61st ANNUAL ITC

ITC 2026 | Guide

October 26–29, 2026
Renaissance Phoenix Glendale | AZ

ACCELERATING DEFENSE READINESS THROUGH INTELLIGENT TELEMETRY

The Premier Telemetry Education & Training Event

Sponsored by the International Foundation for Telemetering

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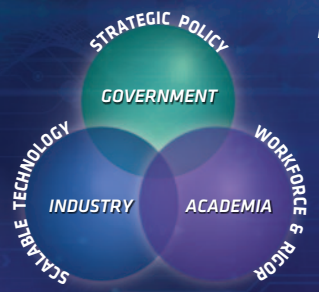
CALL FOR PAPERS 2027



Present a Paper in Vegas One Last Time!

Shared Momentum: Synchronizing Research, Policy & Innovation in Telemetry

The telemetry landscape demands a unified trajectory. The **government sector** defines mission-critical policies for national security; the **industry sector** transforms requirements into scalable, high-speed technologies; and **academia** cultivates the next-generation telemetry workforce. ITC 2027 celebrates this shared momentum, encouraging submissions that showcase how these three pillars converge. By synchronizing academic rigor, industrial agility, and strategic oversight, we can better prepare our workforce and accelerate the development of state-of-the-art telemetry systems. Join us as we collaborate to advance the future of telemetry.

Important Dates:

Abstract Submission By: March 19, 2027
Acceptance Notification: April 16, 2027
Final Paper Due: by June 30, 2027

Guidelines on the **Information for Authors** page at telemetry.org.

Student Paper Contest

Students are invited to submit telemetry-related papers (be sure to formally declare them as student submissions). Competing in separate graduate and undergraduate categories, winners can earn cash prizes of **$1,500** for first place and **$750** for second place. Plus, student winners receive up to **$1,000** in travel expense reimbursement (within the continental U.S.) to present their papers at ITC 2027, along with **4 complimentary room nights.**

Requested Topics

While papers highlighting the intersection of Strategic Policy (Government), Scalable Technology (Industry), and Workforce & Rigor (Academia) are especially encouraged, ITC 2027 welcomes submissions across a broad spectrum of telemetry disciplines, such as:

- **RF, Links, and Signal Processing**
- **AI, Machine Learning, and Data Analytics in Telemetry**
- **Embedded Processing, Sensing, and Architectures**
- **Modeling, Standards, and Interoperability**
- **Security, Resilience, and Cross-Sector Applications**

See flyer for further topic descriptions.

We encourage researchers, industry engineers, government test centers, academic institutions, defense, and aerospace telemetry professionals to submit papers to ITC 2027.

Awards for Best Paper in several categories!

Technical Program Chair
David Mitchell
Email: Dgmm@nmsu.edu

Student Paper Info
Email: Staff@telemetry.org

>>telemetry.org

ITC 2027 | October 25–28, 2027 | Horseshoe Las Vegas

TELEMETRY ENABLES INNOVATION

ITC ENABLES TELEMETRY

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EVENT GUIDE

Registration Hours

Sun. 10/25	3:00pm–5:30pm
Mon. 10/26	8:00am–5:00pm
Tues. 10/27	8:00am–5:00pm
Wed. 10/28	8:00am–5:00pm
Thur. 10/29	8:00am–2:00pm

Short Courses

Mon. 10/26	9:00am–5:00pm
Thur. 10/29	1:00pm–5:00pm

Half-Day Courses Available!

Exhibition Hours

Tues. 10/27	10:30am–5:00pm
Wed. 10/28	9:00am–12:15pm / 2:00pm–5:00pm
Thur. 10/29	9:00am–12:00pm

Technical Sessions

Tues. 10/27	3:10pm–4:50pm
Wed. 10/28	10:15am–12:15pm / 3:30pm–5:30pm
Thur. 10/29	9:00am–10:20am / 11:00am–12:00pm

Special Events

Networking Reception	Mon. 10/26 6:00pm–8:30pm
Opening Ceremony & Keynote Speaker	Tues. 10/27 9:00am–10:30am
Workforce Dev. Panel	Tues. 10/27 12:00pm–1:00pm
Keynote Speaker	Tues. 10/27 2:00pm–3:00pm
Telemetry Demo	Tues. 10/27 5:00pm–6:00pm
Keynote Speaker	Wed. 10/28 9:00am–10:00am
Conference Luncheon	Wed. 10/28 12:30pm–2:00pm
Telemetry Demo	Wed. 10/28 2:15pm–3:15pm

DAY PLANNER AGENDA

> MONDAY, OCTOBER 26

8:00am–6:00pm Exhibits Setup

9:00am–5:00pm Short Courses

6:00pm–8:30pm Networking Reception

> TUESDAY, OCTOBER 27

9:00am–9:30am Opening Comments & Best Paper Awards

9:30am–10:30am Keynote Address

The Space Force of Today and Tomorrow and the Importance of Readiness Through Intelligent Telemetry
Colonel Michael Christensen, Director, U.S. Space Force's Test and Evaluation

10:30am–5:00pm Exhibits Open **Talent Connect** 10:30AM–12:00PM

12:00pm–1:00pm Workforce Development Panel

Building the Next-Generation Telemetry Workforce

2:00pm–3:00pm Keynote Address

Speed Matters! A Lifelong Journey Bolstering Defense Readiness Outcomes **– Paul Mann, Chief Technical Officer, Golden Dome Strategic Alliance, AE Industrial**

3:10pm–4:50pm Technical Sessions

5:00pm–6:00pm Telemetry Demo

> WEDNESDAY, OCTOBER 28

9:00am–10:00am Keynote Address

Intelligent Telemetry for Speed & Scale: Modernizing Testing for the Department of War
George Rumford, Director of the Deptartment of War (DoW), Test Resource Management Center (TRMC)

9:00am–12:15pm Exhibits Open **Talent Connect** 11:00AM–12:00PM

10:15am–12:15pm Technical Sessions

12:30pm–2:00pm Conference Luncheon Keynote & Cliff Aggen Student Papers Awards

The Zero Trust Imperative – Securing the Data Stream
Derrick Hinton, Sector Vice President, Research and Test & Evaluation, Advanced Technology Solutions (ATS) Division of Scientific Research Corporation (SRC)

2:00pm–5:00pm Exhibits Open

2:15pm–3:15pm Telemetry Demo

3:30pm–5:30pm Technical Sessions

4:00pm–4:30pm ITC'26 Feedback & Future Planning Town Hall

> THURSDAY, OCTOBER 29

9:00am–12:00pm Exhibits Open

9:00am–10:20am Technical Sessions

11:00am–12:00pm Technical Sessions

1:00pm–5:00pm Short Courses

CONFERENCE LOGISTICS

Parking **–** The fee for parking is $15 valet or overnight self parking and $10 daily. Parking in the west parking lot is complimentary and is first come first serve.

Luncheon **–** Tickets are required for the ITC'26 Conference Luncheon and can be purchased for $25 at the Registration Desk.

Authors & Speakers **–** All Technical Session speakers must check in at the Author/Session Chair Information Desk located in the Registration area, at least 24 hours prior to their scheduled presentation time.

WiFi **–** The hotel provides Wi-Fi access in all guest rooms; however, Wi-Fi is not available in the conference area.

Les Bordelon
Board President
International Foundation for Telemetering

A Message from the IFT Board President

Welcome to ITC 2026. The International Foundation for Telemetering (IFT) is proud to welcome you to the International Telemetering Conference (ITC)—the premier forum for education, training, and innovation in our field.

For over six decades, ITC has served as the heart of the telemetry community. It is where emerging ideas transition into real-world technologies, groundbreaking research becomes industry standards, and professionals across government, defense, industry, and academia gather to push the boundaries of test and evaluation.

At its core, the IFT exists to champion and sustain this vital community. Beyond sponsoring this annual conference, the Foundation actively invests in the future of our discipline. We proudly support telemetry education programs and student scholarships at seven partner universities, while also sponsoring the Telemetering Standards Coordinating Committee (TSCC) and the International Consortium for Telemetry Spectrum (ICTS) to safeguard our spectrum and drive technical alignment worldwide.

ITC is designed to be an active community, not a passive audience. As you navigate the week, I encourage you to get involved:

• **Engage in the Sessions & Exhibition:** Ask tough questions during technical papers, participate in panel discussions, explore new methodologies, and engage with vendors, research institutions, and colleagues across different sectors.

• **Invest in Continuous Learning:** Take advantage of our world-class short courses to expand your skill set.

• **Shape the Future:** Connect with and mentor the university scholars present this week, they represent the next generation of leadership in telemetry. Be sure to stop by the talent hub for your chance to talk with the university students.

• **Share Your Voice:** Help us keep ITC responsive to your needs. Talk with our volunteers, share your feedback, or consider contributing a technical paper or serving on a committee in the future.

This conference belongs to you. We invite you to build new partnerships, explore transformative technologies, and help steer the future of telemetry. Thank you for being an essential part of our community. Please share your ideas, feedback, or suggestions with me or any member of the ITC staff, or visit us online at www.telemetry.org.

~ Les Bordelon,
President, IFT

Dr. Farzad Moazzami
2026 General Chair
Morgan State University

Dr. Willie Harrison
2026 Technical Chair
Brigham Young University

It is my great pleasure to welcome you to the International Telemetering Conference 2026. As General Chair, I am honored to welcome colleagues, friends, students, and new members of our community to a conference that has meant a great deal to me, both personally and professionally, over the years.

Our theme this year, ***"Accelerating Defense Readiness Through Intelligent Telemetry,"*** reflects an important moment for our field. Artificial intelligence, cybersecurity, advanced communications, autonomous systems, and data analytics are rapidly changing not only what is technically possible, but also what is expected of the telemetry community. ITC has always been a place where new ideas meet real-world challenges, and I believe our community plays an important role in shaping what comes next.

Over the next several days, I encourage you to experience ITC beyond the technical program. Attend a session outside your usual area of expertise. Ask a question. Visit an exhibitor you have not met before. Introduce yourself to a student or young professional. Reconnect with an old colleague and make a new one. The technical knowledge we share is essential, but the relationships we build are what sustain and strengthen this community year after year.

We are also continuing to strengthen ITC's commitment to developing the next generation of telemetry professionals. Through expanded student and workforce initiatives, we hope to create meaningful connections among students, universities, government organizations, and industry, while introducing new talent to the extraordinary technical community that ITC represents. Our students and young professionals bring new perspectives, new skills, and new questions. Through these initiatives, we are not simply preparing them for careers—we are investing in the future of our field.

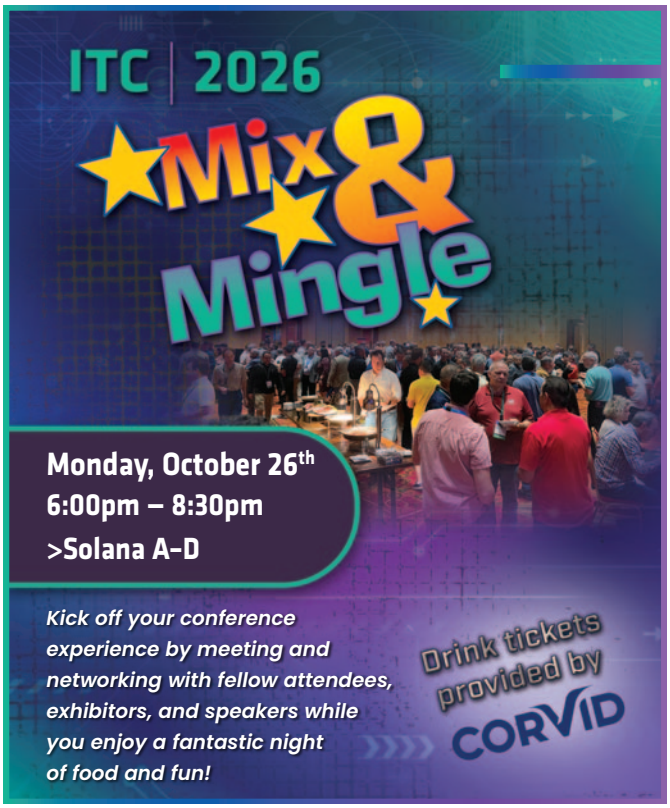
Bringing ITC together each year requires an extraordinary collective effort. I am deeply grateful to our organizing committee, technical program committee, volunteers, authors, speakers, exhibitors, sponsors, and the International Foundation for Telemetering leadership. Their commitment and countless hours of work have made this week possible.

Thank you for being part of ITC 2026. I hope you leave the conference with new knowledge, new connections, and perhaps most importantly, new ideas about what we can accomplish together.

Welcome to ITC 2026. I look forward to seeing you throughout the week.

~ Dr. Farzad Moazzami

IFT Endowed Professor in Wireless, Networks & Security, Morgan State University



Let's Connect & Stay Ahead

Scan the QR code to join our official conference network, connect with fellow attendees, and continue the conversation long after the sessions end.

Scan and tag us in your posts!

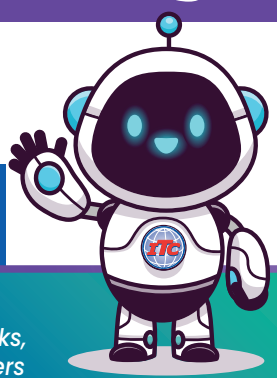
LinkedIn
#ITC26

X (Twitter)
Profile Handle
@ITCUSAROCKS
#ITC26

NEED HELP?

Meet Our AI Concierge!

Your AI-Powered Resource for ITC



What the AI Concierge can do for you:

- **Technical Sessions & Papers:** *Instantly pinpoint specific tracks, topics, or award-winning papers tailored to your expertise level.*
- **Targeted Exhibitor Matching:** *Discover which booths solve your exact technical challenges based on their specific product capabilities.*
- **Speaker & Schedule Navigation:** *Instantly locate when and where your must-see industry experts are presenting.*

Scan QR code with your smartphone camera to get started instantly!

Spouse/Guest Program

The Spouse & Guest Program offers a variety of interactive activities designed especially for guests accompanying conference attendees. Onsite registration is available for individuals not employed in the telemetry industry and not staffing an exhibit booth. All Spouse/Guest participants must accompany a fully registered attendee. Stop by the Spouse & Guest Desk to sign up for exciting excursions!

TALENT CONNECT HUB

Meet in the Media Center during times listed:

Tuesday | October 27
10:30am – 12:00pm

Wednesday | October 28
11:00am – 12:00pm

The Talent Connect Hub –

Connecting Students and Industry Mentors

Each year, ITC brings together top undergraduate and graduate engineering and technology students who represent the future of the telemetry industry. Through our Talent Connect Initiative, our goal is to bridge the gap between these talented emerging professionals and leading organizations across our community.

Direct Mentorship: *Sit down, one-on-one, with leaders from top telemetry and engineering companies.*

Career Guidance: *Get insider insights on the hiring process and professional interview tips.*

Hiring & Internships: *Explore active entry-level positions and internship opportunities with organizations ready to talk tech and careers.*

Stop in, spark a conversation, and connect!

Participating companies include:

CURTISS-WRIGHT

CORVID

NORTHROP GRUMMAN

TEST RESOURCE MANAGEMENT CENTER · DEPARTMENT OF WAR ·

RADEUS Labs, inc.

JT

TEST / TACTICS / TRAINING / TECHNOLOGY

Big Duck Applied Sciences

TELEMETRY ENABLES INNOVATION | ITC ENABLES TELEMETRY

Full-Day Short Courses

Monday, October 26th | 9:00am–5:00pm

Course | Location

Advanced Modulation and Demodulation Techniques — ›Aurora B

Explores modulation and demodulation techniques currently employed or proposed for telemetry. Material covers the legacy PCM/FM waveform, SOQPSK, Multi-h CPM, as well as a preview of new modulations being developed. Receive-side techniques for these waveforms are also addressed with discussions on trellis demodulation, adaptive equalization, synchronization, LDPC forward error correction, data quality metric (DQM), data quality encapsulation (DQE), best source selection (BSS), and space-time coding (STC).

Terry Hill, Quasonix, Inc.

Basics of Aircraft Instrumentation — ›Aurora A

This course will cover a wide variety of topics related to Aircraft Instrumentation. Data, Acquisition, Telemetry, Instrumentation System Block Diagram, Standards, Data Requirements, Transducers Specifications, Video, Avionics Busses (e.g. 1553, ARINC-429, Ethernet etc.), Using Requirements to Configure an Analog Data Channel, Creating a PCM Map to Obtain a Sample Rate, Telemetry Bandwidth, Record Time, GPS, Audio, Telemetry Attributes Transfer Standard (TMATS), and Measurement Uncertainty - Interpreting the Results. This is a great introduction for new hires or a refresher for current employees.

David Hodack, Naval Air Warfare Center Aircraft Division

Fundamentals of Microwaves and RF in Aeronautical Telemetry Systems — ›Cascade G

This course begins with an overview of electromagnetic theory and the many common uses of RF microwaves today. Concepts such as the frequency spectrum, basic physics of electro-magnetic wave reflection and propagation, standing waves, power density, phase and polarity are discussed. The second section discusses RF microwave components typically found in telemetry systems, touching on design and applications. Consideration of antennas, transmissions lines, couplers/splitters/combiners, hybrids, RF amplifiers, VCOs, isolators, attenuators, modulators, etc. is given. Concepts such as intermodulation, dynamic range and linearity are introduced. The final section of the course addresses the application of an end-to-end digital telemetry transceiving system. A typical airborne to ground station radio link is presented with emphasis placed on RF-centric issues impacting radio link performance.

Mark McWhorter, Lumistar

Introduction to Analyzing Ethernet Data — ›Cascade B

With the proliferation of Ethernet as a data transport on multiple commercial and military aircraft and weapon systems it is becoming even more important to get a basic understanding of how to analyze Ethernet data. This course will start with an introduction to the OSI model and lay out the basics that make up Ethernet traffic. Then we'll look at the open source Wireshark program and go through a crash course in using it to examine different types of Ethernet traffic. We'll also examine wireless traffic and how it differs from traditional wired Ethernet. Finally we'll look at using the Python programming language along with several libraries to actually analyze and decode data embedded in Ethernet traffic.

Paul Ferrill, Avionics Test & Analysis Corporation

Introduction to Satellite Communications and Telemetry Standards — ›Half Day 1–5pm ›Cascade C

The Introduction to Satellite Communications short course provides an overview of the theories and international standards for various means of space communications. It includes descriptions of practical applications for high-latency and error-prone links, describes the RF link characteristics, modulation schemes, various forms of error detection, correction and compression, practical mechanisms for data networking in space, considerations for IP, concerns over security, new applications of short and medium distance links, and interoperability interests between civil and defense systems. Questions related to new standards proposed for user interfaces are also explored. Optical communications and the new proposed Unified Space Link Protocols will also be introduced as the path forward for the international standards body, CCSDS (the Consultative Committee for Space Data Systems).

Robert Ritter, IMI Technology

IRIG 106 Chapter 10/11 Digital Recording Standard — ›Aurora D

This course will present an in-depth look at the latest IRIG 106 Chapter 10/11 Digital Recording Standards. Each section within the standard will be covered along with implementation, compliancy, interoperability, data processing and validation methods. Lessons learned and insight into development and applications of recorders/reproducers, test equipment and processing software throughout the test and operational communities will also be presented. A review of emerging implementations and the next release of the standard will also be conducted.

Mark Buckley, Telspan Data & Alfredo Berard, 96 RANSS/RNRE

Signals and Modulation — ›Cascade E

This course is directed towards personnel with limited experience in digital communications and modulation schemes. The course examines the relationships between the elements engineers use to send data from its source to its destination over a radio link. The class begins with how designers represent and sample the signals. Next, we will examine how the modulation and demodulation techniques preserve the signal's integrity, including signal bandwidth representations, system noise estimations, and data link imperfections that will affect the end-to-end link performance. Finally, we will look at RF safety and systems-level concerns for the designer to address data system requirements, transmission regulations and constraints, and end-to-end analysis and planning.

Dr. Stephen Horan, Professor Emeritus, New Mexico State University

›› *Short Courses continued on pg. 8*

Full-Day Short Courses, continued

Monday, October 26th | 9:00am–5:00pm

Course | Location

Telemetry Applications from the TRMC's Joint Mission Environment Testing Capability (JMETC) Portfolio Followed by CHEETAS for Beginners — ›Cascade D

Telemetry operations often require personnel to be on-site with receive systems or at remote consoles, leading to increased travel demands and potential operator shortages. The integration of remote-control capabilities and centralized data collection can significantly reduce operational costs while enhancing real-time system insights. The Test and Training Enabling Architecture (TENA) and the Joint Mission Environment Test Capability (JMETC), combined with Big Data tools and techniques, enable more efficient use of current and future telemetry range resources. These technologies facilitate range resource integration, which is essential for validating system performance in a cost-effective manner. This session will explore the current and future impact of TENA, JMETC, and Big Data Analytics on the test and evaluation (T&E) community, as well as their benefits to range operations and the warfighter.

Following this discussion, the course will transition to CHEETAS for Beginners, introducing attendees to the Cloud Hybrid Edge-to-Enterprise Evaluation & Test Analysis Suite (CHEETAS) framework. CHEETAS provides a vendor- and hardware-agnostic tool suite for building evaluation infrastructure across diverse acquisition portfolios. Offered at no cost by the Test Resource Management Center (TRMC), CHEETAS supports time-series data ingestion in formats such as IRIG 106 Chapter 10, DarV3, and CSV, while also enabling live data streaming from TENA.

This beginner-friendly session will cover fundamental CHEETAS functionalities, including:

• Navigating the CHEETAS Dashboard and Entity Editor • Importing, viewing, and editing Interface Control Documents (ICDs)
• Processing and querying telemetry data • Managing entities and parameter sets • Playing back data and video for analysis
• Installing and updating UI modules

By attending this combined session, participants will gain a comprehensive understanding of how JMETC portfolio tools, including TENA, Big Data Analytics, and CHEETAS, are shaping the future of telemetry operations. Whether you're looking to optimize range resource management or get started with CHEETAS, this course will provide valuable insights and hands-on knowledge.

Gene Hudgins, KBR, TENA/JMETC & Douglas Audirsch, KBR, CHEETAS User Support

TmNS Telemetry Networks — ›Cascade A

This course introduces participants to telemetric networks to gain an understanding of telemetric networking principles, applicable networking technologies, trade-offs in applying networks to telemetry, and end-to-end telemetric applications. Specifically, the RCC Telemetry Network Standard (TmNS) and its application will be presented illustrating the test article network, radio access network, range operations network, mission control network, system management operations, and telemetric applications. Sprinkled throughout the course are selected networking technology topics to help aid in the networking discussions. This course is intended for anyone who needs an introduction to TmNS technologies and system capabilities. It will be useful for participants to have a basic knowledge of networking concepts. This short course is particularly beneficial for persons responsible for or involved in flight test instrumentation and telemetry systems.

Thomas Grace, NAVAIR Patuxent River & Todd Newton, SwRI

Telemetry Over IP — ›Aurora C

This course begins by introducing the capability of transporting PCM telemetry over an IP network (TMoIP), including discussion of the benefits and limitations of this technology. Essential network topics are covered including the OSI network model and associated TMoIP network protocols. The three key RCC IRIG standards for TMoIP are described: IRIG 218, IRIG 106 Chapter 10 over UDP, and TmNS. Interactive and scripted setup, configuration, status, and diagnostics approaches are presented. Advanced topics include minimizing latency, handling poor-quality WAN networks, inter-vendor interoperability, reliability and redundancy, one-to-many and mesh networks, configurable quality-of-service, and time/data correlation. The course ends with an overview of current and future trends in IP convergence and cloud-based architectures.

Mark Roseberry, NetAcquire Corporation

Telemetry Fundamentals: A Journey From Sensor to Display — ›Half Day 1–5pm — ›Cascade F

Dive into the fascinating world of telemetry with this introductory course. Gain a high-level understanding of key concepts and components, starting with onboard vehicle systems such as sensors, signal conditioning, modulation, and transmission. Transition to ground-based operations, exploring receivers, data distribution, decommutation, processing, and display. Discover additional topics like IRIG 106 Ch 10 and 11 recording and distribution formats, along with IRIG 106 Chapter 7 packet data over PCM. Get ready to unlock the secrets of telemetry!

Gary Thom, Delta Information Systems, Inc.

Missed a Monday course?
There is still time to register for the Thursday afternoon half-day courses.

For Half-Day Course descriptions, see pages 18–22.

Keynote Speaker

9:00am – 10:30am | Solana A-D

The Space Force of Today and Tomorrow and the Importance of Readiness Through Intelligent Telemetry

Keynote Speaker:

Colonel Michael Christensen

Director, U.S. Space Force's Test and Evaluation (USSF/TE)

Begin your morning with a continental breakfast followed by a thought-provoking keynote exploring the strategic evolution of the U.S. Space Force and how telemetry is transforming from a passive monitoring tool into an "intelligent" strategic asset to achieve predictive readiness and space superiority.

Colonel Michael Christensen is Director of the United States Space Force's Test and Evaluation (USSF/TE) at The Pentagon, Washington DC. TE reports to the Vice Chief of Space Operations and is responsible for developing and implementing test & evaluation policy for future and current space programs, range infrastructure, development and oversight of all USSF testing.

Col. Christensen was born in Tulsa, Oklahoma, and commissioned in 2001, through Officer Training School at Maxwell Air Force Base, Alabama. He began his career as an Acquisitions Manager developing advanced Intelligence, Surveillance and Reconnaissance satellites then sensor pods for the F-16 and U-2.

He deployed to Iraq in 2006, with the Defense Contracts Management Agency and with the JTF Paladin in 2011, to Afghanistan as a Forensic Chemist countering IEDs. Col. Christensen's acquisition experience has run the entire life cycle, from concept development and demonstration with the Artemis Hyperspectral Satellite, to system upgrades such as managing the F-16 TARS sensor suite. Additionally, as the Operations Flight Commander and Lead Flight Test Engineer at Edwards AFB, California, he planned and executed the first ballistic missile shootdown with the Airborne Laser program. He spent six years developing cyber warfare technology as a DO and Commander standing up the 47th CTS, followed with time as an Instructor for the Profession of Arms Center of Excellence where he taught Squadron Commanders skills to motivate their force and then before joining the USSF as Deputy Group Commander of the 704th Test Group.

Col. Christensen is a graduate of the U.S. Air Force Test Pilot School class 08B, with crew experience in 28 types of rotary and fixed wing aircraft.

Opening Ceremony Awards Presentation

Join us at the Opening Ceremony for the presentation of awards for **John Jensen Best Conference Paper**, **TSCC Lawrence Rauch Award for Telemetry Standards**, and **ICTS Myron Hiram Nichols Award for Telemetry Spectrum**. The **Pioneer** and **Directors Awards** will also be presented. A continental breakfast will be served, starting at 8:30. Keynote presentation will immediately follow the presentation of awards.

Workforce Development Panel

12:00pm – 1:00pm | Solana A-D

Building the Next-Generation Telemetry Workforce

As part of this year's new Talent Connect Program, ITC 2026 is proud to host this panel dedicated to industry growth, talent pipelines, and mentorship. Designed specifically for undergraduate and graduate students, this panel addresses critical industry challenges, emerging technical skill requirements, and effective recruitment strategies needed to strengthen the telemetry engineering pipeline and prepare students for successful transitions from academia into the field. While primarily tailored for the students, all conference attendees are welcome to attend.

Moderator:

Dr. Farzad Moazzami

General Chair, ITC 2026
IFT Endowed Professor in Wireless, Networks & Security, Morgan State University

Panelists:

Farhad Daghigh
VP of Sales & Business Development, Flight Test Instrumentation, Curtiss-Wright Defense Solutions

Juliet Correnti
Chief Executive Officer, Radeus Labs, Inc.

Joyce Heilman
Division Chief, Test Resource Governance, Test Resource Management Center (TRMC)

Tuesday Plenary Events

Keynote Speaker

2:00pm – 3:00pm | Solana A-D

Speed Matters! A Lifelong Journey Bolstering Defense Readiness Outcomes

Keynote Speaker:

Paul Mann

Chief Technical Officer for the Golden Dome Strategic Alliance, AE Industrial

Mr. Mann will lead a provocative exploration of telemetry systems, past, present, and especially future, securing National Security imperatives. This keynote address features a special focus on the demand for intelligent telemetry feedback to capability stakeholders throughout operational employment and readiness sustainment. Join us Tuesday afternoon to discover what it means to learn, innovate, and adapt at operationally relevant speed!

Paul Mann is the Chief Technical Officer for the Golden Dome Strategic Alliance at AE Industrial. He previously served as the Program Executive in the MDA for Aegis-Based Defense, leading a team of engineering and acquisition professionals to develop, test, field, and sustain operational defenses for the United States and its coalition partners.

As the Department of the Navy's Chief Systems Engineer (CHENG), Mr. Mann directed the Navy's enterprise-wide engineering portfolio and served as a national expert in systems engineering, overseeing development, integration, testing, systems analysis, fielding, and sustainment of advanced Integrated Air and Defense systems. His teams supported the delivery and employment of air and defense capabilities for U.S. allies in the Middle East and the Red Sea. From 2017 to 2021, Mr. Mann served as the Technical Director for In-Service Engineering of the Navy's Surface Combatant Fleet. From 2013 to 2017, Mr. Mann served as the Executive Technical Director at White Sands Range, leading all Joint T&E activities.

From 2010 to 2013, Mr. Mann supported the Under Secretary of Defense for Acquisition, Technology, and Logistics as the Assistant Deputy Director. From 2006 to 2010, Mr. Mann was the Mine Resistant Ambush Protected (MRAP) Joint Program Manager, leading procurement, fielding, and sustainment for the MRAP Vehicles Program. His teams produced, fielded, and sustained more than 27,000 highly survivable vehicles in less than five years in two theaters of war. He led a program designated as the Secretary of Defense's top priority, which grew to more than $50 billion and contributed to reducing injuries and fatalities.

Mr. Mann's decorations include the Secretary of Defense Medal for Distinguished Service, the Army Meritorious Civilian Service Award, the Secretary of Defense Medal for Meritorious Civilian Service, a Joint Meritorious Unit Citation, the Rear Admiral Wayne E. Meyer Memorial Award for Acquisition Excellence, the David Packard Excellence in Acquisition Award for JPO MRAP, and three Navy Superior Civilian Service Medals.

Live Telemetry Demo

5:00pm – 6:00pm | Cira A/B

Experience the complete telemetry pipeline live at ITC! Hosted by the 412th Test Wing / Edwards AFB, this demo presents the exact end-to-end journey—sensor to screen—that defines modern flight test and telemetry operations.

Walk through four interactive stations:

1. **Airborne Instrumentation:** Sensor-to-digital data capture
2. **RF Systems:** Wireless transmission and signal reception
3. **Data Transport:** Synchronous serial to TMoIP routing
4. **Decommutation & Display:** Real-time mission-control-room visualization.

Note: No technical presentations or plenaries are scheduled during these times so that all attendees have the opportunity to participate.

During the Opening Session, ITC will present the

2026 Pioneer Award

to

Dr. Erik Perrins

For Outstanding Technical Achievements and Leadership in the Field of Telemetry

Dr. Erik Perrins currently serves as Department Chair for Electrical Engineering and Computer Science at the University of Kansas (KU). He has been on the faculty at KU since 2005 and currently holds the rank of University Distinguished Professor. He received the B.S. (magna cum laude), M.S., and Ph.D. degrees from BYU in 1997, 1998, and 2005, respectively, all in electrical engineering.

Erik, his students, and his collaborators have received over ten Best Paper Awards at ITC, on topics that include: reduced-complexity telemetry demodulators; low density parity check (LDPC) codes for telemetry; robust protocols for airborne telemetry networks; synchronization algorithms for burst-mode telemetry; best source selection; amplitude phase shift keying (APSK); and orthogonal time frequency space (OTFS) for telemetry.

His earliest work on reduced-complexity demodulators for ARTM CPM has served as the implementation roadmap for the entire receiver industry. His work on LDPC for SOQPSK-TG was adopted into IRIG 106 (Chapter 2D) over a decade ago and has transformed telemetry capabilities in terms of delivering high-confidence, high-data-rate telemetry over distances not previously achievable.

Erik has been a key figure at the International Telemetering Conference. He is the KU liaison for the International Foundation for Telemetering and has brought over 50 student attendees to the conference over the past two decades. Erik has served as the General Chair for ITC 2024 and as the Technical Chair for ITC 2016.

Erik's contributions truly embody the spirit of the Pioneer Award — advancing the art and science of telemetry for generations to come.

During the Opening Session, ITC will present the

2026 Directors Award

to

Ray Faulstich

In Recognition of a Lifetime of Leadership, Innovation, and Dedication to the Telemetry Community

Ray Faulstich has devoted more than 50 years to advancing telemetry standards, technology, and international spectrum access. Through sustained leadership in the Range Commanders Council (RCC), dedicated service to the International Telemetering Conference (ITC), and contributions to the International Consortium for Telemetry Spectrum (ICTS), Ray has made lasting contributions to telemetry in the United States and worldwide.

Ray began contributing to the RCC Telemetry Group in 1974, drafting material for IRIG 118, Test Methods for Vehicle Telemetry Systems. He became an official Telemetry Group member in 1983 and quickly established himself as a trusted technical leader. In 1987, the RCC Executive Committee selected him to lead development of a standard for collecting MIL-STD-1553 bus data. Ray assembled a multiservice, multi-disciplinary team, coordinated with industry, and completed the standard in just six months. Published as Chapter 8 of IRIG 106, the standard prevented the proliferation of incompatible proprietary approaches and enabled effective testing of generations of military aircraft. Its influence extended throughout the Department of Defense, allied nations, and the international aerospace industry.

Over the following decades, Ray held numerous RCC leadership positions, including Telemetry Group Vice Chair and Chair, RCC Technical Representative for Pax River, Technical Representatives Committee Chair, and RCC Executive Committee member. He chaired the Vehicular Instrumentation and Transducer Committee for more than 30 years and played a central role in the Transducer Workshop. He also helped establish enduring RCC processes for technical representative meetings, reports, briefings, and leadership transitions, strengthening the organization's effectiveness and continuity.

Recognizing the growing importance of network-enhanced telemetry, Ray proposed and chaired the RCC's ad hoc Networks Committee in 2005. Its work contributed to the publication of the Telemetry Network Standards. Following its merger with the Vehicular Instrumentation and Transducer Committee to form the Network and Vehicle Instrumentation Committee, Ray chaired the combined organization for the next 18 years. His leadership helped position the telemetry community for a new generation of network-based systems.

Ray also made significant contributions to the preservation and expansion of aeronautical mobile telemetry spectrum. In 2007, he secured RCC leadership support for additional spectrum and represented ICTS at the World Radiocommunication Conference. Working with the international team, he helped achieve a major C-band allocation for telemetry, strengthening the foundation for the field's long-term viability. He continued supporting ICTS through his retirement in 2025.

Ray's service to the ITC and International Foundation for Telemetering included conference planning, registration support, liaison duties, and service as the 2011 ITC Technical Chair. Throughout his career, he has been widely respected for his technical judgment, institutional knowledge, and commitment to service.

Raymond J. Faulstich's legacy is defined by more than five decades of technical achievement, leadership, and dedicated service. His contributions have shaped telemetry standards, testing practices, networked instrumentation, spectrum availability, and the organizations that support the profession.

For his exceptional accomplishments and enduring dedication to the telemetry community, Ray is highly deserving of the 2026 IFT Directors Award.

Keynote Speaker

9:00am – 10:00am | Solana A-D

Intelligent Telemetry for Speed & Scale: Modernizing Testing for the Department of War

Keynote Speaker:

George Rumford

Director of the Department of War (DoW), Test Resource Management Center (TRMC)

In an era of unprecedented technological leaps — where high-speed, autonomous, and AI-enabled systems must constantly adapt to survive in highly contested environments — learn how the Department of War is aggressively modernizing test capabilities to drive innovation at the pace of modern conflict.

Mr. Rumford is the Director of the Department of War (DoW) Test Resource Management Center (TRMC), a field activity that reports directly to the Under Secretary of Defense for Research and Engineering within the Office of the Secretary of Defense.

Previously, Mr. Rumford was responsible for Major Initiatives and Technical Analyses in the TRMC, serving as the Program Manager for the Test and Evaluation / Science and Technology (T&E/S&T) Program. Sponsoring advanced technology research and development in industry, academia, and government laboratories, the T&E/S&T Program develops test technologies to upgrade the capabilities at test and training ranges, with a specific focus on supporting modernization priorities aligned with national strategic guidance.

Prior to joining the TRMC, Mr. Rumford worked at the Defense Information Systems Agency (DISA) and for the Army at White Sands Missile Range, supporting the testing of missile defense systems, space systems, and several multi-range, multi-Service exercises.

Born in St. Louis, Missouri, Mr. Rumford has received degrees with honors in Electrical Engineering and in Computer Engineering from the University of Missouri.

Cliff Aggen Student Paper Awards

Award Winner

Each year, the dedicated members of our technical committees come together to identify and elevate the best and brightest practitioners in their field. Join us as we celebrate the excellence of the Aspiring, Innovating and Inspiring members of our telemetry community.

Come enjoy a delicious buffet lunch while you listen to our esteemed Conference Luncheon Speaker and applaud the student award recipients. Awards will be presented for **Best Undergraduate Student Paper** and **Best Graduate Student Paper**.

› Luncheon tickets available at Registration for $25

Wednesday Plenary Events

Conference Luncheon

12:30pm – 2:00pm | Solana A-D

The Zero Trust Imperative – Securing the Data Stream

Keynote Speaker:

Derrick Hinton

Sector Vice President, Research and Test & Evaluation, Advanced Technology Solutions (ATS) Division of Scientific Research Corporation (SRC)

Discover how surging T&E data volumes from hypersonics, AI systems, and next-generation SATCOM create severe security risks amid tightening RF spectrum availability. Protecting this data against peer adversaries requires embedding a Zero Trust Architecture across the Major Range and Test Facility Base. Drawing on deep sector experience, this session outlines a strategic roadmap for continuous authentication, AI threat detection, and range modernization to deliver essential insights for all professionals.

Derrick Hinton is Sector Vice President, Research and Test & Evaluation for the Advanced Technology Solutions (ATS) Division of Scientific Research Corporation (SRC) headquartered in Huntsville, AL. In this current role, Derrick leads a distributed workforce of over 200 SRC employees. He provides strategic direction to programs related to advanced technology applications in testing and training to include application of RF threat, cyber, and autonomous vehicle domains.

Derrick is directly responsible for the oversight and operations of the National Cyber Range Complex – Unclassified (NCRC-U) at the Georgia Cyber Center in Augusta, GA. He is also directly responsible for the NCRC Orlando Site Services and NCRC Range Moderation activities in Orlando, FL. Additionally, he directly supports the Director, Operational Test and Evaluation (DOT&E) Joint Test and Evaluation (JT&E) Program; the OSD Test Resource Management Center (TRMC); the 16th Air Force (AF) Full Spectrum Intelligence, Surveillance & Reconnaissance (ISR) Operational NAF Support (FUSIONS); and the Integrated Battlespace Simulation and Test Department (AIR-5.4) at Naval Air Systems Command, Patuxent River, MD. Under his leadership, SRC has provided subject matter expert support to the 16th AF Operations Center and Information Warfare mission for over five (5) years.

(See full bio in the mobile app)

Live Telemetry Demo

2:15pm – 3:15pm | Cira A/B

If you missed Tuesday's showcase, join us today to see cutting-edge telemetry solutions, hardware, and displays in action.

No technical presentations or plenaries are scheduled during the demos so that all attendees have the opportunity to participate.

Half-Day Short Courses

Thursday, October 29th | 1:00pm–5:00pm

Course | Location

Fundamentals of Aeronautical Ground Telemetry Systems — ›Cascade G

This course will present a high-level overview of the fundamental design of a typical range telemetry data ground system. Topics to be discussed will include the major sub-systems and components used, such as auto-track antenna, multicoupler, receiver/combiner, demodulation, bit synchronization, data recording and playback, time, decommutation and simulation, and real-time displays of telemetered parameters. The student will be exposed to a few mathematical exercises, such as "link analysis" calculations to help determine the "sensitivity" of the ground station and resultant system tradeoffs. A section on system calibration and periodic maintenance will be presented. After having completed the course, the student will have a better understanding of concepts related to RF and data processing of flight telemetry on the ground side.

Mark McWhorter, Lumistar

Introduction to Analyzing Ethernet Data — ›Cascade C

With the proliferation of Ethernet as a data transport on multiple commercial and military aircraft and weapon systems it is becoming even more important to get a basic understanding of how to analyze Ethernet data. This course will start with an introduction to the OSI model and lay out the basics that make up Ethernet traffic. Then we'll look at the open source Wireshark program and go through a crash course in using it to examine different types of Ethernet traffic. We'll also examine wireless traffic and how it differs from traditional wired Ethernet. Finally, we'll look at using the Python programming language along with several libraries to actually analyze and decode data embedded in Ethernet traffic.

Paul Ferrill, Avionics Test & Analysis Corporation

Introduction to Satellite Communications and Telemetry Standards — ›Cascade A

The Introduction to Satellite Communications short course provides an overview of the theories and international standards for various means of space communications. It includes descriptions of practical applications for high-latency and error-prone links, describes the RF link characteristics, modulation schemes, various forms of error detection, correction and compression, practical mechanisms for data networking in space, considerations for IP, concerns over security, new applications of short and medium distance links, and interoperability interests between civil and defense systems. Questions related to new standards proposed for user interfaces are also explored. Optical communications and the new proposed Unified Space Link Protocols will also be introduced as the path forward for the international standards body, CCSDS (the Consultative Committee for Space Data Systems).

Robert Ritter, IMI Technology

IRIG Chapter 7 Packet Telemetry Downlink Basis and Implementation Fundamentals — ›Cascade F

This course will focus on presenting information to establish a basic understanding of IRIG 106, Chapter 7, Packet Telemetry Downlink Standard. It will focus on the implementation of airborne and ground system hardware, what to consider for use cases using Chapter 7 Packet TM and methods to handle Chapter 7, Packet Telemetry data on the ground. The class will address how to multiplex packet telemetry into your existing IRIG Chapter 4 legacy PCM stream. Other subjects such as latency, compatibility with Test Range Instrumentation System compatibility such as RF Transmission, data recording, RF Receiving, Ground Reproduction, and Chapter 10 data processing methods.

Dan Green, Safran Defense & Space, Inc.

Overview of Machine Learning and Data Analytics Applications Using Python — ›Cascade E

Machine learning has become an indispensable tool for processing the large and complex data structures being collected by modern sensor and data acquisition systems at every Test Range. This course will cover the fundamentals of data manipulation, visualization, and machine learning with open source tool python in the context of typical time series data acquisition applications and provide an overview of intermediate and advanced modeling. Public data sets will be used for illustration and demonstration activity. Basic knowledge of programming in any language is assumed, but not necessarily advanced knowledge of python. No previous experience with machine learning is assumed.

William (Bill) Schneider, Dell EMC

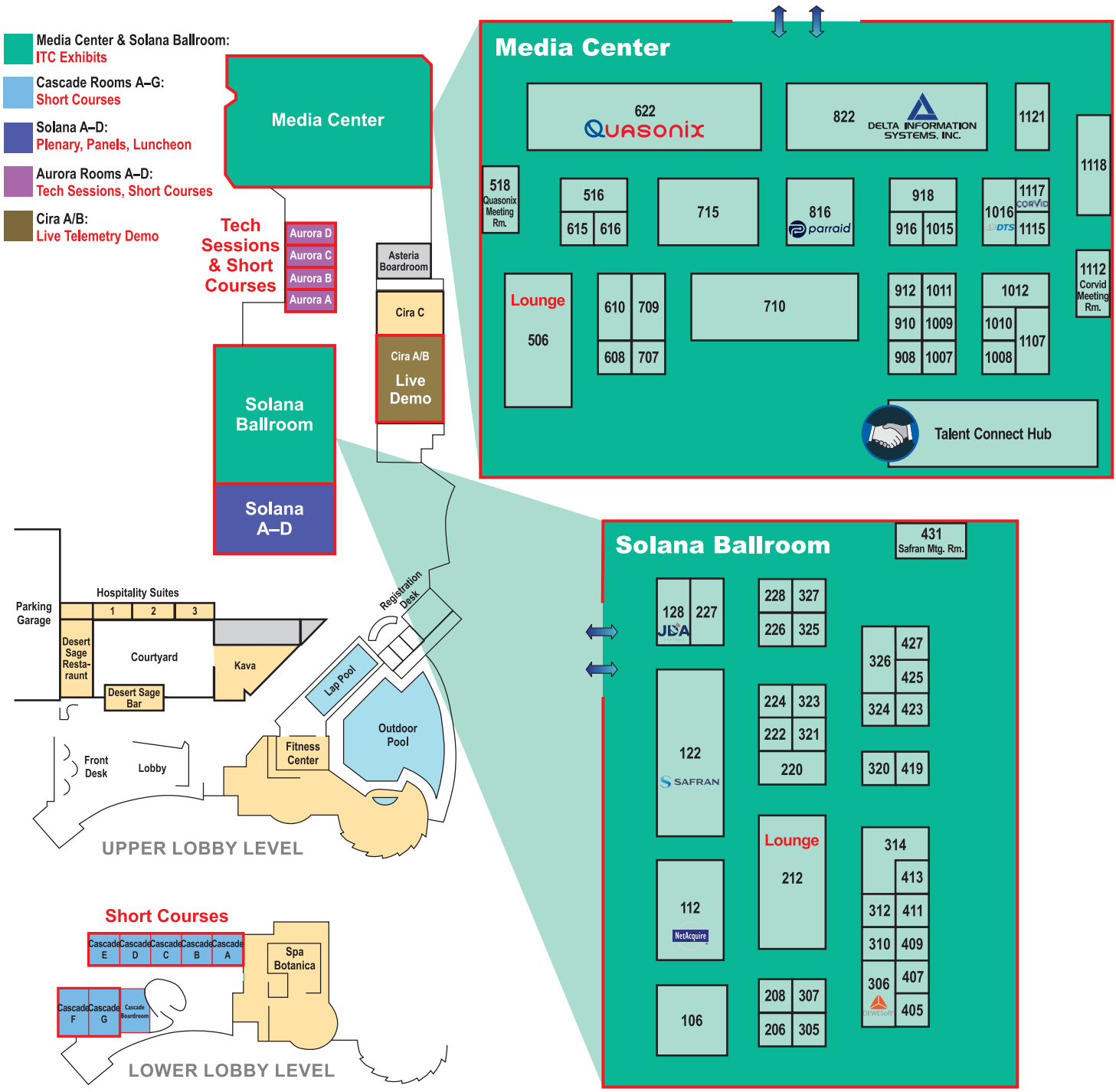
Phased Array Antennas — ›New Course! — ›Solana D

This course is designed for entry-level engineers, technical managers, or students with a basic electrical engineering background seeking to understand how multiple antenna elements collaborate to steer a beam electronically without physical movement. We begin with an introduction to phased array systems through the lens of ray-optics principles, followed by a comparative analysis of the benefits and trade-offs between dish antennas and various phased array designs. We will then explore array fundamentals, specifically focusing on how element and array factors contribute to the overall antenna pattern. This section delves into beam steering approaches across different geometric configurations and addresses critical design consequences such as sidelobes, grating lobes, beam squint, and inter-element mutual coupling.

The course then examines modern design approaches by highlighting the distinctions between active and passive arrays, alongside the advantages and complexities of analog, digital, hybrid, and optimal beamforming techniques. Moving into practical applications, the session covers instrumentation and implementation details specifically for telemetry, emphasizing the role of modeling and simulation during the design phase. To ensure a comprehensive understanding. Calibration and testing techniques for verifying the underlying assumptions of the design are explored. The program concludes with a challenging real-world case study and solution, followed by a summary and a Q&A session.

Anand Kelkar, CDSI, Inc.

›› *Thursday Short Courses continued on pg. 22*



Talent Connect Hub Located in the Media Center
Tues. 10:30am–12:00pm | Wed. 11:00am–12:00pm

Thursday, October 29th | 1:00pm–5:00pm

Course — Location

Serial Streaming Telemetry Encryption
›New Course! ›Cascade B

This course will present a high-level overview of the fundamental concepts behind classical and modern secure telecommunication encryption systems. It is intended for a student looking to grasp a basic understanding of a highly complex but ubiquitous technology. The course will be limited to commercial encryption. The specific emphasis will be on implementations of the Advanced Encryption Standard (AES) with IRIG106 Chapter 4 serial streaming telemetry.

Albert Gabaldon & Jaron Guisa, NAWCWPNS

Telemetry over IP
›Cascade D

This course begins by introducing the capability of transporting PCM telemetry over an IP network (TMoIP), including discussion of the benefits and limitations of this technology. The three key RCC IRIG standards for TMoIP are described: IRIG 218, IRIG 106 Chapter 10 over UDP, and TmNS. Interactive and scripted setup, configuration, status, and diagnostics approaches are presented. Advanced topics include minimizing latency, handling poor-quality WAN networks, inter-vendor interoperability, one-to-many and mesh networks, configurable quality-of-service, and time/data correlation. The course ends with an overview of current and future trends in IP convergence and cloud-based architectures. Familiarity with basic networking and serial PCM telemetry concepts is presumed.

Mark Roseberry, NetAcquire

Short Course CEUs

We are offering **Continuing Education Units (CEUs)** to all students taking any course(s). Our short courses have recently been audited and approved by Morgan State University and they will be administering the CEUs.

The process to acquire your CEU is as follows:

- **Complete the online registration using the QR code below.** *Create your account, enter your contact information, select the short course(s) you will attend. You'll receive a confirming email shortly thereafter.*
- Attend the short course(s).
- Complete and return the **CEU Evaluation Form**, which will be emailed after the course is completed.
- Your CEU certificate will be sent via email in reply.

You must complete the process by Friday, November 6th at 11:59 PM EDT.

Scan the QR code to access the Morgan State website to register for your CEUs. ›››

Congratulations 2026 Award Recipients!

Best Conference Paper

Michael Rice, PhD, Brigham Young University (retired); Kip Temple, Air Force Test Center, Edwards AFB; Sachin Lal, AV Inc.

"Flight Tests of Space-Time Coded ARTM CPM at Edwards AFB"

Presented in Session 1

ICTS Myron Hiram Nichols Telemetry Spectrum Management, Preservation, Protection or Advocacy Award

Ayse Bilsel, Busra Dogan, Aslı Tekin, Cemile Timurkaan, Onur Yesil, Yunus Ocel, Efe Erkan, Onur Yoruk, Ipek Cersil Polat, Mustafa Melik Gecgel, and Mahmut Kursad Arpacioglu, Turkish Aerospace, Inc.

"Flight Test Management Centers, Receiving Systems and Frequency Allocation / Management System"

Presented in Session 13

TSCC Lawrence Rauch Telemetry Standards Paper Award

Robert Kovach, Tudas Consulting

"Protocols and Techniques for Reliable Delivery of TMoIP Streams"

Presented in Session 2

Cliff Aggen Student Paper Award – Undergraduate

1st Place

Yuxing Yang, University of Illinois Urbana-Champaign

Advisor: Dominic Saebeler, University of Illinois Urbana-Champaign

"Implementing and Evaluating Post-Quantum Key Establishment in Telemetry Systems"

Presented in Session 5

2nd Place

Tyler Randall and Jared Wilcken, Brigham Young University; Yuxing Yang, University of Illinois Urbana-Champaign

Advisors: David Mitchell, New Mexico State University and Willie Harrison, Brigham Young University

"Radio Implementation and Interception of a McEliece Based Cryptosystem"

Presented in Session 8

Cliff Aggen Student Paper Award – Graduate

1st Place

Richard Simeon, University of Kansas

Advisor: Dr. Erik Perrins, University of Kansas

"Time Domain Equalization for OTFS"

Presented in Session 8

2nd Place

Nubantood Khalil, Morgan State University

Advisors: Dr. Arlene Cole-Rhodes and Dr. Peter Taiwo, Morgan State University

"Propagation and Visibility Aware XI-MIMO Dimensioning for 6G Uplink Systems"

Presented in Session 6

Exhibitors

Company Name	Booth
AeroVironment (AV)	516
Airborne Instrumentation Systems Dept. (AISD)	1010
Altio Labs	411
Apogee Labs, Inc.	1107
AstroNova, Inc.	1115
ATCi	916
Avionics Interface Technologies (AIT)	310
Avionics Test & Analysis Corporation (ATAC)	226
Big Duck Applied Sciences	616
Compunetix	307
Corvid Technologies	**1117**
Creative Digital Systems Integration (CDSI)	227
Curtiss-Wright Defense Solutions	710
Dell Technologies/EPOCH Concepts	220
Delta Information Systems	822
DEWESoft	**306**
Dewetron, Inc.	413
Diversified Technical Systems (DTS)	**1016**
embeddedTS	1009
Fisica	323
Geil Marketing Associates, Inc. (GMA)	324
Great River Technology	707
Haigh-Farr	715
HENSOLDT Nexeya France	1008
Honeywell Aerospace	1012
Instrumented Sensor Technology, Inc.	405
Ironwave Technologies	419
JDA Systems, LLC	**128**
JT4, LLC	325
L3Harris Technologies	610
Lumistar	709
Meinberg USA, Inc.	320
Microchip Technology Inc.	910
Microwave Innovations	1015
Midé Technology Corp / A Hutchinson Company	305
MJS Designs	908
NetAcquire Corporation	**112**
Nomad GCS	1118
OnTime Networks, LLC	228
Ophir RF, Inc.	327
ORCA Technologies	326

Company Name	Booth
Parraid, LLC	**816**
Precise Time and Frequency, LLC	608
Pulse Research Lab	222
Quasonix, Inc.	**622**
Radeus Labs	615
Rotating Precision Mechanisms, Inc.	321
Rugged Science, LLC	224
Safran Defense & Space, Inc.	**122**
SEMCO	106
Summation Research, Inc.	918
Tangelo, LLC	1007
Telspan Data	314
Trenton Systems	206
TUALCOM USA, LLC	312
Universal Switching Corporation	1121
ViaLite Communications	208
VITEC, Inc.	1011
WV Communications, Inc.	912

Talent Connect Hub Located in the Media Center
Tues. 10:30am–12:00pm | Wed. 11:00am–12:00pm

Exhibit Hall Hours

Tuesday	10:30am–5:00pm
Wednesday	9:00am–12:15pm / 2:00pm–5:00pm
Thursday	9:00am–12:00pm

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Technical Sessions

> Tuesday, October 27 | 3:10pm – 4:50pm

SESSION 1 – Communication Systems I

Chair: Thomas Grace, NAVAIR Patuxent River — Aurora A/B

3:10pm **Information Flow and Workforce Alignment in Large-Scale Telecom Deployment Environments**
Alona Fedorovska, Techcom, LLC

3:30pm **Flight Tests of Space-Time Coded ARTM CPM at Edwards AFB**
Michael Rice, PhD, Brigham Young University (retired); Kip Temple, Air Force Test Center, Edwards AFB; Sachin Lal, AV Inc.

3:50pm **Implementation of a Demodulator and Decoder for Space-Time Coded ARTM CPM Waveform**
Sachin Lal, Huaiyu Zeng, and Arvind Bhat, AV, Inc.; Michael Rice, PhD, Brigham Young University (retired)

4:10pm **Comparison Analysis and Performance of Packet Transport Methods Over Telemetry Links**
Ray O'Connell, RoboCom Technologies

4:30pm *Continuation of above presentation*

SESSION 2 – Networks, Protocols, and Real-Time Telemetry Links

Chair: Todd Newton, Southwest Research Institute (SwRI) — Aurora C

3:10pm **Protocols and Techniques for Reliable Delivery of TMoIP Streams**
Robert Kovach, Tudas Consulting

3:30pm **Evaluating Reliable Mechanisms for TMoIP Transport Over LEO / VLEO Satellite Links**
Jon Spindler, Ethrx, LLC.; Matt Molzahn, Parraid, LLC.; Shawn Perry, NAWCAD; William Debbaneh, Redstone Test Center (RTC)

3:50pm **Network Data Analysis of the Ethernet Based UAV System**
Mahmut Kursad Arpacioglu and Muhammet Kursat Serceli, Turkish Aerospace, Inc.

4:10pm **Ship Telemetry in the Oil and Gas: Architecture, Challenges and Operational Impacts**
Márcio Fernando Calixto, Deise Lima, Marwan dos Santos, and Luiz Fernando Sauerbronn, Petrobras Transporte

4:30pm *Continuation of above presentation*

SESSION 3– Telemetry for Aeronautical and Automotive Applications

Chair: Nelson Leite, Brazilian Flight Test and Research Institute — Aurora D

3:10pm **Flight Termination Solutions: Current and Future**
Rocco Docimo, Curtiss-Wright; Toby Pike and Harold Rosenthal, Northrop Grumman

3:30pm **Robust Target Tracking via Multiple-Model Filtering**
Rodrigo Negri de Azeredo, Mohamed Hajjem, and Lara Thomas, Safran Data Systems

3:50pm **Iterative Hardware-Software Co-Design of Integrative Telemetry System for Off-Road Racing Vehicle**
Julian Pimienta Rendon, Karsten Yin, Matthew Larson, David Lee, Eric Asato, Adam Esch, Kyle Klekotka, Dylan Correra, and Graham Van Der Beek, University of Arizona Faculty Advisor: Michael Marcellin, PhD, University of Arizona

4:10pm **Developing and Utilizing Data Acquisition Systems for Race Car Design Optimization**
Aidan Brown, Diana Zarif, Samantha Lane, Logan Bonhorst, Joseph McLaughlin, James St. Leger, Sophia Do, and Jack Fernandez, University of Arizona; Faculty Advisor: Michael Marcellin, PhD, University of Arizona

4:30pm **Off-Road Racing Vehicle Automotive Steer by Wire Data Acquisition and Refinement**
Gallia Gountis, University of Arizona; Faculty Advisor: Michael Marcellin, PhD, University of Arizona

SESSION 4– Telemetry Data — CUI SESSION

Chair: Michael Diehl, U.S. Army Yuma Proving Ground — Cira C

3:10pm **Unsupervised Discovery of Emerging Adversary TTPs from Drone Trajectory Data Using Dynamic Time Warping and K-Means Clustering**
Kirby Hayes and Jeffrey House, Test Resource Management Center (TRMC)

3:30pm **Telemetry Streams Using Infrared Communication Across Decoupled Interfaces**
Avi Soffer, Jin Hwan Choi, Praveen Sajeev and Vincent Cascella, U.S. Army Futures and Concepts Command

3:50pm **Intelligent Data Filtering (IDF)**
Pabel Corral, White Sands Missile Range (WSMR)

» Technical paper descriptions and complete papers are on the ITC mobile app. Proceedings will be available via our website in December.

Technical Sessions

> Wednesday, October 28 | 10:15am – 12:15pm

SESSION 5– Cybersecurity for Telemetry Systems

Chair: Richard Dean, Morgan State University — Aurora A/B

10:15am **EISSAF Framework for Telemetry Systems: A Systematic Approach to Threat Coverage and Zero-Trust Integration**
Wole Akpose, 6igma Group; Richard Dean and Farzad Moazzami, Morgan State University

10:35am **AI-Driven Cyber Defense: Automating Threat Intelligence for Telemetry Environments**
Dakhari Shorter and Nishan Kafle, Morgan State University; Faculty Advisor: Farzad Moazzami, Morgan State University

10:55am **Implementing and Evaluating Post-Quantum Key Establishment in Telemetry Systems**
Yuxing Yang, University of Illinois Urbana-Champaign; Faculty Advisor: Dominic Saebeler, University of Illinois Urbana-Champaign

11:15am **Mitigating Cybersecurity Challenges of Agentic AI Use in Telemetry Post-Processing**
Jeff Kalibjian, Peraton, Inc.

SESSION 6 – Ground Systems Architectures and Range Automation

Chair: Tim Chalfant, Int'l. Consortium for Telemetry Spectrum — Aurora C

10:15am **Autonomous Polarization Switching in S-Band Monopulse Tracking Antenna Systems for Rocket Telemetry Campaigns**
Mustafa Çelik, PROFEN Communication and Koç University; Ahmet Kayıkçı, Bartu Ilgaz, Kadir Koca, and İsmail Şişman, PROFEN Technology Inc; İsmail Lazoğlu, Koc University

10:35am **Lightweight Composite Sub-Reflector Support Structure for 6.3m Transportable S-Band Telemetry Tracking Antenna**
Mustafa Çelik, PROFEN Communication and Koç University; Yakup Esmer, Kadir Koca, and İsmail Lazoğlu, Koc University

10:55am **Propagation And Visibility Aware XI-MIMO Dimensioning For 6G Uplink Systems**
Nubantood Khalil, Morgan State University
Faculty Advisors: Dr. Arlene Cole-Rhodes, and Dr. Peter Taiwo, Morgan State University

11:15am **Continuous-mode High Efficiency Bi-Directional Amplification for 5G Waveforms**
Tony Triolo, Achilles Kogiantis, and William Johnson, Altio Labs

11:35am **RCC 118 Standardization of Best Source Selector Test Methods and Procedures**
Mark Geoghegan and Sean Wilson, Quasonix, Inc.

11:55am *Continuation of above presentation*

SESSION 7 – Data Acquisition I

Chair: Jim Falasco, Aerogear Telemetry — Aurora D

10:15am **Deterministic Real-Time Data Monitoring over Avionics Full-Duplex Switched Ethernet (AFDX) Networks in Flight Test Instrumentation Systems**
Osman Birkan Ozseven, Fatih Erden, Mehmet Fudayl Uncuoglu, Muhammed Peker, Ahmet Ata, Berkcan Kucukkasap, Mertcan Aksoy, and Celal Yalcin, Turkish Aerospace, Inc.

10:35am **A Solution to Reduce Data Transfer Duration for Onboard Recorded Raw Data**
Doğukan Çevik, Mahmut Kürşad Arpacıoğlu, Cenk Özdemir, Tayfun Şahin, Aysu Kırdar, Eyüp Yaka, and Yaren Cemal, Turkish Aerospace, Inc.

10:55am **IP Camera Integration to a Legacy FTI System**
Doğukan Çevik, Mahmut Kürşad Arpacıoğlu, Cenk Özdemir, Tayfun Şahin, Aysu Kırdar, Eyüp Yaka, and Yaren Cemal, Turkish Aerospace, Inc.

11:15am **The Evolution of Smart Mobile Devices in Flight Tests Instrumentation Systems**
Dr. Nelson Leite, Wagner Lima, and Lucas Sousa, IPEV

11:35am **An Advanced Approach to Flight Test Instrumentation Command and Control**
Melissa Beldon, Bill Domitrovich, and Russ Heinbockel, Northrop Grumman Corporation

11:55am **Multitask Graph Convolutional Network With Feature-Space Graph Induction & PPCA Denoising For CubeSat Telemetry Anomaly Detection**
Pruthviraj Sadhankar, Rishabh Anand, Vivek Marujolla, Hyeseong Song, Xheon Arnado, and Nischay Rawal, KUbeSat at University of Kansas; Faculty Advisor: Erik Perrins, University of Kansas

SESSION 8 – Receivers, Antennas, Modulation, and Coding Techniques I

Chair: David Mitchell, New Mexico State University (NMSU) — Cira C

10:15am **Radio Implementation and Interception of a McEliece Based Cryptosystem**
Tyler Randall and Jared Wilcken, Brigham Young University; Yuxing Yang, University of Illinois Urbana-Champaign; Faculty Advisors: David Mitchell, New Mexico State University and Willie Harrison, Brigham Young University

10:35am **Performance Comparison of Best Source Selector (BSS) Algorithms**
Mark Geoghegan, Quasonix, Inc.

10:55am *Continuation of above presentation*

11:15am **Time Domain Equalization for OTFS**
Richard Simeon, University of Kansas;
Faculty Advisor: Dr. Erik Perrins, University of Kansas

11:35am **Reliable Low-Latency Telemetry over LEO Satellite Links via Network-Layer Fountain Coding**
Michael Luby, Adrian Chadd, and Scott Brown, BitRipple

Technical Sessions

> Wednesday, October 28 | 3:30pm – 5:30pm

SESSION 9 – Machine Learning for Telemetry Data

Chair: Hovannes Kulhandjian, California State University, Fresno — Aurora A/B

3:30pm **An Unsupervised Anomaly Detection Audit Across Heterogeneous Spacecraft Missions**
Wole Akpose, 6igma Group; Richard Dean, Farzad Moazzami, and Wondimu Zegeye, Morgan State University

3:50pm **QuantumSense: An Adaptive ML-KEM Scheme Selection Framework for Latency-Constrained Satellite Telemetry Pipelines**
Yuxing Yang, University of Illinois Urbana-Champaign; Shuhe Cui, National University of Singapore; Kevin Wei, University of Washington

4:10pm **Optimizing Sequential LDPC Decoders via Reinforcement Learning for Next-Generation Telemetry Systems**
Yair Barraza and Matthew Ochoa, New Mexico State University; Faculty Advisor: David Mitchell, New Mexico State University

4:30pm **Adaptive ReID-Based Single-Person Tracking with QR-Guided Enrollment and Lightweight Identity Verification**
Derrick Cook II, Opeyemi Adeniran, Morgan State University; Faculty Advisors: Dr. Peter Taiwo and Dr. Kofi Nyarko, Morgan State University

4:50pm **Solar-Powered Telemetry System for Water Level Monitoring and Consumption Estimation in Agricultural Irrigation**
Hovannes Kulhandjian, Martin Garcia, and Julian Gutierrez, California State University, Fresno

5:10pm **TA FTMC Activity Report**
Volkan Tutay, Samed Durmus, Hatice Celik, Muhammet Kursat Serceli, Yakup Soysal, Furkan Kamil Tut, Burak Iplikci, Ipek Cersil Polat, Mustafa Melik Gecgel, Onur Yoruk, and Mahmut Kursad Arpacioglu, Turkish Aerospace, Inc.

SESSION 10 – Data Acquisition II

Chair: David Hodack, NAWCAD — Aurora C

3:30pm **Real-Time Telemetry Data Transfer Platform**
Mustafa Ufelek, Mahmut Kursad Arpacioglu, Onur Yoruk, Huseyin Oguzhan Eryigit, and Akin Sarper, Turkish Aerospace, Inc.

3:50pm **Design and Comparative Performance Analysis of V and W-Shaped Time-of-Flight Mass Analyzers for CubeSat Applications**
Anjali Patel, Anchal Patel, Amir Unz, Aziz Alani, Manuel Peña and Varun Kore, University of Kansas; Faculty Advisors: Dr. Erik Perrins and Dr. Adam Gorrell, University of Kansas

4:10pm **An Analysis for Regional Data Availability and Out of LOS Conditions**
Mahmut Kürsad Arpacioglu, Mustafa Melik Gecgel, Ipek Cersil Polat, Yakup Soysal, and Irem Ulusoy Kandemir, Turkish Aerospace, Inc.

4:30pm **Closing The Configuration Consistency Gap in A COTS IRIG-106 PCM Telemetry System**
Chiekeziem Udenta, Rochester Institute of Technology; Mason Joyner, Dominique Stewart, and Dr. Oluwatobi Busari, Morgan State University

4:50pm *Continuation of above presentation*

SESSION 11 – AI-Driven Sensor Fusion, Compression, and Processing I

Chair: Yogananda Isukapalli, University of California, Santa Barbara — Aurora D

3:30pm **ML-Aided UAV Swarm Autonomy Framework**
Noor Ahmed and Charles Milligan, Research Institute for Tactical Autonomy (RITA); Jorge Power and Andrew Oldenburg, Reliable Systems Services Corporation

3:50pm **Autonomous Control and Real-Time Sensor Feedback Integration in 30 lb Combat Robotics**
Jack Tanner and Daniel Hoffmeister, University of Arizona; Faculty Advisor: Dr. Michael Marcellin, University of Arizona

4:10pm **Prompt Engineering for Improved AI-driven Risk Management in Cybersecurity**
Oyewande Oluwatoyosi and Hannah Abedoh, Morgan State University; Faculty Advisor: Dr. Farzad Moazzami, Morgan State University

4:30pm **Telemetry Driven Ergonomic Energy Systems for Real Time Monitoring and Optimization**
Nathaniel Bidwell, Joseph Hill, Makenna Dundon, Gwendolyn Alviar, Bobby Limperis, Icarus Newton, Lucia Alday, Aidan Monroe, and Elizabeth Springer, University of Arizona; Faculty Advisor: Dr. Michael Marcellin, University of Arizona

4:50pm **Ember Watch: A Model Driven Approach to Real-Time Wildfire Detection**
Jake Gilbert, Frank Xiao, Manny Lemus, Aliston Ma, and Kevin Yu, UC Santa Barbara; Faculty Advisor: Dr. Yogananda Isukapalli, UC Santa Barbara

5:10pm **Intelligent Data Middleware as Mission-Enabling Telemetry Infrastructure: An AI/MI-Ready Framework For Real-Time Defense And Commercial Data Serialization, Orchestration, and Adaptive Optimization**
Donald Layden, Big Duck Applied Sciences

SESSION 12 – Telemetry Systems CUI SESSION

Chair: Jacob Lopez, U.S. Army Yuma Proving Ground — Cira C

3:30pm **Bridging Quantum Sensing and Classical Communications: An Investigation Using Rydberg Receivers with Aeronautical Mobile Telemetry Waveforms**
Frank Cruz, Air Force Test Center, Edwards AFB

3:50pm **Enhancement of White Sands Missile Range (WSMR) Telemetry Through Quick Reaction Test Capability**
Joshua Dannhaus and Joseph Ruiloba, TEWS-TTD, WSMR

4:10pm **ATARI - Enabling AI in Aircraft**
James Charleston, 812th AITS/ENIE

Technical Sessions

4:30pm **The Savanna Testbed – Facilitating Modernized Analytics for the Test & Evaluation Community**
David Jungreis, KBR, Inc.

4:50pm **Novel Approach for Remote Classified Operations at White Sands Missile Range (WSMR)**
Joshua Dannhaus, TEWS-TTD, WSMR; Brian Simonin, Southwest Range Services, Mission Support Contractor for WSMR; Pedro Hernandez, TEWS-ROD

> Thursday, October 29 | 9:00am – 10:20am

SESSION 13 – Software Systems and Tools I

Chair: Laura Boucheron, New Mexico State University (NMSU) — Aurora A/B

9:00am **Experimental Transmitter Characterization of the ADALM-Pluto Software-Defined Radio for Short-Duration Cubesat Missions**
Thomas Francois, Missouri University of Science and Technology; Faculty Advisors: Jonathan Kimball, Kurt Kosbar, and Ronald Stanley, Missouri University of Science and Technology

9:20am **Flight Test Engineering Infrastructures Management Software**
Yeter Sahin, Mahmut Kürşad Arpacıoğlu, Onur Yörük, İpek Çerşil Polat, Onur Yeşil, Hüseyin Oğuzhan Eryiğit, and Yunus Öcel, Turkish Aerospace, Inc.

9:40am **Flight Test Management Centers, Receiving Systems and Frequency Allocation / Management System**
Award Winner
Ayse Bilsel, Busra Dogan, Aslı Tekin, Cemile Timurkaan, Onur Yesil, Yunus Ocel, Efe Erkan, Onur Yoruk, Ipek Cersil Polat, Mustafa Melik Gecgel, and Mahmut Kursad Arpacioglu, Turkish Aerospace, Inc.

10:00am **Telemetry Analysis and Visualization: A History of Transforming Data into Understanding**
Nate Roehrig and Robert Poland, Sandia National Laboratories

SESSION 14 – Communication Systems II

Chair: Oluwatobi Busari, Morgan State University — Aurora C

9:00am **Electric Boat Monitor and Control Panel Design Using Control Area Network (CAN) Bus Telemetry**
Alyson Jones, Derrick Cook, and Marcus Bazemore, Morgan State University; Faculty Advisors: Dr. Richard Dean and Brian Palmer, Morgan State University

9:20am **Implementation of CAN Bus Telemetry for Battery Management in Electric Boat Conversions**
Alyson Jones, Derrick Cook, and Marcus Bazemore, Morgan State University; Faculty Advisors: Dr. Richard Dean and Brian Palmer, Morgan State University

9:40am **Turning Existing Telemetry Infrastructure into a Geolocation System: An Interactive Demonstrator for Flight Tests**
Sebastien Bonnart, Florian Sandoz, Laurent Blaise, Lara Thomas, Damien Devlies, and Oussama AIT SIDI ALI, Safran Data Systems

10:00am **Planning Flight-Test Telemetry Campaigns Through Terrain-Aware Link Budget Estimation and Spectrum Analysis**
Tafnes Barbos and Lucas Sousa, Flight Tests and Research Institute, Instituto de Pesquisas e Ensaios em Voo - IPEV

SESSION 15 – Receivers, Antennas, Modulation, and Coding Techniques II

Chair: Dr. Erik Perrins, University of Kansas — Aurora D

9:00am **Decoder Performance of AMT LDPC Codes**
Trevor Wai and William Harbor, Brigham Young University; Faculty Advisors: David Mitchell, New Mexico State University and Willie Harrison, Brigham Young University

9:20am **Subsystems Design Analysis for Kubesat-2**
Aaron Hastings, Amir Unz, Kenisyn Mellema, and Nicholas Yeary, University of Kansas; Faculty Advisors: Dr. Adam Gorrell and Dr. Erik Perrins, University of Kansas

9:40am **An Empirical Assessment of Multiple G/T Measurement Methods**
Terry Hill and Sean Wilson, Quasonix, Inc.; Kip Temple, Air Force Test Center, Edwards AFB; Ron Taylor, NASA Wallops Flight Facility

10:00am *Continuation of above presentation*

SESSION 16 – Range Systems

Chair: Mark McWhorter, Lumistar — Cira C

9:00am **Beyond the Red Button: Leveraging Real-Time Telemetry for Operational Awareness of Flight Termination Capability**
Jean-Guy Pierozak, HENSOLDT Nexeya France

9:20am **Plume Attenuation Concerns When Receiving Airborne Tracking Signals**
Scott Kujiraoka, GBL Systems; Russell Fielder, SA-Tech/NAWCWD; An Le and Geoffrey Constable, NAWCWD

9:40am **AI-Enabled Autonomous Drone Detection and Tracking Turret Using Embedded Vision and Real-Time Control**
Hovannes Kulhandjian, John Garcia, Fernando Solorzano, and Jose Elias Bravo, California State University, Fresno

Thursday, October 29 | 11:00am – 12:00pm

SESSION 17 – Software Systems and Tools II

Chair: Doug O'Cull, Quasonix, Inc. — Aurora A/B

11:00am **The Subject-Matter Expert As Developer: AI-Assisted Tooling For High-Volume Telemetry Data**
Andrew Correnti, Radeus Labs

11:20am **FTI as a Function — Flight Test Instrumentation in Integrated Modular Avionics**
Moises Gonzalez-Martin, Joel Izquierdo Pérez, and Diego Sánchez de Rivera Córdoba, Airbus Defence & Space

11:40am **Operationalizing Spectrum Awareness: Integrating Planning, Measurement, and Analytics into a Unified Test Range Platform**
Tony Triolo, Kyriakos Manousakis, Josh Morman, Nicholas Chang, Sunil Samtani, Altio Labs; Shrirang Gadgil and Rob Ziegler, Peraton Labs

SESSION 18 – AI-Driven Sensor Fusion, Compression, and Processing II

Chair: Dr. Michael Marcellin, University of Arizona — Aurora C

11:00am **A Real-Time Geological Classification and Speech Recognition System for Planetary Extravehicular Activities**
Chloe Andersen, Lily Chen, Bruce Huang, Ilai Tamari, and Shruthi Unnithan, UC Santa Barbara; Faculty Advisor: Yogananda Isukapalli, UC Santa Barbara

11:20am **Integrated Raspberry Pi Companion Computer System for Drone Flight Control**
Loren Ashfield, David Chang, Zachary Duckering, Vishal Seenivasan, and Adit Suman, UC Santa Barbara; Industry Advisor: Phillip Tokumaru, AeroVironment, Inc.; Faculty Advisor: Yogananda Isukapalli, UC Santa Barbara

11:40am **Distributed mmWave MIMO Radar Sensing Via Network-Based Synchronization and Auto-Calibration**
Vihan Jayaraman, William Ni, Andrey Otvagin, Oviya Seeniraj, Jason Wang, and Anirban Banik, UC Santa Barbara; Faculty Advisors: Upamanyu Madhow and Yogananda Isukapalli, UC Santa Barbara

SESSION 19 – Simulation, Virtual Test Environments, and Digital Twin Integration

Chair: Shawn Perry, NAWCAD — Aurora D

11:00am **System Level Testing Using Real World Data In Avionics**
Cody Raml, Avionics Interface Technologies

11:20am **Disaster-Aware UAV Path Planning with Vision-Integrated Proximal Policy Optimization**
Clinton Imaro, Morgan State University; Faculty Advisor: Dr. Peter Taiwo, Morgan State University

11:40am **Performance Evaluation of Risk-Map PPO with Safety Shield for Monocular and Stereo UAV Collision Avoidance**
Clinton Imaro, Morgan State University; Faculty Advisor: Dr. Peter Taiwo, Morgan State University

SESSION 20 – Special Topics in Telemetry

Chair: Richard Simeon, University of Kansas — Cira C

11:00am **Toward a Virtualized Flight-Test Range: Scalable Today, Waveform-Agile Tomorrow**
Oussama AIT SIDI ALI, Safran Data Systems

11:20am *Continuation of above presentation*

» Technical paper descriptions and complete papers are on the ITC mobile app. Proceedings will be available via our website in December.

Thank You!

The 2026 ITC Technical Paper Awards Committee reviewed, evaluated, and scored over 80 Technical Papers nominated for the 4 ITC Paper Award categories: Best Conference Paper, Cliff Aggen Awards for Undergraduate and Graduate Student Papers, TSCC Lawrence Rauch Telemetry Standards Paper Award, and the ICTS Myron Hiram Nichols Telemetry Spectrum Management, Preservation, Protection or Advocacy Award. Working with the ITC Session Chairs and members of the TSCC and ICTS, they selected the winning papers from a very competitive field. Representing the top of our industry from telemetry vendors, government test ranges, academia, and the aerospace industry, they completed a very tough assignment.

Dr. Kurt Kosbar
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Ernie Broughton
Boeing Flight Test Data Systems Engineer, Retired

Ashley Weis
Summation Research, Inc.

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Best Source Selection Industry Day

Friday, Oct. 30 | 8:00am–3:00pm | Cira A

The RF Vendors Working Group (RFVWG) will host a **Best Source Selector (BSS) Industry Day** on Friday, following ITC. This targeted event brings together BSS equipment manufacturers, telemetry professionals, and government representatives for a hands-on evaluation and performance comparison of Best Source Selector systems under a common set of test conditions. Participating BSS systems will be exercised with DQE/DQM telemetry data across various operating conditions, giving attendees a unique opportunity to compare performance, discuss implementation strategies, and provide direct industry feedback.

Results and lessons learned from the session will help inform the development of IRIG 118 BSS test procedures while advancing overall interoperability across the telemetry community.

For more information, contact the RFVWG at info@rfvwg.org.

What's an "IRIG"?

Range Commanders Council
TELEMETRY GROUP

The Range Commanders Council, the successor to the Inter-Range Instrumentation Group (IRIG), charters the TELEMETRY GROUP (RCC-TG) which fosters the compatibility of telemetry systems and data transfer methods among telemetry users. As such, they publish and maintain standards, handbooks, reports, and studies relevant to the telemetry field.

The following are maintained and published by the RCC-TG for PUBLIC USE:

RCC/IRIG-106	TELEMETRY STANDARDS
RCC-118	TEST METHODS FOR TELEMETRY SYSTEMS
RCC-119	TELEMETRY APPLICATIONS HANDBOOK
RCC-120	TELEMETRY SYSTEMS RF HANDBOOK
RCC-121	INSTRUMENTATION ENGINEERS HANDBOOK
RCC-122	INSTRUMENTATION MEASUREMENT UNCERTAINTY
RCC-123	IRIG106 CHAPTER 10 PROGRAMMERS HANDBOOK
RCC-124	TMATS HANDBOOK
RCC-125	XML STYLE GUIDE
RCC-126	TMATS IHAL DDML SCHEMA VALIDATION
RCC-127	DDML HANDBOOK
RCC-128	IHAL HANDBOOK
RCC-129	TMNS HANDBOOK

These documents & more are available for FREE at:
https://www.trmc.osd.mil/wiki/display/publicRCC/Public+RCC+Home

FOR MORE INFORMATION:
Secretariat, Range Commanders Council TEWS-RCC; Building 1510
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Want to help shape the future of telemetry? We are always looking for dedicated volunteers to join our committee. Reach out today at staff@telemetry.org to get involved and make a direct impact at ITC!

Short Courses at a Glance

MONDAY, OCT. 26 | 9:00 AM to 5:00 PM

Aurora A	Aurora B	Aurora C	Aurora D	Cascade A	Cascade B
Basics of Aircraft Instrumentation	Advanced Modulation and Demodulation Techniques	Telemetry over IP	IRIG 106 Chapter 10/11 Digital Recording Standard	TmNS Telemetry Networks	Intro to Analyzing Ethernet Data

Cascade C	Cascade D	Cascade E	Cascade F	Cascade G
Half Day Intro to Satellite Communications and Telemetry Standards	TM Applications from JMETC followed by CHEETAS for Beginners	Signals and Modulation	Half Day Telemetry Fundamentals: A Journey from Sensor to Display	Fundamentals of Microwaves & RF in Aeronautical Telemetry Systems

THURSDAY, OCT. 29 | 1:00 PM to 5:00 PM

Solana D	Cascade A	Cascade B	Cascade C
New Course! Phased Array Antennas	Introduction to Satellite Communications and Telemetry Standards	New Course! Serial Streaming Telemetry Encryption	Introduction to Analyzing Ethernet Data

Cascade D	Cascade E	Cascade F	Cascade G
Telemetry over IP	Overview of Machine Learning and Data Analytics Applications Using Python	IRIG Chapter 7 Packet Telemetry Downlink Basis and Implementation Fundamentals	Fundamentals of Aeronautical Ground Telemetry Systems

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We are offering **Continuing Education Units (CEUs)** to all students taking any course(s). Our short courses have recently been audited and approved by Morgan State University and they will be administering the CEUs.

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- Your CEU certificate will be sent via email in reply.

You must complete the process by Friday, November 6th at 11:59 PM EDT.

Scan the QR code to access the Morgan State website to register for your CEUs. ›››

	TIME	MONDAY, OCT. 26	HALLS
	6:00 PM to 8:30 PM	Fun! Food! Friends! **ITC Mix & Mingle** *>Solana A–D*	SETUP

TUESDAY, OCT. 27

TIME						HALLS
9:00 AM to 10:30 AM	**Opening Ceremony & Keynote Speaker** *>Solana A–D* ***The Space Force of Today and Tomorrow and the Importance of Readiness Through Intelligent Telemetry*** **Keynote:** Colonel Michael Christensen, Director of the United States Space Force's Test and Evaluation (USSF/TE)					CLOSED
10:30 AM	**Talent Connect Hub** 10:30AM–12:00PM	**Exhibits Are Open from 10:30 AM to 5:00 PM**				OPEN 10:30 AM to 5:00 PM
12:00 PM to 1:00 PM	**Workforce Development Panel:** ***Building the Next-Generation Telemetry Workforce*** *>Solana A–D* **Panelists:** Farhad Daghigh, VP Sales & Business Dev. for Flight Test Instrumentation at Curtiss-Wright Defense Solutions; Juliet Correnti, CEO of Radeus Labs, Inc.; and Joyce Heilman, Division Chief, Test Resource Governance, Test Resource Management Center					
2:00 PM to 3:00 PM	***Speed Matters! A Lifelong Journey Bolstering Defense Readiness Outcomes*** *>Solana A–D* **Keynote:** Paul Mann, Chief Technical Officer for the Golden Dome Strategic Alliance, AE Industrial					
Rooms >		Aurora A/B	Aurora C	Aurora D	Cira C	
3:10 PM to 4:50 PM	**TECHNICAL SESSIONS:**	**1.** Communication Systems I	**2.** Networks, Protocols, and Real-Time Telemetry Links	**3.** Telemetry for Aeronautical and Automotive Applications	**4.** Telemetry Data **CUI SESSION**	
5:00 PM to 6:00 PM	**Live Telemetry Demo** *>Cira A/B* Hosted by the 412th Test Wing / Edwards AFB, this demo presents the exact end-to-end journey—sensor to screen—that defines modern flight test and telemetry operations.					

WEDNESDAY, OCT. 28

TIME						HALLS
9:00 AM to 10:00 AM	***Intelligent Telemetry for Speed & Scale:*** ***Modernizing Testing for the Department of War*** *>Solana A–D* **Keynote:** George Rumford, Director of the Department of War (DoW), Test Resource Management Center (TRMC)					CLOSED
9:00 AM	**Talent Connect Hub** 11:00AM–12:00PM	**Exhibits Are Open from 9:00 AM to 5:00 PM***				*OPEN 9:00 AM to 12:15 PM and 2:00 PM to 5:00 PM
Rooms >		Aurora A/B	Aurora C	Aurora D	Cira C	
10:15 AM to 12:15 PM	**TECHNICAL SESSIONS:**	**5.** Cybersecurity for Telemetry Systems	**6.** Ground Systems Architectures and Range Automation	**7.** Data Acquisition I	**8.** Receivers, Antennas, Modulation, and Coding Techniques I	
12:30 PM to 2:00 PM	**Conference Luncheon & Keynote Speaker** *>Solana A–D* ***The Zero Trust Imperative – Securing the Data Stream*** **Keynote:** Derrick Hinton, Sector Vice President, Research and Test & Evaluation, Advanced Technology Solutions (ATS) Division, Scientific Research Corporation (SRC)					
2:15 PM to 3:15 PM	**Live Telemetry Demo** *>Cira A/B* Hosted by the 412th Test Wing / Edwards AFB, this demo presents the exact end-to-end journey—sensor to screen—that defines modern flight test and telemetry operations.					
Rooms >		Aurora A/B	Aurora C	Aurora D	Cira C	
3:30 PM to 5:30 PM	**TECHNICAL SESSIONS:**	**9.** Machine Learning for Telemetry Data	**10.** Data Acquisition II	**11.** AI-Driven Sensor Fusion, Compression, and Processing I	**12.** Telemetry Systems **CUI SESSION**	

THURSDAY, OCT. 29

TIME						HALLS
Rooms >		Aurora A/B	Aurora C	Aurora D	Cira C	
9:00 AM to 10:20 AM	**TECHNICAL SESSIONS:**	**13.** Software Systems and Tools I	**14.** Communication Systems II	**15.** Receivers, Antennas, Modulation, and Coding Techniques II	**16.** Range Systems	OPEN 9:00 AM to 12:00 PM
11:00 AM to 12:00 PM	**TECHNICAL SESSIONS:**	**17.** Software Systems and Tools II	**18.** AI-Driven Sensor Fusion, Compression, and Processing II	**19.** Simulation, Virtual Test Environments, and Digital Twin Integration	**20.** Special Topics in Telemetry	

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