hideo Tamamoto Akita University, Japan tamamoto@ie.akita-u.ac.jp

#### **Program Co-Chairs**

Kazuhiko Iwasaki TokyoMetropolitanUniversity,Japan iwasaki@eei.metro-u.ac.jp

Xiaowei Li

Peking University, China lxw@pku.edu.cn

#### **Finance Chair**

Hiroshi Yokoyama Akita University, Japan yokoyama@ie.akita-u.ac.jp

#### **Local Arrangements Chair**

Michiko Inoue NAIST, Japan kounoe@is.aist-nara.ac.jp

#### **Program Committee**

- S. Fukumoto, Japan
- S. Gupta, USA
- K. Hatayama, Japan
- T. Hayashi, Japan
- T. Hosokawa, Japan
- W. Huang, China
- T. Inoue, Japan
- Z. Li, China
- T. Masuzawa, Japan
- K. Saluja, USA
- Y. Sun, China
- J. P. Teixeira, Portugal
- X. Wen, USA
- C-W. Wu, Taiwan
- S. Xu, China
- H. Youn, Korea
- D. Zhang, China

The Workshop on RTL ATPG & DFT (WRTLT) provides an international forum for interchanging ideas and implementation experiences on register transfer (RT) level automatic test pattern generation (ATPG) and design for testability (DFT). For systems on chip (SOC) devices, it has become a real hot topic to improve VLSI testability using high-level descriptions. Now in its 2nd year, just after the ATS'01, papers are solicited on all aspects of RT-level testing techniques. Photocopies of accepted papers will be handed out at the workshop site. We hope and expect the workshop will provide all participants with new ideas and food for thought through informal interactions and discussions.

Topics of interest include (but not limited to):

- Functional fault modeling
- RT-level ATPG
- RT-level DFT
- RT-level BIST
- Relationship between RT-level and gate-level testing

#### **IMPORTANT DATES**

Submission: July 31, 2001 Acceptance: August 31, 2001 Final version: to be announced

- Submissions must be made as Postscript or PDF attachments to e-mail sent to wrtlt@info.eei.metro-u.ac.jp
- Submissions must be a complete paper of 10 pages maximum, or an extended summary from four to six pages.
- The title page must include abstract, keywords, full mailing address, telephone and Fax number and e-mail address.
- An author of every accepted paper must present at the workshop

For up-to-date information refer to the WRTLT'01 website

http://wrtlt.ie.akita-u.ac.jp/wrtlt/
or contact the workshop chairs.

Nara is an ancient capital of Japan. In the end of November, you can enjoy not only a beautiful combination of red and yellow autumnal leaves but also historical shrines and temples. For more on tourism, a couple of links will be found at the above site.

#### **WRTLT Steering Committee**

Chair: Yinghua Min, Academia Sinica, China Members:

Hideo Fujiwara, NAIST, Japan Kazuhiko Iwasaki, Tokyo Metropolitan University, Japan Xiaowei Li, Peking University, China Kewal K. Saluja, University of Wisconsin, USA Hideo Tamamoto, Akita University, Japan J. Paulo Teixeira, IST/INESC, Portugal Dafang Zhang, Hunan University, China

#### CALL FOR PAPERS WRTLT'01

Workshop on RTL ATPG & DFT Nara, Japan November 22-23, 2001

http://wrtlt.ie.akita-u.ac.jp/wrtlt

Sponsored by

IEEE Computer Society Test Technology Technical Council In Corporation with Technical Group on Fault Tolerant Systems, IEICE

The Workshop on RTL ATPG & DFT (WRTLT) provides an international forum for interchanging ideas and implementation experiences on register transfer (RT) level automatic test pattern generation (ATPG) and design for testability (DFT). For systems on chip (SOC) devices, it has become a real hot topic to improve VLSI testability using high-level descriptions. Now in its 2nd year, just after the ATS'01, papers are solicited on all aspects of RT-level testing techniques. Photocopies of accepted papers will be handed out at the workshop site. We hope and expect the workshop will provide all participants with new ideas and food for thought through

Topics of interests include (but not limited to):

informal interactions and discussions.

Functional fault modeling RT-level ATPG RT-level DFT RT-level BIST

Relationship between RT-level and gate-level testing

#### **IMPORTANT DATES**

Submission : July 31, 2001 Acceptance : August 31, 2001 Final version : to be announced

- Submissions must be made as Postscript or PDF attachments to e-mail sent to wrtlt@info.eei.metro-u.ac.jp
- Submissions must be a complete paper of 10 pages maximum, or an extended summary from four to six pages
- The title page must include abstract, keywords, full mailing address, telephone and Fax number and e-mail address
- An author of every accepted paper must present at the workshop

For up-to-date information refer to the WRTLT'01 website http://wrtlt.ie.akita-u.ac.jp/wrtlt or contact the workshop chairs.

Nara is an ancient capital of Japan. In the end of November, you can enjoy not only a beautiful combination of red and yellow autumnal leaves but also historical shrines and temples. For more on tourism, a couple of links will be found at the above site.

#### General Chair:

Hideo Tamamoto, Akita University, Japan tamamoto@ie.akita-u.ac.jp

#### Program Co-Chairs:

Kazuhiko Iwasaki, Tokyo Metropolitan University, Japan iwasaki@eei.metro-u.ac.jp Xiaowei Li, Peking University, China lxw@pku.edu.cn

#### Financial Chair:

Hiroshi Yokoyama, Akita University, Japan yokoyama@ie.akita-u.ac.jp

#### Local Arrangements Chair:

Michiko Inoue, NAIST, Japan kounoe@is.naist-nara.ac.jp

#### Program Committee Members:

Satoshi Fukumoto, Tokyo Metropolitan University, Japan Sandeep K. Gupta, University of Southern California, USA Kazumi Hatayama, Hitachi, Ltd., Japan Terumine Hayashi, Mie University, Japan Toshinori Hosokawa, STARC, Japan Weikang Huang, Fudan University, China Tomoo Inoue, Hiroshima City University, Japan Zhongcheng Li, ICT, Chinese Academy of Sciences, China Toshimitsu Masuzawa, Osaka University, Japan Kewal K. Saluja, University of Wisconsin-Madison, USA

Yihe Sun, Tsinghua University, China

J. Paulo Teixeira, IST/INESC, Portugal

Xiaoqing Wen, Syntest Tech., USA

Cheng-Wen Wu, Tsing Hua University, Taiwan

Shiyi Xu, Shanghai University, China

Hee Yong Youn, SungKyunKwan University, Korea

Dafang Zhang, Hunan University, China

#### WRTLT Steering Committee

Chair: Yinghua Min, Academia Sinica, China Members:

Hideo Fujiwara, NAIST, Japan

Kazuhiko Iwasaki, Tokyo Metropolitan University, Japan

Xiaowei Li, Peking University, China

Kewal K. Saluja, University of Wisconsin, USA

Hideo Tamamoto, Akita University, Japan

J. Paulo Teixeira, IST/INESC, Portugal

Dafang Zhang, Hunan University, China

# WRTLT'01 The Second Workshop on RTL ATPG & DFT

## November 22-23, 2001, Nara, Japan

(Naramachi-center, 38 Higashiterabayashi-cho, Nara-shi, Nara 630-8362, Japan)

**Sponsored by** IEEE Computer Society Test Technology Technical Council **In cooperation with** Technical Group on Fault Tolerant Systems, IEICE





## Website for WRTLT'02: http://www.ip.elec.mie-u.ac.jp/~wrtlt02/

#### SCOPE

The Workshop on RTL ATPG & DFT (WRTLT) provides an international forum for interchanging ideas and implementation experiences on register transfer (RT) level automatic test pattern generation (ATPG) and design for testability (DFT). For systems on chip (SOC) devices, it has become a real hot topic to improve VLSI testability using high-level descriptions. Now in its 2nd year, just after the ATS'01, papers are solicited on all aspects of RT-level testing techniques. Photocopies of accepted papers will be handed out at the workshop site. We hope and expect the workshop will provide all participants with new ideas and food for thought through informal interactions and discussions.

#### **Topics of interest include**(but not limited to)

- Functional fault modeling
- RT-level ATPG
- RT-level DFT
- RT-level BIST
- Relationship between RTL and gate level testing

#### IMPORTANT DATES

Submission: July 31, 2001 => twelve noon, August 10, Japan Standard Time.

Acceptacnce: August 31, 2001

• Final version: to be announced

• Registration: Advance registraton due: October 20, 2001

=> On-site registration

• Reception: November 21, 2001. 19:00-21:00.

At a restaurant, "Kissa Naramachi", 1st Floor, Naramachi Center.

(Snack and drink will be served. Please join.)

• Workshop: November 22-23, 2001

For up-to-date information refer to this WRTLT'01 web site or contact the workshop chairs.

## Final Program (Updated 11/15 2001)

WRTLT'01 Final Program (11/15 2001)

WRTLT'01 Advance Program (Updated 10/06 2001)

## Advance Registration Instructions and Registration Form

Advance registration due: October 20, 2001

#### Access & Accommodations

(Updated 11/01 2001, access to Nara)

#### Access

You can find an access to Nara here. If you come to Nara from Kyoto after ATS'01, we recommend to use a Kintetsu line other than a JR line. KINTETSU Kyoto station is adjacent to JR Kyoto station, and both are close to Righa Royal Hotel KYOTO (the place of ATS'01). Here is a MAP around Nara-Machi center and stations. KINTETSU Nara station is an underground station. If you go to the hotels, use the EXIT 4 and go up to the ground. If you go to Nara-Machi center, use the EXIT 2.

#### Accommodations

We keep some rooms for WRTLT'01 participants in Hotel Fujita NARA (English page) and NARA Washington Hotel Plaza (<u>Japanese page</u>). We also hold a banquet at Hotel Fujita NARA. Please use the following Hotel Reservation Form. For guaranteed reservation send the completed form by Oct. 31, 2001 to the HOTEL.

Hotel Fujita NARA (PDF, Word) (Updated 10/18 2001, Fax number was incorrect) Nara Washington Hotel Plaza (PDF, Word) (Updated 9/18 2001)

## Call for Papers



## **Organization**

General Chair

Hideo Tamamoto (Akita University, Japan) tamamoto@ie.akita-u.ac.jp

Program Co-Chairs

Kazuhiko Iwasaki (Tokyo Metropolitan University, Japan) iwasaki@eei.metro-u.ac.jp Xiaowei Li (Peking University, China) lxw@pku.edu.cn

Finance Chair

Hiroshi Yokoyama (Akita University, Japan) yokoyama@ie.akita-u.ac.jp

Local Arrangements Chair

Michiko Inoue (NAIST, Japan) kounoe@is.aist-nara.ac.jp

Program Commitee

S. Fukumoto, Japan T. Inoue, Japan X. Wen, USA S. Gupta, USA Z. Li. China C-W. Wu, Taiwan K. Hatayama, Japan T. Masuzawa, Japan S. Xu, China T. Hayashi, Japan K. Saluja, USA H. Youn, Korea T. Hosokawa, Japan Y. Sun, China D. Zhang, China

W. Huang, China J. P. Teixeira, Portugal

## WRTLT Steering Committee

Chair:

Yinghua Min (Academia Sinica, China)

#### **Members:**

Hideo Fujiwara (NAIST, Japan) Kazuhiko Iwasaki (Tokyo Metropolitan University, Japan) Xiaowei Li (Peking University, China) Kewal K. Saluja (University of Wisconsin, USA) Terumine Hayashi (Mie University, Japan) Hideo Tamamoto (Akita University, Japan) J. Paulo Teixeira (IST/INESC, Portugal) Dafang Zhang (Hunan University, China) Alex Orailoglu (University of California, USA)

## Links

- Nara City Tourism Section's Home Page
- Nara Prefecture
- Nara City
- Naramachi-center (Japanese)
- ATS'01 Web site

## 埋め込まれた保護文書

ファイルhttp://wrtlt.ie.akita-u.ac.jp/wrtlt/registration/WRTLT01\_registration\_form.pdfは、この文書に埋め込まれた保護文書です。表示するには、押しピンアイコンをダブルクリックしてください。



# Registration Form WRTLT'01, Workshop on RTL ATPG & DFT, Nara, Japan November 22-23, 2001

Please complete by typing or printing in block letters.

Title: Prof. Dr. Mr. Ms.			
Family name:			
First name:			
Middle Name:			
Affiliation / Company:			
Mailing Address: (office / Home)			
Phone:			
Fax:			
E-mail:			
IEEE/CS Member No.:			
Accompanying person, if any:			

Registration Fee( Check one of them):

Before Oct 20, 2001:

IEEE/CS Member Non-Member Student

22,000 yen 30,000yen 8,000 yen

After Oct 20, 2001:

IEEE/CS Member Non-Member Student

27,000 yen 36,000 yen 10,000 yen

Payment (Check one of them):

I will remit/have remitted the fee on \_\_\_\_\_(date)

under the name of \_\_\_\_\_(name of remitter)

to the account of:

WRTLT FINANCE YOKOYAMA HIROSHI

**Account No. 668455** 

Tegata Branch (Branch # 133)

Akita Bank (Bank # 0119), Akita, Japan

I enclose herewith a bank draft for the fees payable to the WRTLT FINANCE YOKOYAMA HIROSHI

Payment by credit card is not available.

Advance Registration Deadline: October 20, 2001

To register, mail or fax this form (or a copy of this form)

with payment to:

Hiroshi Yokoyama, WRTLT'01 Finance Chair

Dept. of Computer Sci. and Eng., Akita University

1-1 Tegata Gakuen-cho, Akita-shi, Akita 010-8502, JAPAN

Phone: +81-18-889-2776

Fax: +81-18-837-0408

E-mail: yokoyam@ie.akita-u.ac.jp

No registration form will be accepted

after November 9, 2001 (postmarked cut-off).

After November 9, 2001, there will be on-site registration only.