IEEE AUTOTESTCON 2023

August 28-31, 2023 ★ National Harbor, Maryland

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CONFERENCE
PROGRAM

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TABLE OF CONTENTS

General Chair
Bob Rassa, Raytheon Technologies (Retired)

Technical Program Chair
Mike Seavey, Northrop Grumman (Retired)
Tarra Marchetti, Teradyne

Tutorials Chair
John Sheppard, Montana State University

Exhibits and Promotions Chair
Jeffrey Rubin, JNR LLC

Military/DoD Liaison
Bill Ross, Eagle Systems

Committee
Michael Sciulli, UpSales

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GENERAL CHAIR'S MESSAGE

Welcome to the 66th edition of IEEE AUTOTESTCON, for the 4th time at the beautiful Gaylord Resort and Convention Center near Washington DC. Our exhibit hall is hosting top companies and military exhibitors involved in military ATE/ATS, and our attendance is also about the same as our 2019 pre-pandemic and 2022 numbers which clearly demonstrates that this is a very important topic in the military environment.

Our outstanding technical program chair, Mike Seavey who recently retired from Northrop Grumman Corporation, along with his co-chair Tarra Marchetti of Teradyne, have prepared an excellent technical program for us, comprising five tracks over three days. Dr. John Sheppard of Montana State University has prepared another excellent round of tutorials covering the most significant topics in the field, and quite a few of you have already signed up for these offerings.

Be certain to visit the exhibit booths in the exhibit hall, where our excellent exhibits chair, Jeff Rubin, has created a pleasing and practical layout. All of these exhibitors are displaying their capability in the automatic test equipment environment, which provides the most critical support structure for our military systems and our warfighters. Our military capability has grown so complex over the last few decades that only competent and effective automatic test equipment is able to detect the faults and isolate to the failure of these systems, and the exhibitors in our exhibit hall are at the top of the list for that capability. And recent events in the Ukraine fully underscore the need for a fully-prepared military, and our community is proud to do its part.

These exhibitors and our overall technical program that addresses the latest capability and accomplishments in ATE cover the gamut of military support for our revered and dedicated warfighters, so please take advantage of every opportunity to listen to the technical presentations and visit our exhibitors. And in your free Wednesday evening, don't forget that the huge MGM Grand Casino and restaurants is literally a short distance away, along with the extensive Tanger premium retail outlets. A shuttle from the Gaylord makes getting there quite easy.

If you need assistance with anything at any time, please see any of the committee members who will be wearing a red polo shirt with a logo name tag.

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Bob Rassa
Raytheon Technologies (retired)
IEEE AUTOTESTCON 2023 General Chair

AWARDS

Walter E. Peterson Best Technical Paper Award

The IEEE AUTOTESTCON Walter E. Peterson Award is presented each year to the best paper on technical topics at AUTOTESTCON. It is awarded in honor of Mr. Peterson and perpetuates his technical leadership, interest and inspiration in the introduction and utilization of new and advanced technology in the design and manufacture of automated test systems. The award includes a plaque and a cash prize of $1,000.

David M. Goodman Best Management Paper Award

The IEEE AUTOTESTCON David M. Goodman Best Paper Award for Management Topics recognizes the many contributions made by the late Dr. David Goodman for his encouragement of management concepts and theory in the ATE environment. The award includes a plaque and a cash prize of $1,000. Dr. Goodman is also the creator of the Government-Industry Data Exchange Program (GIDEP) in 1959 that exists today and serves as a cooperative activity between government and industry participants seeking to reduce or eliminate expenditures of resources by sharing technical information.

Oscar W. Sepp Best Student Paper Award

The Best Student Paper Award has been designated the Oscar W. Sepp Award in memory of long-time AUTOTESTCON contributor Oscar W. Sepp. Oscar chaired AUTOTESTCON in 1982 and as Conference chairman was responsible for formalizing the Exhibits Program. In addition to his contributions to AUTOTESTCON Oscar held numerous patents ranging from the flip-top toothpaste cap to aircraft escape systems and parachutes for many applications including nuclear weapons. In 1981 he was appointed USAF SPO Director for Support Equipment. He also later served in executive positions in industry including running his own consulting company for many years. His many industry and military awards included the McGinnis Memorial Award conferred by the AUTOTESTCON Board in 1984 and the American Institute of Aeronautics and Astronautics Support Systems Award presented at AUTOTESTCON 1985. The Oscar W. Sepp Best Student Paper award is sponsored by IEEE Instrumentation and Measurement Society, who also provide travel grants to selected AUTOTESTCON student contributors. Best Student Paper Award winners are expected to be present at the Awards Ceremony, otherwise they may forfeit the award.

Recognition for Technical Innovation

The AUTOTESTCON Recognition for Technical Innovation is awarded for a technical paper presented at the conference and published in the conference record that demonstrates outstanding innovation in a field-of-interest related to automatic test technology or system readiness. For the purpose of this recognition, "innovation" is broadly defined to include significant advances in hardware, software, processes, services, or other technologies or methodologies. It recognizes novel ideas that are practical and have been implemented with successful results.

Frank McGinnis Professional Achievement Award

To be presented at IEEE AUTOTESTCON 2024

The IEEE AUTOTESTCON Frank McGinnis Professional Achievement Award recognizes outstanding leadership, individual initiative and technical contributions in the field of automatic test engineering, either for a specific accomplishment or for a body of activities during a career. The award honors the memory of Frank McGinnis, who headed an Industry/Joint Services Automatic Test Task Force instrumental in initiating new thrusts in military R&D in ATE, an effort that evolved into the National Defense Industrial Association (NDIA) Automatic Test Subcommittee. Normally presented at the IEEE AUTOTESTCON Awards Luncheon, the award carries a plaque and a US$2,000 honorarium. The Frank McGinnis Award has been presented annually since 1985. In the years 1979 through 1984, four individuals were honored as "Man of the Year" and the AUTOTESTCON Board of Directors recognizes this predecessor award by including the recipients with McGinnis honorees.

John Slattery Professional Achievement Award

To be presented at IEEE AUTOTESTCON 2024

The John Slattery Professional Achievement Award is sponsored by the Automatic Test Committee of the Systems Engineering Division of the National Defense Industrial Association (NDIA) and honors the memory of John Slattery for his professional contributions to the advancement of automated testing. It is presented to an individual who has made major contributions to improving the state of automatic testing in support of the national security posture of the United States, including: Outstanding Technical Achievements; Demonstrated Technical Innovation; Contributions to ATE technology; Participation in ATE Industry Peer Groups, Enthusiasm/eagerness to provide mentoring; Uncompromised ethics and professionalism; Industry contributions that reflect technical zeal, competence, and integrity; and an unswerving desire to achieve technical excellence, regardless of political or management considerations

TERADYNE WINE AND CHEESE WELCOME RECEPTION

Monday, 28 August
6:00 PM - 7:30 PM
Atrium

The 2023 IEEE AUTOTESTCON Committee heartily thanks **Teradyne Corporation** for supporting the Conference-wide Wine and Cheese Welcome Reception on Monday evening, 28 August, from 6:00 PM to 7:30 PM.

Open to all Attendees, Authors, and Exhibitors, the Welcome Reception is a great opportunity to rekindle old relationships, network with new relationships, and generally set a great start for IEEE AUTOTESTCON -- the premier military automated test systems Conference.

Supported by:

TUESDAY NETWORKING RECEPTION

Tuesday, 29 August
6:00 PM - 8:00 PM
Prince George's Hall E, lower level

AUTOTESTCON 2023 is bringing together over 50 exhibitors, over 58 authors and over 400 conference and exhibition attendees to exchange information and build new relationships. On Tuesday evening, the Conference Committee will host a Networking Reception as an opportunity to build on the contacts and opportunities and knowledge acquired during the first two days of the conference. Heavy hors d'oeuvres will be served with complimentary beer and house wines; mixed drinks available for purchase. The Conference Committee looks forward to seeing everyone there. Additional tickets will be available for purchase at the Registration Desk. Contributory sponsorship provided by Lockheed Martin.

Welcome to the AUTOTESTCON 2023 technical program in Washington, DC. We have a great technical program prepared for you this year. We have assembled high-quality papers, presentations, and panels. We hope that you are inspired by something you hear or see at the show and that you take the time to meet with colleagues in the industry.

The technical program is an opportunity to explore innovative ideas, and experience the views of the authors and panelists from government, industry, and academia. We encourage you to experience these sessions and interact with the participants. The authors come from countries across the globe, hailing from China, Germany, India, Israel, Netherlands, Turkey, U.K., and the U.S.

The technical program kicks off on Monday with a full day of tutorials. Please take advantage of these opportunities to increase your ATS knowledge by learning from the experience of recognized experts. Our thanks to John Sheppard for arranging the tutorial program.

Tuesday through Thursday consists of a full slate of paper presentations and panels. In addition to the DoD ATS Executive Plenary Panel, this year we have two additional panels: Electronic Warfare Testing and the NDIA ATS 2023 Digital Engineering Project. There are approximately 70 paper presentations scheduled in 20 sessions. We encourage everyone to stop by and participate.

Our personal thanks and gratitude go to Jenna Yockim from Conference Catalysts for her assistance in developing the technical program.

We would also like to thank John Sheppard, Teresa Lopes, Dave Kaushansky, Dave Carey, Jeff Murrill and Larry Adams for their reviews of the submitted abstracts and papers. We also want to thank all the AUTOTESTCON 2023 Committee Members; without their guidance and participation, this technical program would not be possible.

Finally, the authors and session chairs, you are truly the front line of the Conference. Thanks to you all.

We look forward to seeing you again in Washington DC for AUTOTESTCON 2024.

Mike Seavey, Tarra Marchetti
Technical Program Co-Chairs, AUTOTESTCON 2023

Major General Stephen "Steve" Sargeant, The Marvin Group

Tuesday, August 29
8:15 AM - 9:30 AM
Woodrow Wilson BC

Major General Steve Sargeant, USAF (Ret.) is the CEO of Marvin Test Solutions having joined the company in June of 2012 after retiring from the USAF with the rank of Major General. Steve also serves as the Vice President of Strategic Development for The Marvin Group. With over 20 years of senior executive experience in all aspects of aerospace operations and testing in organizations ranging in size from 200 to 160,000 personnel, Steve is leading Marvin Test Solutions' growth and expansion as a world leader in the global mil–aero and commercial test and measurement industries.

General Sargeant's focus is to position MTS, a vertically integrated aerospace test and measurement company, as the preferred provider delivering domain expertise and a customer–centric approach with long–term, unrivaled support. He is growing the company's customer base, ranging from the U.S. Armed Forces and their Allies to global aerospace and manufacturing firms, ensuring the company's customized test solutions meet customers' mission–critical requirements.

Previously, he served as commandant of the US Air Force Weapons School, Nellis AFB, Nevada, and commanded the 8th Fighter Wing at Kunsan Air Base, South Korea, and the 56th Fighter Wing at Luke AFB, Arizona. He served in numerous joint and coalition assignments including deputy chief of staff of Strategy for Combined Joint Task Force 7 and deputy chief of staff, Strategy, Plans, and Assessment for Multi–National Force – Iraq in Baghdad.

A command pilot with over 3,100 flying hours primarily in the A–10A and F–16A/B/C/D, Sargeant has received dozens of awards and decorations including the Air Force Distinguished Service and Bronze Star Medals, 2006 People to People–Korea Outstanding Service Award, and 2009 General Thomas D. White Air Force Space Trophy. He is an experienced public speaker as well as a command pilot with more than 3,100 flying hours. He is a member of BENS, CFR, NDIA, AME, AFA, AUSA, AAAA, ITEA, and the Harvard Alumni Assoc. Steve is passionate about assisting Veterans in their transition back to the private sector and previously served the interim Chairman of the Board for the USO West Region and Chairman of the Board for the Greater Los Angeles (Bob Hope) USO from 2016 until 2020. Today, he serves as a board member for the Military and Veterans Appreciation Trust Foundation.

Official Air Force bio available at:
http://www.af.mil/AboutUs/Biographies/Display/tabid/225/Article/104655/major- general-stephen-t-sargeant.aspx

TECHNICAL PROGRAM TRACKS

IEEE AUTOTESTCON 2023 features technical paper presentation tracks that explore topics in the following areas:

- Automated Test 1
- Automated Test 2
- Automatic Test Equipment (ATE)
- Calibration 1
- Cyber Security
- Diagnostics & Signal Integrity
- Electronic Warfare (EW) Testing
- Future Trends
- Instrumentation 1
- Instrumentation 2
- Integrated Circuits (ICs) & Backplanes
- Measurements 1
- Measurements 2
- Model Based Test 1
- Model Based Test 2
- Standards & Standards Discussion
- System Integration & Test
- Test Program Sets (TPSs)
- Test Strategies & Radio Frequency (RF) Test

NETWORKING EVENTS

Teradyne Wine & Cheese Welcome Reception
Monday, 28 August, 6:00 PM - 7:30 PM
Atrium
(All attendees and exhibitors)

Monday Lunch
Monday, 28 August, 12:00 PM - 1:00 PM
Woodrow Wilson B (NOTE: this is for paid tutorial attendees only)

Tuesday Lunch
Tuesday, 29 August, 12:00 PM - 1:30 PM
Prince George's Ballroom E
(All attendees and exhibitors; guest tickets available for purchase)

Tuesday Evening Networking Reception
Tuesday, 29 August, 6:00 PM - 8:00 PM
Prince George's AB
(All attendees and exhibitors, additional guest tickets available for purchase)

Wednesday Awards Luncheon
Wednesday, 30 August 12:00 PM - 1:30 PM
Woodrow Wilson A
(Paid attendees only; additional guest tickets available for purchase)

DRESS CODE

Dress code for attendance at all daytime IEEE AUTOTESTCON 2023 functions, including Tutorials, Technical Program, and Lunches, is Business (coat/tie), Business Casual, or Military Uniform of the Day. Shorts, jeans, "flip-flops," T-shirts, and similar apparel are not permitted.

The dress code for the Tuesday Evening Networking event is Business Casual or Military Uniform of the Day. Flip-flops are not permitted.

ATTENDEE BADGE

Attendee Badges must be worn at all times. Access to IEEE AUTOTESTCON 2023 functions and the exhibit hall will not be permitted without a valid badge.

WIRELESS INTERNET

Attendees and exhibitors who are staying at the Gaylord get free internet both in their hotel room and throughout the meeting and exhibit space. For attendees and exhibitors who are not staying at the Gaylord, internet access may be purchased at the registration desk.

FREE NIGHT ON WEDNESDAY

Wednesday night, August 30, is a free night starting at 6:00 PM for attendees and exhibitors to take advantage of the MGM Grand Hotel and Casino just 1/2 mile away, along with the Tanger Outlet Mall.

Shuttles run from the Gaylord Hotel to the Casino and Outlet Mall on a regular basis. Check hotel concierge for specifics. There are several nice restaurants in the MGM Grand, as well as in the National Harbor area near the hotel.
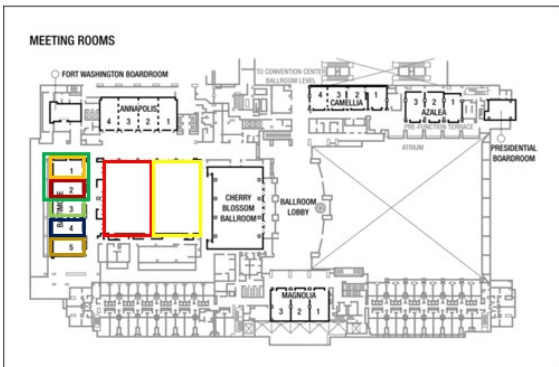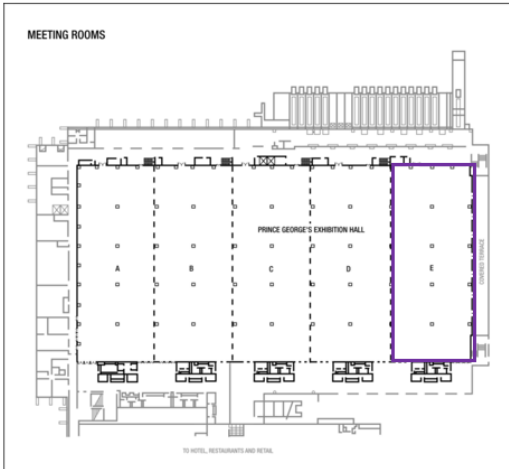
● Keynotes & Panels – **Woodrow Wilson BCD**

● Tutorials – **Baltimore 1 & 2**

● Exhibit Hall & Networking Reception – **Prince George's Exhibit Hall E**

● Teradyne Wine & Cheese Welcome Reception – **Potomac Terrace**

● Wednesday Awards Luncheon – **Woodrow Wilson A**

● Track 1 – **Baltimore 1**

● Track 2 – **Baltimore 2**

● Track 3 – **Baltimore 3**

● Track 4 – **Baltimore 4**

● Track 5 – **Baltimore 5**

Activity\Day		Sunday, 27 August	Monday, 28 August	Tuesday, 29 August	Wednesday, 30 August	Thursday, 31 August
Exhibit Hall *Prince George's Exhibit Hall E*	Exhibitor Personnel Only	3:00 PM - 10:00 PM	8:00 AM - 10:00 PM	8:00 AM - 5:00 PM 6:00 PM - 8:00 PM	8:00 AM - 5:00 PM	8:00 AM - 11:00 PM
	Open to Attendees			9:30 AM - 5:00 PM	9:30 AM - 5:00 PM	9:00 AM - 11:00 AM
	Exhibitor Reception/ Networking Event			6:00 PM – 8:00 PM		
Registration		3:00 PM - 5:00 PM	7:00 AM - 6:00 PM	7:00 AM - 5:00 PM	7:00 AM - 5:00 PM	7:30 AM - 10:00 AM
Technical Tutorials - *Baltimore 1 - 3*			8:00 AM -12:00 PM 1:00 PM - 5:00 PM			
Technical Program - *Baltimore 1 - 5*				3:00 PM - 6:00 PM	8:30 AM - 10:00 AM 1:30 PM - 5:15 PM	10:30 AM - 12:00 PM 12:00 PM Adjourn
Luncheons *Monday for Tutorials ONLY			*12:00 PM - 1:00 PM *Woodrow Wilson B*	12:00 PM - 1:30 PM *Prince George's "E"*	12:00 PM - 1:30 PM *Woodrow Wilson A*	
Teradyne Wine & Cheese Welcome Reception - *Atrium*			6:00 PM - 7:30 PM			
Coffee Breaks - *Prince George's Exhibit Hall E*	Morning	7:00 AM - 8:00 AM	7:30 AM - 8:15 AM	7:45 AM - 8:30 AM		
	Mid- Morning	9:45 AM - 10:00 AM	9:30 AM - 10:15 AM	10:00 AM - 11:45 AM	9:00 AM - 10:30 AM	
	Mid- Afternoon	2:45 PM - 3:00 PM		3:00 PM - 3:30 PM		
Keynotes: Tuesday - Steve Sargeant, (Ret.) CEO Marvin Test Solutions				8:15 AM - 9:30 AM Woodrow Wilson BC		
Executive Plenary Sessions: DoD Automatic Test Systems Related Technology Initiatives				10:15 AM - 12:00 PM Woodrow Wilson BC		
Attendee visits to exhibitors in PG Hall E				1:30 PM - 3:00 PM	10:00 AM - 11:45 AM	
Free Night! Visit MGM Grand Casino, Outlet Mall					6:00 PM - 10:00 PM	

	Baltimore 1	Baltimore 2	Baltimore 3	Baltimore 4	Baltimore 5
			Monday, 28 August		
8:00 AM – 12:00 PM	TUT 01: Introduction to Automatic Test Systems	TUT 02: Digital Thread			
1:00 PM – 5:00 PM	TUT 03: ATS and TPS Management	TUT 04: Diagnostics and Design for Built-In Test	TUT 05: Cybersecurity for ATS		
			Tuesday, 29 August		
8:15 AM – 9:30 AM			1A1: Keynote Speaker		
10:15 AM – Noon			1B1: DoD Automatic Test Systems Executive Panel		
Noon – 1:30 PM			Lunch		
1:30 PM – 3:00 PM			Networking with Vendors on Exhibit Floor		
3:00 PM – 4:15 PM	1C1: Electronic Warfare (EW) Testing	1C2: Cyber Security	1C3: Automatic Test Equipment (ATE)	1C4: Test Program Sets (TPSs)	1C5: Model Based Test 1
4:30 PM – 6:00 PM		1D1: Electronic Warfare (EW) Testing Panel: Cognitive Electronic Warfare (CogEW) Test & Improving Developmental Test			
			Wednesday, 30 August		
8:30 AM – 10:00 AM	2A1: Future Trends	2A2: Diagnostics & Signal Integrity	2A3: Integrated Circuits (ICs) & Backplanes	2A4: Automated Test 1	2A5: Model Based Test 2
10:00 AM – 11:45 AM			Networking with Vendors on Exhibit Floor		
Noon – 1:30 PM			Lunch		
1:30 PM – 3:00 PM			2B1: NDIA ATS 2023 Digital Engineering Project Panel		
3:45 PM – 5:15 PM	2C1: Standards & Standards Discussion	2C2: Test Strategies & Radio Frequency (RF) Test	2C3: Calibration 1	2C4: Automated Test 2	2C5: System Integration & Test
			Thursday 31 August		
10:15 AM – 11:45 AM	3A1: Measurements 1	3A2: Instrumentation 1	3A3: Calibration 2	3A4: Instrumentation 2	3A5: Measurements 2

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TUTORIAL PROGRAM

8:00 AM - 12:00 PM (Monday, 28 August)

Room: Baltimore 1

Title: Introduction to Automatic Test Systems

Instructors: Dr. David R. Carey, TEVET
Michael Seavey, Northrop Grumman (Retired)

Description: In this tutorial, the design process for Automated Test Systems is presented using standard systems engineering principles. No prior knowledge of ATE, ATS, or TPS development is assumed. A general familiarity with electronic testing techniques is a prerequisite for a full understanding of the material presented. This class will present a series of reference designs as a starting point for ATS and TPS development. Proposed design stages are explained in view of the typical division between hardware and software for the ATS. The process, in which design recommendations are made, can make the development of future systems easier. Thus, central in this tutorial is helping design teams to consider important aspects in decisions taken along the development process and keeping these decisions linked to the test requirements defined in initial development stages.

TUTORIAL PROGRAM

8:00 AM - 12:00 PM (Monday, 28 August)

Room: Baltimore 2

Title: Digital Thread

Instructors: Eric Gould, DSI International
Dr. Ion Neag, Reston Software

Description: In this tutorial, we will discuss the use of a digital thread to integrate activities performed during design engineering, diagnostic engineering, test engineering and run-time diagnostics & maintenance. We will first discuss what makes a given format a good candidate for use in a digital thread—in particular if that thread is intended to constitute the authoritative source of truth for a given project or enterprise. We will then take a deep dive into a representative standards-based digital thread, examining MBSE representations of a design in SysML, XML-based models used during diagnostic engineering, and individual formats in the ATML "family" of standards (IEEE 1671, 1641 & 1636). Although no prior knowledge of these formats (or the activities they integrate) is necessary, a general knowledge of test and/or diagnostic development would be helpful. Participants should leave this tutorial with an understanding of how a digital thread can be used to eliminate redundant efforts, ensure data consistency, collapse engineering timelines, provide closed-loop feedback for design/test/diagnostic optimization (to reduce false alarms, NFFs, RTOKs, etc.) and produce a low-overhead enduring, authoritative source of truth for a given project or enterprise.

TUTORIAL PROGRAM

1:00 PM - 5:00 PM (Monday, 28 August)

Room: Baltimore 1

Title: ATS and TPS Management

Instructors: Tony Conard, US Navy
Richard Foyt, US Marine Corps
Scott Kautzmann, US Army
Larry Adams, US Air Force

Description: This four-part Tutorial is designed to cover policy and challenges in acquiring and managing Automatic Test Equipment (ATE); Automatic Test Systems (ATS) and Test Program Sets (TPSs). This session is a must for industry and government ATE/TPS managers from entry level to experienced desiring to gain significant insights in management and acquiring ATS/TPS across the services. From this session you will gain essential insights into real world situations to include exploration of areas of frequent problems. Organizational, process/method differences between services will be highlighted. Four major topics are covered, including: 1) TPS Acquisition & Management Processes and Challenges (Navy), 2) Management of ATS and TPS for Weapon System Support (Army), 3) ATS Management in a Dynamic Environment (USMC), and 4) AF Perspectives on ATS Management.

TUTORIAL PROGRAM

1:00 PM - 5:00 PM (Monday, 28 August)

Room: Baltimore 2

Title: Diagnostics and Design for Built-In Test

Instructors: Dr. John W. Sheppard, Montana State University
Dr. David R. Carey, TEVET

Description: With advancing technology and increasingly complex electronic systems, almost every test approach has had to settle for lower fault coverage, more challenges in making diagnoses, and increased cost in developing test and diagnosis solutions. Today's production and maintenance test engineers need to get involved with embedded test, diagnostics, and Design for Testability (DFT) enabled designs while utilizing advanced methodologies to keep pace with the growth in complexity; however, the details of how best to utilize these test methodologies often remain a mystery. This tutorial provides a comprehensive overview of the Built-In-Test & Diagnostics challenges and solutions. The Design for Built-In Test section of the tutorial introduces terminology and concepts. Various implementation issues are addressed as the tutorial moves through test strategies, circuit implementation, and test methodologies. The diagnostics section of this tutorial provides an overview of traditional and recent approaches to system-level diagnosis and prognosis. The emphasis is placed on different system modeling approaches and the algorithms that can be applied using resulting models.

TUTORIAL PROGRAM

1:00 PM - 5:00 PM (Monday, 28 August)

Room: Baltimore 3

Title: Cybersecurity for ATS

Instructors: James Orlet, The Boeing Company

Description: This tutorial session covers the definitions and relationships between various cybersecurity guidelines as they concern test and test equipment. The first section will discuss cybersecurity terminology and definitions. The second will focus on the relationships between the various steps of the National Institute of Standards and Technology (NIST) Risk Management Framework (RMF) used by many programs to guide cybersecurity approach and includes a discussion other the NIST Special Publication 800-series General Information items that affect Automatic Test Systems (ATS). The final section provides an initial set of best practices for Cybersecurity on ATS and an introduction to the Cybersecurity Maturity Model Certification (CMMC) efforts.

Keynote
Tuesday, August 29
8:15 AM - 9:30 AM
Woodrow Wilson BC
Speaker: Major General Steven Sergeant USAF (Ret)
Chief Executive Officer of Marvin Test Solutions

1B1: DoD Automatic Test Systems Executive Panel
Tuesday, August 29
10:15 AM - 12:00 noon
Woodrow Wilson BC

This year's DoD Automatic Test Systems Executive Plenary Session will be a Panel of military Service representatives from the DoD's ATS technology programs, Academia, and a National Defense Industrial Association's Automatic Test Committee representative. The Panel members will summarize some of the ongoing and planned technology projects that are of high interest to the DoD ATS communities including the NDIA ATC's study project underway addressing Digital Transformation and its relationship to ATS.

The Panel will include the following members:

Panel Moderator:

Mr. Bill Ross – Moderator, Eagle Systems

Panelists:

- **Intermittent Fault Technology** -- Mr. Pat Curry, U.S. Army, leading a Joint Services group
- **Augmented Reality, Remote Technical Assist, and Related Technologies** -- Mr. Colin Clark, U.S. Army, leading a Joint Services group
- **Prognostics and Health Management (PHM)** – Mr. Mike Malesich, U.S. Navy, leading a Joint Services group and Dr. John Sheppard, Montana State Univ.
- **ATS and Digital Transformation Study Project** – Tim Stanley (CACI), NDIA ATC

Lunch and Exhibits
Tuesday, August 29
12:00 PM - 3:00 PM
Prince George's Ballroom Exhibit Hall E

Immediately following the DoD ATE Executive Plenary we have a walk-around buffet lunch in the Prince George's Ballroom Exhibit Hall E, where attendees may explore the numerous ATE exhibits that IEEE AUTOTESTCON is proud to present. The complete list of Exhibitors is found in the rear of this Program along with a map of their location.

Lunch is served between 12:00 PM and 1:30 PM, with the remaining time allotted for attendees to continue their participation with exhibitors.

Technical sessions commence at 3:00 PM, as follows.

1C1: Electronic Warfare (EW) Testing
Tuesday, August 29
3:00 PM - 4:15 PM
Baltimore 1
Session Chair: David Brown (Southwest Research Institute, USA)

Testing for coexistence in crowded and contested RF environments
Timothy Fountain (Rohde & Schwartz, USA)

Improving the capabilities of cognitive radar and EW systems
Timothy Fountain (Rohde & Schwartz, USA)

Challenges of Testing Cognitive EW Systems
Karen Zita Haigh (Haskill Consulting, USA)
Trung Nguyen (TRMC, USA)

An Effective Approach to Evaluating Electronic Warfare Systems
Nicole L Perry (Southwest Research Institute, USA)
Alex Davis (Southwest Research Institute, USA)

Software Defined Instrument Based Electromagnetic Warfare Test System
David R. Carey (TEVET LLC, USA)
Robert Wade Lowdermilk (TEVET, LLC, USA)
James L Stewart (Naval Surface Warfare Center, Crane, IN, USA)

1C2: Cyber Security 1
Tuesday, August 29
3:00 PM - 4:15 PM
Baltimore 2
Session Chair: Mike Seavey (USA)

Automated RMF for DoD
Djenana Compara (KDM Analytics, USA)

Techniques to Maximize O-Level Cyber Security Protection
Jon Semancik (Marvin Test Systems, USA)
Adam Wells (Marvin Test Systems, USA)

Cloud-based Production Testing with a Cyber Physical Test System
Peter Schulz (Hamburg University of Applied Sciences, Germany)
Carsten Wolff (University of Applied Sciences and Arts Dortmund, Germany)
Noura Sleibi (University of Applied Sciences and Arts Dortmund, Germany)
Areej Aldaghamin (University of Applied Sciences and Arts Dortmund, Germany)
Sami Trimech (University of Applied Sciences and Arts Dortmund, Germany)

1C3: Automatic Test Equipment (ATE)
Tuesday, August 29
3:00 PM - 4:15 PM
Baltimore 3
Session Chair: Brad McCoy (Teradyne, USA)

Automatic Test Equipment (ATE) for Multi-Chanel Slip Ring's End to End Resistance Measurement
Kübra Altınışık (ASELSAN A.Ş., Turkey)
Mehmet Özcan (ASELSAN A.Ş., Turkey)

Testing and Diagnosing High-Speed Circuits for Military Applications Through Standard Input/Output Ports
Louis Y. Ungar (A.T.E. Solutions, Inc, USA)
Neil Jacobson (A.T.E. Solutions, Inc, USA)
Craig D. Stoldt (A.T.E. Solutions, Inc, USA)
TM Mak (A.T.E. Solutions, Inc, USA)

Leveraging Reconfigurable DIO Test Instruments for Multiple Applications
Tony Erwin (Teradyne, USA)
Michele Robbins (Teradyne, USA)

The Need For Army Field-Level Off-Platform Electronic Test Capability
James Orlet (Boeing Inc., USA)
Patrick Curry (US Army, USA)
Colin Clark (US Army, USA)
Steven Butcher (SWB Associates, USA)

1C4: Test Program Sets (TPSs)
Tuesday, August 29
3:00 PM - 4:15 PM
Baltimore 4
Session Chair: Tony Conard (US Navy, USA)

TPS Translation versus rehost
Joe Headrick (Lockheed Martin, USA)

A Tutorial on Phase Retrieval for Test and Measurement
Michael Don (US Army Research Laboratory, USA)

TPS execution in a virtual environment
Joe Headrick (Lockheed Martin, USA)

1C5: Model Based Test 1
Tuesday, August 29
3:00 PM - 5:15 PM
Baltimore 5
Session Chair: Scott Bertling (US Navy, USA)

Model-Based Test Engineering - Increasing the Value Test Provides in the Wide World of Digital Engineering
Greg Brown (NI, USA)
Anand Jain (NI, USA)

Initial Experiences in Use of Model Based Development in the ATE Industry
Kevin Lake (CACI Inc.-Federal, USA)
Greg Flores (CACI Inc.-Federal, USA)
Greg Brown (NI, USA)

Digital Engineering Approach for Test (Manufacturing/Depot)
Raymond Beshears (Raytheon Technologies, USA)

1D1: Electronic Warfare (EW) Testing Panel:
Cognitive Electronic Warfare (CogEW) Test
&
Test & Improving Developmental Test
Tuesday, August 29
4:30 PM – 6:00 PM
Woodrow Wilson BC

Cognitive Electronic Warfare (CogEW) Test

Purpose: The panel will provide the listening audience with a high-level discussion the new field of CogEW test, including questions such as:

- What major changes in thinking need to happen when testing CogEW systems vs testing traditional (complex) EW systems?
- What major changes in thinking need to happen when testing CogEW systems vs testing other AI-based systems, e.g., automotive?
- What is the biggest challenge of Cog EW Test?
- How do we evaluate Cog EW responses?
- What sort of lab set up changes do we need to evaluate Cog EW?

Panel Moderator:

Dr. Karen Haigh, Consultant

Panelists:

Tim Fountain, Rohde & Schwarz
Nate Blinn, NAVAIR
Trung Nguyen, US Army
Dr. Tyler Cody, Virginia Tech University

Test & Improving Developmental Test

Purpose: The panel will provide the listening audience with a high-level discussion of ways to speed up DT, reduce time and decrease overall DT costs, including questions such as:

- What makes DT so hard?
- How to test DRFM Waveforms
- As jammers develop how do you test the new techniques
- What capabilities do our labs need to provide better feedback?
- Are their advantages to post-process analysis?
- How to improve Developmental Test (DT)

Panel Moderator:

Walt Downing, SwRI

Panelists:

Chris Johnston, Keysight
Nicole Perry, SwRI
Alex Krauska, Tektronix
Robert Wade Lowderrmilk, TEVET
Haydn Nelson, NI

2A1: Future Trends
Wednesday, 30 August
8:30 AM – 10:00 AM
Baltimore 1
Session Chair: Gene Kim (Teradyne, USA)

Intermediary Affirmation is Prescribed for an Efficient Future
Larry V. Kirkland (WesTest Engineering, USA)
Dave Jensen (WesTest Engineering, USA)
Calvin Carlson (WesTest Engineering, USA)
Victor Leatherwood (WesTest Engineering Corporation, USA)

Building A World-Class Hardware Test Team
Sam Roundy (Testeract LLC & Testeract, USA)
Steve Evans (Testeract LLC & Testeract, USA)

New trends in testing electronic products by simulation during design, using programmable rules, circuit analysis and AI
Yizhak Bot (& BQR, Israel)

2A2: Diagnostics & Signal Integrity
Wednesday, 30 August
8:30 AM – 10:00 AM
Baltimore 2
Session Chair: Dave Carey (TEVET LLC, USA)

A fast fault diagnosis method for RF front-end modules based on adaptive signal decomposition and deep neural network
Xiaoting Tang (University of Electronic Science and Technology of China, China)
Zhen Liu (University of Electronic Science and Technology of China, China)
Jingqun Liang (University of Electronic Science and Technology of China, China)
Kunping Wu (University of Electronic Science and Technology of China, China)
Zhiyuan Bu (University of Electronic Science and Technology of China, China)

Parallel Acceleration Algorithm for Eye Diagram Construction Based on GPU
Jinghao Chen (University of Electronic Science and Technology of China, China)
Peng Ye (University of Electronic Science and Technology of China & Uni-Trend Technology (China) Co., Ltd., China)
Yu Zhao (Shenzhen Institute for Advanced Study University of Electronic Science and Technology of China, China)
Chuan Huang (University of Electronic Science and Technology of China, China)
Qinchuan Zhang (University of Electronic Science and Technology of China, China)
Hongzhi Xu (UESTC, China)
Xuefeng Dai (University of Electronic Science and Technology of China, China)

Life prediction of electronic equipment based on the fusion of simulation data and measurement data

Zhiyuan Bu (University of Electronic Science and Technology of China, China)
Bing Long (University of Electronic Science and Technology of China & & Shenzhen Institute for Advanced Study, UESTC), China)
Kunping Wu (University of Electronic Science and Technology of China, China)
Xiaoting Tang (University of Electronic Science and Technology of China, China)
Zhen Liu (University of Electronic Science and Technology of China, China)

2A3: Integrated Circuits (ICs) & Backplanes
Wednesday, 30 August
8:30 AM – 10:00 AM
Baltimore 3
Session Chair: Mike Seavey (USA)

A Simple Slotted Microstrip Planar Antenna for 2.45 Ghz Applications

Mohammad Tariqul Islam (Universiti Kebangsaan Malaysia, Malaysia)
Sharif Mia (University of Chittagong, Bangladesh)
Rezaul Azim (University of Chittagong, Bangladesh)
Ayman Mostafa (Chittagong Grammar School, Bangladesh)
Shabiul Islam (Multimedia University (MMU), Malaysia)
Ahasanul Hoque (Senior Lecturer & Universiti Kebangsaan Malaysia (UKM), Malaysia)

Application Overview: Backplane Signal Integrity Testing

Dennis Reeves (Tektronix, USA)

IC-Chip Behavioral anomalies experienced under intermittent Circumstances

Larry V. Kirkland (WesTest Engineering, USA)
Dave Jensen (WesTest Engineering, USA)
Calvin Carlson (WesTest Engineering, USA)
Victor Leatherwood (WesTest Engineering, USA)

2A4: Automated Test 1
Wednesday, 30 August
8:30 AM – 10:00 AM
Baltimore 4
Session Chair: Tarra Marchetti (Teradyne, USA)

Development of an Automated Test Environment for the Verification of CBTC On-Board System

Berk Efendioglu (ASELSAN, Turkey)
Cihan Gezmez (ASELSAN, Turkey)
Hamit Hamidettin Kumurkan (ASELSAN, Turkey)
Aydin Kalender (SELSAN, Turkey)

Automated Generation of Test Artifacts and Traceability for a Safety-Critical, Distributed Avionics Platform

Christian Block (University of Stuttgart, Germany)
Serkan Dikmen (University of Stuttgart, Germany)
Reinhard Reichel (Universität Stuttgart, Germany)

AD-PU: A novel approach for automated identification of the outliers in User Interface Testing (UAT)
Nuwandhi S.K Senevirathne (Sri Lanka Iinstitute of Information Technology & London Stock Exchange Group, Sri Lanka)
Victoria Penenco (London Stock Exchange Group, United Kingdom, Great Britain)
Dharshana Kasthurirathna (Faculty of Computing, Sri Lanka Institute of Information Technology, Sri Lanka)

Test & Simulation Tools Supporting Development of 5th Generation EW & Data Fusion Systems
Troy Troshynski (Avionics Interface Technologies, A Teradyne Company, USA)
Tony Erwin (Teradyne, USA)

2A5: Model Based Test 2
Wednesday, 30 August
8:30 AM – 10:00 AM
Baltimore 5
Session Chair: Anand Jain (NI, USA)

Modeling TRDs into SysML for Optimizing ATE Designs
Joseph M. Chaildin (Lockheed Martin, USA)
Jared Boyden (Lockheed Martin, USA)
Allyson Bilskie (Lockheed Martin, USA)
Joe Headrick (Lockheed Martin, USA)

SysML Modeling for DMSMS Issues
Joseph M. Chaildin (Lockheed Martin, USA)
Joe Headrick (Lockheed Martin, USA)
Allyson Bilskie (Lockheed Martin, USA)

An Adoption of Automation Framework for Model-Based Test Engineering to System Testing for Airborne Safety Critical Systems
Manju Nanda (Principal Scientist, India)
Sintu Punnoose (NI, India)
Neelakanta Erabhovi (Senior Scientist, Bangalore, India)

Practical application of Model-Based Testing in Aerospace Manufacturing
Ron Knight (Raytheon Technologies, USA)

Exhibits
Wednesday, 30 August
10:00 AM - 11:45 AM
Prince George's Ballroom Exhibit Hall E

Immediately following the morning technical sessions, attendees may continue to explore the numerous ATE exhibits that IEEE AUTOTESTCON is proud to present. The complete list of Exhibitors is found in the rear of this Program along with a map of their location.

. **Awards Lunch**
Wednesday, 30 August
12:00 PM - 1:30 PM
Woodrow Wilson A

The Awards Lunch is from 12:00 PM and 1:30 PM in Woodrow Wilson A. Tickets are included with the full conference registration. Students, Life Members, and Exhibit Hall attendees can purchase tickets to the lunch at the registration desk.

2B1: NDIA ATS 2023 Digital Engineering Project Panel
Wednesday, 30 August
1:30 PM - 3:00 PM
Woodrow Wilson BCD
Session Chair: Anand Jain (NI, USA)

Purpose: The panel will provide initial findings for implementation of Digital Engineering (DE) and Digital Transformation (DT) within DoD projects. Findings include challenges and potential solutions about the use of ATML, SysML, LML, and DoD policy. Topics covered will include Tools and Processes, Standards, Data Storage/Cloud and Cybersecurity, Life-Cycle Support and Logistics, and Project Management/Coordination. The project is a collaborative effort formed from DoD, Military, and Industry individuals working in the Defense Automated Test industry. The ATC project goal is to deliver a document for DoD reference that provides insights into the ATS/ATE Defense Industry's capabilities and potential improvements to support Digital Acquisition and the necessary execution of DE and DT.

Panel Moderator:

Dr. Patricia Griffin, Astronics Test Systems

Panelists:

Pin Anupongongarch, Teradyne
Darcy Smith, Keysight
Heath Causey, NI
Bruce Petty, Consultant
Tim Stanley, CACI

2C1: Standards & Standards: Ask the Experts
Wednesday, 30 August
3:45 PM - 5:15 PM
Baltimore 1
Session Chair: Teresa Lopes (Teradyne, USA)

A Standard for Prognostics and Health Management in the Context of Automatic Test Systems
John W. Sheppard (Montana State University, USA)
David R. Carey (TEVET LLC, USA)
Ion Neag (Reston Software, LLC, USA)
Eric Gould (DSI International, USA)

Standards-Based Digital Thread as Authoritative Source of Truth
Chris C Gorringe (SPHEREA Technology Ltd., United Kingdom, Great Britain)
Eric Gould (DSI International, USA)
Ion Neag (Reston Software, LLC, USA)

Standards: Ask the Experts

Experts involved in the development, implementation and applications of various ATE related standards are here to answer your questions about implementing and using the standards, availability of tools that support the standards, and how the standards play with other ATE-related initiatives such as Model-based System Engineering (MSBE) and Digital Transformation (DT).

John W. Sheppard (Montana State University, USA)
David R. Carey (TEVET LLC, USA)
Ion Neag (Reston Software, LLC, USA)
Eric Gould (DSI International, USA)
Chris C Gorringe (SPHEREA Technology Ltd., United Kingdom (Great Britain))
Anand Jain (NI, USA)

Shy about asking your question in public? An Email address will be provided during the Session to allow you to ask your question(s).

2C2: Test Strategies & Radio Frequency (RF) Test
Wednesday, 30 August
3:45 PM - 5:15 PM
Baltimore 2
Session Chair: Robert Hoover (Teradyne, USA)

Effectiveness, Efficiency and Execution, the fundamentals of a Test and Measurement Strategy
Duane Lowenstein (Keysight Technologies, USA)
Charlie Slater (Keysight Technologies, USA)

Methods for Various Levels of Testing during Development of a Communication Interface Board
Ersin Atabay (ASELSAN Inc. & Istanbul Technical University, Turkey)
Hadi Alper Toku (ASELSAN Inc., Turkey)

RF Scene Generation for Dynamic Spectrum Testing
Jim Costabile (Syncopated Engineering, USA)

Gated Recurrent Units Network Based on Adversarial Training for Multi-Step Fault Prediction of RF Circuits
Kunping Wu (University of Electronic Science and Technology of China, China)
Bing Long (University of Electronic Science and Technology of China, China)
Xiaoting Tang (University of Electronic Science and Technology of China, China)
Zhiyuan Bu (University of Electronic Science and Technology of China, China)
Zhen Liu (University of Electronic Science and Technology of China, China)

2C3: Calibration 2
Wednesday, 30 August
3:45 PM - 5:15 PM
Baltimore 3
Session Chair: Mike Seavey (USA)

Know Your Metrology Terms: Calibration vs. Normalization - Define Calibration Services for Complex Aerospace and Defense Solutions
Giovanni D'Amore (Keysight Technologies, The Netherlands)
Scott M Leithem (Keysight Technologies, Inc., USA)

Increase Test System Uptime with an in-System Power Supply Calibration Strategy
Neil M. Forcier (Keysight Technologies, USA)

Automated Calibration of Sensitivity and Noise Floor Levels on Electronic Warfare Systems
Ata H Aksöz (ASELSAN Inc. & Middle East Technical University, Turkey)
Furkan Ülger (ASELSAN Inc., Turkey)
Orkun Alp (ASELSAN Inc., Turkey)

In-Flight Calibration and Testing of Phase Interferometry Based Direction Finding Performance for Airborne Radar Warning Receivers
Hüseyin Eren Çamlıbel (ASELSAN, Turkey)
Sami Tokgöz (ASELSAN, Turkey)
Tahir Doğan (ASELSAN, Turkey)

2C4: Automated Test 2
Wednesday, 30 August
3:45 PM - 5:15 PM
Baltimore 4
Session Chair: Jason Mapanoo (US Navy, USA)

Automated Testing for Operational Flight Programs with Hardware-in-the-Loop
John Guerra (US Air Force, USA)
Colby Searle (US Air Force, USA)

Europa Clipper (EC) Propulsion Module Electronics (PME) Ground Support Equipment (GSE) Automated Test
Anthony Parker (Johns Hopkins University, Applied Physics Laboratory, USA)
Sussan Rad (Johns Hopkins University, Applied Physics Laboratory, USA)

The Power of an Automated Test Framework
Sam Roundy (Testeract LLC, USA)
Jayson Wilkinson (Testeract LLC, USA)

2C5: System Integration & Test
Wednesday, 30 August
3:45 PM - 5:15 PM
Baltimore 5
Session Chair: Jim Orlet (Boeing Co., USA)

Built-In Test for airborne electronic systems: design and implementation
Engin Öztürk (Tübitak, Bilgem, Advanced Technologies Research Institute, Turkey)
Emre Dogru (& Advanced Research Institute of Turkey, Turkey)

Verification of Triple Redundant Flight Control Computer System Integration with Hardware-in the-Loop Simulation
Barış Karkar (DEICO Engineering Inc., Turkey)
Fatih Gokmenoglu (DEICO Engineering Inc., Turkey)

FPGA-based Digital Twin Approach for Design and Test
Peter Schulz (Hamburg University of Applied Sciences, Germany)
Louis Y. Ungar (A.T.E. Solutions, USA)

3A1: Measurements 1
Thursday, 31 August
10:30 AM - Noon
Baltimore 1
Session Chair: Teresa Lopes (Teradyne, USA)

A Novel Design of FPGA-TDC Based on SerDes
Dexuan Kong (University of Electronic Science and Technology of China, China)
Zaiming Fu (University of Electronic Science and Technology of China, China)
HaoYang Dang (University of Electronic Science and Technology of China, China)
Hanglin Liu (University of Electronic Science and Technology of China, China)
Xiaoting Tang (University of Electronic Science and Technology of China, China)
Kunping Wu (University of Electronic Science and Technology of China, China)

Design of 16-channel high-speed synchronous data acquisition system
Wuhuang Huang (University of Electronic Science and Technology of China, China)
Fang Fang (University of Electronic Science and Technology of China, China)
Chen Aijun (UESTC, China)
Yunyu Gan (University of Electronic Science and Technology of China, China)
Zhixiang Pan (University of Electronic Science and Technology of China, China)
Guibing Zhu (University of Electronic Science and Technology of China, China)
Huiqing Pan (University of Electronic Science and Technology of China, China)
Chengyang Li (University of Electronic Science and Technology, China)
Ye Peng (University of Electronic Science and Technology of China, China)

The Integrated Compensation Structure Design of Broadband Mixed Frequency Response Mismatch in High-resolution Quadrature Signal Reception System
Jie Meng (University of Electronic Science and Technology of China & Shenzhen Institute for Advanced Study University of Electronic Science and Technology of China, China)
Peng Ye (University of Electronic Science and Technology of China, China)
Yu Zhao (Shenzhen Institute for Advanced Study University of Electronic Science and Technology of China, China)
Chengyang Li (University of Electronic Science and Technology of China, China)
Huiqing Pan (University of Electronic Science and Technology of China, China)
Houjun Wang (University of Electronic Science and Technology of China, China)

An ultra-high timing resolution waveform generator based on real-time computation and DDS

Hanglin Liu (University of Electronic Science and Technology of China, China)
Zaiming Fu (University of Electronic Science and Technology of China, China)
Shirui Qi, (University of Electronic Science and Technology of China, China)
Dexuan Kong (University of Electronic Science and Technology of China, China)
Houjun Wang (University of Electronic Science and Technology of China, China)

Design of intelligent power consumption management for portable high-speed oscilloscope analyzer

Wuhuang Huang (University of Electronic Science and Technology of China, China)
Di Qin (University of Electronic Science and Technology of China, China)
Chen Aijun (UESTC, China)
Li Qi (University of Electronic Science and Technology of China, China)
Zhixiang Pan (University of Electronic Science and Technology of China, China)
Chengyang Li (University of Electronic Science and Technology of China, China)
Duyu Qiu (University of Electronic Science and Technology of China, China)
Kuojun Yang (University of Electronic Science and Technology of China, China)
Ye Peng (University of Electronic Science and Technology of China, China)

Timing synchronization algorithm of large range roll-down coefficient of oscilloscope

Shuo Wang (University of Electronic Science and Technology of China, China)
Kuojun Yang (University of Electronic Science and Technology of China, China)
Li Chen (University of Electronic Science and Technology of China, China)
Qinchuan Zhang (University of Electronic Science and Technology of China, China)
Peng Ye (University of Electronic Science and Technology of China & Uni-Trend Technology (China) Co., Ltd., China)

Mismatch Error Calibration in Time Interleaved Acquisition System Based on Multi-head Attention Mechanism
Li Chen (University of Electronic Science and Technology of China, China)
Peng Ye (University of Electronic Science and Technology of China, China)
Kuojun Yang (University of Electronic Science and Technology of China, China)

A Ultra-Wideband All-Passband Phase Calibration Algorithm
Xuefeng Dai (University of Electronic Science and Technology of China, China)
Ye Peng (University of Electronic Science and Technology of China, China)
Yu Zhao (Shenzhen Institute for Advanced Study University of Electronic Science and Technology of China, China)
Maolin Lei (University of Electronic Science and Technology of China, China)

An Adjustable Calibration Technique for Frequency Response Mismatches in TI-ADC System
Huiqing Pan (University of Electronic Science and Technology of China, China)
Jie Meng (University of Electronic Science and Technology of China & Shenzhen Institute for Advanced Study, China)
Chengyang Li (University of Electronic Science and Technology, China)

The Segmented Storage System in Digital Oscilloscope
Chuan Huang (University of Electronic Science and Technology of China, China)
Shulin Tian (University of Electronic Science and Technology of China, China)
Qinchuan Zhang (University of Electronic Science and Technology of China, China)
Peng Ye (University of Electronic Science and Technology of China & Uni-Trend Technology (China) Co., Ltd., China)
Chengyang Li (University of Electronic Science and Technology of China, China)

A waveform distortion correction method based on jitter injection and FIR digital filter using Farrow structure
Hanglin Liu (University of Electronic Science and Technology of China, China)
Fu Zaiming (University of Electronic Science and Technology of China, China)
Shirui Qi (University of Electronic Science and Technology of China, China)
Dexuan Kong (University of Electronic Science and Technology of China, China)
Houjun Wang (University of Electronic Science and Technology of China, China)

3A5: Measurements 2
Thursday, 31 August
10:30 AM - Noon
Baltimore 5
Session Chair: Mike Seavey (USA)

Implementation of real-time STFT for Mixed Domain Analyzer
Ruiyuan Ming (University of Electronic Science and Technology of China, China)
Peng Ye (University of Electronic Science and Technology of China, China)
Duyu Qiu (University of Electronic Science and Technology of China, China)
Xuefeng Dai (University of Electronic Science and Technology of China, China)
Zhixiang Pan (University of Electronic Science and Technology of China, China)
Xuetao Liu (University of Electronic Science and Technology of China, China)

A Multi-Domain Analysis Method for Signal
Xuetao Liu (University of Electronic Science and Technology of China, China)
Kuojun Yang (University of Electronic Science and Technology of China, China)
Ruiyuan Ming (University of Electronic Science and Technology of China, China)
Peng Ye (University of Electronic Science and Technology of China & Uni-Trend Technology (China) Co., Ltd., China)
Zhixiang Pan (University of Electronic Science and Technology of China, China)
Xuefeng Dai (University of Electronic Science and Technology of China, China)

A Reconfigurable Data Acquisition Architecture Based on Hybrid Interleaving in Electronic Instrument
Yu Zhao (Shenzhen Institute for Advanced Study University of Electronic Science and Technology of China, China)
Jie Meng (University of Electronic Science and Technology of China & Shenzhen Institute for Advanced Study University of Electronic Science and Technology of China, China)
Houjun Wang (University of Electronic Science and Technology of China, China)
Jinghao Chen (University of Electronic Science and Technology of China, China)
Li Chen (University of Electronic Science and Technology of China, China)

EXHIBITORS

The Exhibit Hall is located in The Prince George's Exhibit Hall E.

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LOCKHEED MARTIN	311
TERADYNE	205

Silver Promotional Partners

ASTRONICS	321
CUSTOM SYSTEMS INTEGRATION (CSI)	329

Company	Booth #
ADVANCED TEST EQUIPMENT RENTALS	239
AFSC SOFTWARE ENTERPRISE	128
AMETEK PROGRAMMABLE POWER	314
ASTRONICS	321
CACI	135
CUSTOM SYSTEMS INTEGRATION (CSI)	329
DEICO	318
DIT-MCO	108
DSI INTERNATIONAL	213
FLUKE	120
GUIDELINE INSTRUMENTS	221
HUNTRON	106
IEEE AUTOTESTCON 2024	100
IN-PHASE TECHNOLOGIES	225
JTAG TECHNOLOGIES	312
KEPCO INC	218
KEYSIGHT TECHNOLOGIES	229
KITCO FIBER OPTICS	342
KONRAD	241
LIQUID INSTRUEMENTS	214
LOCKHEED MARTIN	311
LOGISYSTECH SERVICES	338
MAC PANEL	112
MARVIN TEST SYSTEMS	305
MAXT	115
MTE CORPORATION	219
NAVAIR PMA260	126
NAVY-GPETE	340
NEW WAVE DESIGN & VERIFICATION	234
NI	236
PICKERING	204
PIDESO	102
QMAX	113
RADX TECHNOLOGIES	317
RHODE & SCHWARTZ	416
SOUTHWEST RESEARCH	119
TDK-LAMDA	110
TERADYNE	205
TEST SYSTEMS SOLUTIONS	301
TESTFORCE USA	137
TESTMART	105
TEVET	122
UEI	245
US NAVY	324
USAF VDATS	130
USMC ATS	345
VERIFIDE	116
W-IE-NE-R & HARTMANN ELEC	220
WESTEST ENGINEERING CORPORATION	109
WILIIAMSRDM	320

ADVANCED TEST EQUIPMENT RENTALS
Booth: 239

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Booth: 314

ASTRONICS
Booth: 321

CACI
Booth: 135

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Booth: 329

DEICO
Booth: 318

DIT-MCO
Booth: 108

DSI
Booth: 213

FLUKE CORPORATION
Booth: 120

GUIDELINE INSTRUMENTS
Booth: 221

HUNTRON
Booth: 106

IEEE AUTOTESTCON 2024
Booth: 100

INPHASE TECHNOLOGIES
Booth: 225

JTAG TECHNOLOGIES
Booth: 312

KEPCO
Booth: 218

KEYSIGHT TECHNOLOGIES
Booth: 229

KITCO FIBER OPTICS
Booth: 342

KONRAD
Booth: 241

LIQUID INSTRUMENTS
Booth: 214

LOCKHEED MARTIN
Booth: 311

LOGISYSTECH SYSTEMS
Booth: 338

MAC PANEL
Booth: 112

MARVIN TEST SYSTEMS
Booth: 305

MTE CORPORATION
Booth: 219

NAVAIR PMA260
Booth: 340

NEW WAVE DESIGN & VERIFICATION
Booth: 234

NI
Booth: 236

PICKERING
Booth: 204

PIDESO
Booth: 102

QMAX
Booth: 113

RADX TECHNOLOGIES
Booth: 317

RHODE & SCHWARTZ
Booth: 416

SOUTHWEST RESEARCH
Booth: 119

TDK-LAMDA
Booth: 110

TERADYNE
Booth: 205

TEST SYSTEMS SOLUTIONS
Booth: 301

TESTFORCE USA
Booth: 137

TESTSMART
Booth: 105

TEVET
Booth: 122

UEI
Booth: 245

US ARMY OPATS HUNTSVILLE
Booth: 118

USAF VDATS
Booth: 130

US Navy
Booth: 324

USMC ATS
Booth: 345

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Booth: 116

WESTEST ENGINEERING
Booth: 109

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