

ITC2021の概要

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ITC2021概要

- ・開催日 : 2021年10月10日(日)~10月15日(金)
- ・開催場所 : Virtual
- ・参加者 : 不明 (日本からも多数)
- ・基調講演 : 3件 (10/12, 10/13, 10/14)
- ・招待講演 : 2件 (10/13, 10/14)
- ・論文発表 : 24セッション69件 (10/12, 10/13, 10/14)
 - ・一般論文(招待含む) : 12セッション34件・(採択率<30%)
 - ・ショート/企業事例 : 3セッション12件
- ・特別セッション : 9件 (10/12, 10/13, 10/14)
- ・パネル討論 : 4件 (10/12, 10/13, 10/14)
- ・チュートリアル : 12件・すべてHalf Day (10/10, 10/11)
- ・ポスター : 14件 (10/13)
- ・展示会 : 4社 (10/12, 10/13, 10/14)
- ・併設ワークショップ : 2件 (10/14, 10/15)
 - ・ARTS (Automotive Reliability, Test and Safety) ・6年連続
 - ・SLM (Silicon Lifecycle Management) ・初回

ITC2021 At-a-Glance

SUNDAY, OCTOBER 10 – HALF-DAY TUTORIALS			
08:00 – 11:00	Tutorial 1 Safety and Security in Automotive 2.0 Era	Tutorial 2 Testing and Manufacturing of Die-to-Die Interconnection in a 2.5D/3D IC	Tutorial 3 AI Chip Technologies and their DFT Methodologies
12:00 – 15:00	Tutorial 4 Machine Learning in Data Analytics	Tutorial 5 Mixed-Signal DFT and BIST: Trends, Principles and Solutions	Tutorial 6 Power-Aware Testing in the Era of IOT

MONDAY, OCTOBER 11 – HALF-DAY TUTORIALS			
08:00 – 11:00	Tutorial 7 Silicon Lifecycle Management for Emerging Memories	Tutorial 8 Applications of Machine Learning in Semiconductor Manufacturing and Test	Tutorial 9 Scan Test Escapes, New Fault Models and Effectiveness of Functional System Level Tests
12:00 – 15:00	Tutorial 10 Automotive Functional Safety, Reliability and Test Solutions	Tutorial 11 SOC Security Verification	Tutorial 12 From Test to Post-Silicon Validation: Concepts and Recent Trends

TUESDAY, OCTOBER 12 – TECHNICAL SESSIONS			
08:00 – 09:00	Plenary – Opening Session Keynote: Future Prospects of Semiconductor Memories - Advancement and Challenges, Chih-Yuan Lu, Macronix		
09:00 – 09:30	Coffee Break & Exhibits		
09:30 – 10:30	Session 1A Enhancing Testability	Session 1B ML for Diagnosis	Special Session 1C Start to Finish: 2.5D and 3D Device Testing Challenges and Solutions
			Session 1D ITC-Asia 2021 Top 3 Papers
10:30 – 11:00	Coffee Break & Exhibits		
11:00 – 12:00	Diamond Supporter Presentation		
12:00 – 13:00	Session 2A AI Hardware	Session 2B Wafer Map Classification I	Special Session 2C STT-MRAMs: Technology, Design and Test
			Session 2D TTTC McCluskey PhD Competition
13:00 – 14:00	Meal Break & Exhibits		
14:00 – 15:00	Panel 1 SLT - What is it Today? Why is it Needed?	Panel 2 What is the High-Speed I/O Test Method: 1149.10 or High-Speed I/O Protocol?	

ITC2021 At-a-Glance (cont.)

WEDNESDAY, OCTOBER 13 – TECHNICAL SESSIONS			
08:00 – 09:00	Plenary Session Keynote: Refusing Limits in Technology Innovation, Ron Nersesian, Keysight Visionary Talk: Machine Learning and Corpus Design for EDA and Beyond, Roger Jang, NTU / E.Sun Financial Holding		
09:00 – 09:30	Coffee Break & Exhibits		
09:30 – 10:30	Session 3A Security Hardware	Session 3B Wafer Map Classification II	Special Session 3C Current Developments in Test Standards
			Session 3D ITC-India 2021 Top 3 Papers
10:30 – 11:00	Social/Exhibits		
11:00 – 12:00	Corporate Forum		
12:00 – 13:00	Session 4A Secure and Trusted Microelectronics	Session 4B Failure Diagnosis	Session 4C Test Enhancements
			Special Session 4D Memory Testing Embedded Tutorial
13:00 – 14:00	Meal Break & Exhibits		
14:00 – 15:00	Panel 3: Talk to the TTSC (Test Technology Standard Committee)		
14:00 – 15:30	Posters		

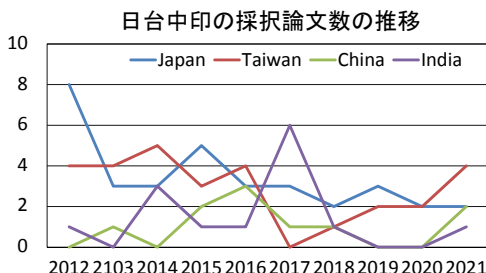
THURSDAY, OCTOBER 14 – TECHNICAL SESSIONS			
08:00 – 09:00	Plenary Session Keynote: Addressing Design Challenges in the Era of SysMoore: From Architecture to Silicon Lifecycle Management, Shankar Krishnamoorthy, Synopsys Visionary Talk: Sport Technology Industry: A New Frontier for AI, 5G and Semiconductor, Cheng-Wen Wu, NTHU		
09:00 – 09:30	Coffee Break & Exhibits		
09:30 – 10:30	IP Session 5A Circuits and Monitors	Short Session 5B Test Data	Short Session 5C Test Architecture and Infrastructure
			Special Session 5D Accellera FuSa WG
10:30 – 11:00	Coffee Break & Exhibits		
11:00 – 12:00	Corporate Forum		
12:00 – 13:00	Session 6A What's Going on With 1687*?	Session 6B Analog Testing	Session 6C Automotive FuSa Tolerance
			Special Session 6D Silicon Lifecycle Challenges
13:00 – 14:00	Corporate Forum		
14:00 – 15:00	Panel 4: Challenges of 3rd party IPs to achieve Automotive Zero Defect quality and Functional Safety		

THURSDAY, OCTOBER 14 – WORKSHOPS		FRIDAY, OCTOBER 15 – WORKSHOPS	
17:00 – 18:30	Automotive Reliability, Test and Safety	Silicon Lifecycle Management	
10:00 – 17:00	Automotive Reliability, Test and Safety	Silicon Lifecycle Management	

論文発表数の動向

- 採択論文数: 34件 (採択率は30%以下)
- 日本からは2件
- 国別採択論文数は右図のとおり
- 米国が大幅に減少(62%→38%)
- VTも同様・COVID-19の影響(?)
- アジア勢は欧州とともに躍進
- 台湾は3位を維持, 中国は2件に復活
- シンガポール(Advantest)が1件

	ITC 2021	ITC 2020	ITC 2019	ITC 2018
USA	13	24	23	29
Japan	2	2	3	2
Taiwan	4	2	2	1
China	2	0	0	1
India	1	1	0	1
Other Asia	1	1	1	0
Germany	6	3	2	1
France	3	2	0	1
Netherland	1	1	1	1
Belgium	0	0	0	2
Italy	0	1	2	0
Greece	0	0	0	1
Poland	0	0	0	0
Austria	0	0	0	1
Sweden	1	1	1	0
Other Europe	0	1	0	0
Canada	0	1	1	0
Total	34	39	36	41



分野別の状況

- 分野別の状況は以下のとおり
- 全体構成: やや変動あり
- ATPG/DFT関連は全体として減少
- メモリテストも減少
- AMS/RF関連が大幅に減少(昨年の反動か?)
- 3D-ICテストは引き続き0(サイドの回復はあるか?)
- 故障診断関連が引き続き多数(AI活用が活発)
 - ウェハマップ分類だけで2セッション6件
- 車載関連(高信頼化), セキュリティも活発

分野別論文発表数

- 前回(ITC2020)及び前々回(ITC2019)との比較

		ITC2021	ITC2020	ITC2019
採択率		<30% (34/?)	<30% (39/?)	29% (36/125)
分野別論文数	ディレイテスト/性能テスト	0	0	1
	電力考慮テスト	0	1	1
	ATPG(テスト生成)/テストデータ圧縮	2	2	4
	DFT(テスト容易化)/BIST(組込み自己テスト)	1	4	1
	メモリ/FPGAテスト	1	2	3
	アナログ/ミクストシグナルテスト	2	7	1
	高速I/O/RFテスト	1	2	1
	3D-ICテスト	0	0	0
	その他のデバイステスト	1	1	5
	ボード/システムテスト	0	0	1
	機能テスト/システムレベルテスト	0	0	0
	デバッグ/故障診断/歩留改善	11	11	4
	アダプティブテスト/テスト結果データ活用	0	0	3
	高信頼化/劣化対応	7	5	3
	セキュリティ	5	4	4
テスト標準	2	0	2	
その他	1	0	2	
合計	34	39	36	

ITC開催一覧

	Year	Date	Location
14th	1983	10/18-10/20	Philadelphia
15th	1984	10/16-10/18	Philadelphia
16th	1985	11/19-11/21	Philadelphia
17th	1986	09/08-09/11	Washington
18th	1987	09/01-09/03	Washington
19th	1988	09/12-09/14	Washington
20th	1989	08/29-08/31	Washington
21st	1990	09/10-09/14	Washington
22nd	1991	10/26-10/30	Nashville
23rd	1992	09/20-09/24	Baltimore
24th	1993	10/17-10/21	Baltimore
25th	1994	10/02-10/06	Washington
26th	1995	10/21-10/25	Washington
27th	1996	10/20-10/25	Washington
28th	1997	11/01-11/06	Washington
29th	1998	10/18-10/23	Washington
30th	1999	10/26-10/31	Atlantic City
31st	2000	10/01-10/06	Atlantic City
32nd	2001	10/28-11/02	Baltimore
33rd	2002	10/06-10/11	Baltimore
34th	2003	09/28-10/03	Charlotte
35th	2004	10/24-10/29	Charlotte
36th	2005	11/06-11/11	Austin
37th	2006	10/22-10/27	Santa Clara
38th	2007	10/21-10/26	Santa Clara
39th	2008	10/26-10/31	Santa Clara
40th	2009	11/01-11/06	Austin
41st	2010	10/31-11/05	Austin
42nd	2011	09/18-09/23	Anaheim
43rd	2012	11/04-11/09	Anaheim
44th	2013	09/08-09/13	Anaheim
45th	2014	10/19-10/24	Seattle
46th	2015	10/04-10/09	Anaheim
47th	2016	11/13-11/18	Fort Worth
48th	2017	10/29-11/03	Fort Worth
49th	2018	10/28-11/02	Phoenix
50th	2019	11/10-11/15	Washington
51th	2020	11/01-11/06	Virtual
52nd	2021	10/10-10/15	Virtual

2000-2010: プログラム委員
 1997-2017: ITCアジア委員会委員
 2000-2001は副委員長, 2002-2003は委員長