**New Mexico Cyber & Space Symposium: October 12 – 14, 2022**

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| **Day 1 (Oct. 12): All welcome.**  **Topics will include space systems, and cyber initiatives and recommendations for cyber and space defense.** | | | |
| **Time** | **Topic** | **Organization** | **Speaker** |
| 0800-0900 | **Registration** | | |
| 0900-0905 | Opening Remarks | AFRL, Space Vehicle Directorate | Joseph “Dan” Trujillo, Space Cyber Resiliency Lead, Space Control Technology Branch |
| 0905-0915 | Keynote | AFRL, Space Vehicle Directorate | Colonel Jeremy A. Raley, Commander of Phillips Research Site and Director of Space Vehicles Directorate |
| 0915-0930 | AFRL Space Cyber Efforts | AFRL, Space Vehicles Directorate | Philip Blong,  Deputy Space Control Mission Lead, Space Control Technology Branch |
| 0930-1000 | Vulnerability Assessments for Space Technology | Proof Labs | Mr. Dick Wilkinson |
| 1000-1030 | Iron Dome | John Hopkins | Dr. Gregory Falco |
| 1030-1040 | **Break** | | |
| 1040-1110 | OverKey | Caliola | Mr. Ryan Hackbarth |
| 1110-1130 |  | NM Tech | Dr. Lorie Liebrock |
| 1130-1300 | **Lunch (Provided by Deloitte)** | | |
| 1300-1330 | Delivering the Next  Generation Hardware Environment Virtualized | Battelle | Mr. Jeff Lau |
| 1330-1400 | Radiation cyber-effects | MIT Lincoln Lab (MIT/LL) | Dr. Ben Nahill |
| 1400-1430 | Automated Certification of an Open-Source Satellite | Sandia National Lab | Mr. Noah Evans |
| 1430-1440 | **Break** | | |
| 1440-1510 | Silent Sentinel | Deloitte | Mr. Matt Lamanna |
| 1510-1520 | AFRL Collaboration Opportunities | AFRL, Directed Energy Directorate | Ms. Sara Telano, Deputy Branch Chief, Technology Transfer Office |
| 1520-1530 | Closing Remarks | AFRL, Space Vehicle Directorate | Mr. Dan Trujillo |
| 1545-1700 | Social Connect | Q-Station  3225 Central Ave NE Albuquerque, NM 87106 |  |

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| **Day 2 (Oct. 13): TS/SCI-Level ONLY**  **AFRL’s Space Cyber Resiliency Technical Area, Classified SCI-level in-person at AFRL Kirtland Air Force Base and virtually over IC-Connect and TS VoIP secured connection.** | | | |
| **Time** | **Topic** | **Organization** | **Speaker** |
| 0700-0800 | **Registration** | | |
| 0800-0830 | Intel Threat Brief | AFRL/RDOI & NASIC | Lt Elena Clark + NASIC |
| 0830-0900 | Cyber-Hardened Satellite Software (CHSS) SHOP | AFRL/RV | Mr. Dan Trujillo |
| 0900-0930 | Biotite | NSA | Ms. Erin Moorhead |
| 0930-1020 | Cyber SMAX | NASA/NRO/USSF | Dr. Andy Adams |
| 1020-1030 | **Break** | | |
| 1030-1100 | Cyber Hardening Investigation of FSW | AFRL/RV | Mr. Austin Crabtree |
| 1100-1130 | Bricking a satellite with its own APIs | Space Dynamics Laboratory (SDL) | Mr. Matt Young |
| 1130-1200 | Satellite Fingerprint Encryption STPSat7 on-orbit experiment | AFRL/RI/RV | Dr. Shelton Jacinto  Lt. Kyle Emery |
| 1200-1300 | **Lunch (Provided by AFRL)** | | |
| 1300-1330 | Proofs for Digital Assurances in High Consequence Systems | Sandia National Labs (SNL) | Mr. Philip Johnson-Freyd |
| 1330-1400 | Secure AI Processing Platforms for Expendable Systems (SAPPES) | AFRL/RW | Ms. Juanita Riley |
| 1400-1430 (SECRET-Only) | Cyber experimentation on Eagle MSIM | AFRL/RV/COSMIAC | Mr. Dan Trujillo  Mr. Daniel Garcia |
| 1430-1440 | **Break** | | |
| 1440-1510 | Countering Nation State Exploits in Critical Systems | Battelle | Mr. Steve Ashworth |
| 1510-1530 | Closing Remarks | Closing Remarks | Mr. Dan Trujillo |
| 1600-1800 | Social Network | Sawmill Market  1909 Bellamah Ave. NW  Albuquerque, NM 87104 | AFRL |
| 1630-1900 | Social Network | Explora  1701 Mountain Rd NW, Albuquerque, NM 87104 | Deloitte |

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| **Day 3 (Oct. 14): All welcome.**  **Commercial and Industry open-house style event with panels and Cyber Capture the Flag (CTF) competition.** | | | |
| **Time** | **Topic** | **Organization** | **Speaker** |
| 0700-0800 | **Registration / Networking** | | |
| 0800-0820 | Opening Remarks |  | Sasha Pellerin, City of Albuquerque  Scott Malm, Deloitte |
| 0820-0900 | Networking |  |  |
| 0830-0900 | CTF Participants Arrival & Setup 0830 and CTF Begins 0900 | Deloitte Sponsored |  |
| 0900-0945 | Panel One | Cybersecurity and the Internet of Things | Dick Wilkinson, ProofLabs  Erik Strobert, Perspective Components |
| 1000-1045 | Panel Two | Cybersecurity Industry in New Mexico | Ric Aguilar, ProofLabs,  Marcos Gonzales, Bernalillo County Economic Development  Alan Roes, CNM |
| 1100-1300 | **Lunch (Provided by Deloitte)** | | |
| 1300-1345 | Panel Three | Cybersecurity in Space | Matt Lamanna, Deloitte  CJ Unis, USSF/SSC  Richard Ferguson, BAE Systems |
| 1400-1445 | Panel Four | Space Industry in New Mexico | Casey Anglada DeRaad, NewSpace New Mexico  Severin Blenkush, SFA  Dan Trujillo, AFRL  Jon Luminati, Bluehalo |
| 1430 | CTF Ends |  |  |
| 1500 | CTF Winner Presentation & Pictures |  | President Tracy Hartzler, CNM |
| 1515 | Closing Remarks |  | President Tracy Hartzler, CNM |

**Speaker Bios:**

**Colonel Jeremy A. Raley:** Colonel Jeremy A. Raley is the Commander of Phillips Research Site and Director of Space Vehicles Directorate, Air Force Research Laboratory, Kirtland Air Force Base, New Mexico. His organization focuses on enduring United States Space Force space missions: communications; position, navigation and timing; missile warning; space domain awareness; and space control. Prior to his current position, Colonel Raley was the Director of the Strategic Capabilities Group within the Space Rapid Capabilities Office (RCO) at Kirtland Air Force Base, NM. While there, he oversaw space-based research, development and acquisition activities for classified space acquisition programs assigned to the Space RCO and executed by the Strategic Capabilities Group.

**Mr. Joseph Dan Trujillo:** Joseph “Dan” Trujillo has been at AFRL for the past 18 years and is currently the Space Cyber Resiliency Tech area lead for Space Vehicles. Before that he has worked for both private industries, including Microsoft, ABC/Disney, and DoD companies, such as Loral Vought Space Missile Systems, Lockheed Martin, and Hughes Aircraft as a software developer and architect.

**Mr. Philip Blong:** Phil Blong has been at AFRL for 13 years and is currently the Deputy Space Control Mission Lead and Deputy Space Cyber Resiliency Tech Area Lead for Space Vehicles. Prior to civil service he served as an active military member in the USAF as a research physicist working on directed energy and space experiments.

**Mr. Dick Wilkinson:** Dick Wilkinson served in the US Army for 20 years and held a variety of technical leadership roles as Chief Warrant Officer. My career of service continued as I became the CISO and CTO for the New Mexico Supreme Court where I directed critical IT and Cybersecurity operations. Most recently Co-founded Proof Labs, a cybersecurity technology firm focused on enterprise security and space technology development.

**Mr. Gregory Falco:** Gregory Falco has been at the forefront of critical infrastructure and space system security in both industry and academia for the past decade. He is an Assistant Professor at Johns Hopkins University’s Institute for Assured Autonomy and the Civil and Systems Engineering Department. His research entitled Cybersecurity Principles for Space Systems was highly influential in establishing Executive Order: Space Policy Directive-5. He has been listed in Forbes 30 Under 30 for his inventions and contributions to critical infrastructure cyber security, is a Fulbright Scholar and is the recipient of DARPA’s Young Faculty Award for work on building the “cloud” for space systems.

**Mr. Ryan Hackbarth:** Ryan Hackbarth started his career in the US Army with the 10th Special Forces Group. During his time, he managed various projects while collaborating with multinational partners in Europe and Asia. His projects ranged from TROJAN FOOTPRINT in Europe to ARCTIC EDGE in Alaska. He ended his time in the Special Forces Community by developing the systems for non-standard logistics in the Baltics and Scandinavia for Special Operations Command Europe. He served as a Deputy Airlift Officer in South Korea, increasing joint capabilities across the US and Korean militaries. Today, he serves as Director of Product for Caliola and leads the transition of Caliola's OverKey(r) product into SATCOM and other space-related applications.

**Mr. Matt Lamanna:** Retired Air Force Master Sergeant, spent 15 years in Signals Intelligence, then the last 5 years in offensive cyber/cyber threat intelligence. Manages contracts with USSF and DCO SME for Dept of State while performing program management on defensive cyber, big data platforms, and cybersecurity in space growth offerings within Deloitte.

**Mr. Jeffrey Lau:** Jeffrey Lau is a senior computer engineer for the Cyber Solutions Division at Battelle, conducting offensive cybersecurity research against mobile platforms and leading research in building advanced virtualized systems and defeating ransomware. [www.battelle.org](http://www.battelle.org)

**Mr. Ben Nahill:** Benjamin Nahill is a member in MIT Lincoln Laboratory’s Secure, Resilient Systems and Technology Group. He specializes in secure hardware and embedded systems, working to solve problems in secure processing and data protection using novel hardware architectures. Since 2014, he has worked on secure processor architectures, information assurance, very high-speed data-at-rest encryption, and high-assurance data-in-transit encryption and cryptographic key management for unmanned systems. Prior to joining the Laboratory, he worked in a variety of domains, including resource-constrained embedded system design, low-power RF, and satellite communications.

**Mr. Noah Evans:** Noah Evans has been at Sandia National Laboratories since 2016. His research focuses on the application of formal methods to high-consequence system design and analysis. He leads the hardware verification push in group 8741 Digital Foundations and Mathematics and is the principal investigator on Sandia open-source satellite use case for the DARPA ARCOS project. His work encompasses formal verification of hardware using novel formally assured hardware description languages such as Bluespec, Kami, and Koika. His projects include verifying custom buses and processors for fabrication at Sandia Microsystems Engineering, Science and Applications.

**Mr. Sean O'Melia:** Sean R. O'Melia is a member of the technical staff in the Secure Resilient Systems and Technology Group. He joined the Laboratory in 2008, his work includes topics such as automated intrusion and detection for tactical networks, security for open-architecture airborne platforms, and usable key management technology for space-based national security systems. He works with partners at the Laboratory to ensure that cybersecurity and resiliency are integrated into systems to support national security missions. In 2012, he was a co-recipient of an R&D 100 Award for the Lincoln Open Cryptographic Key Management Architecture.

**Ms. Sara Telano:** Sara Telano, is the Deputy Branch Chief for the AFRL Technology Transfer Office. In this role she supports AFRL’s Space Vehicle and Directed Energy Directorates technology and education outreach programs, including technology transfer transition, economic development, K-12 and university STEM partnerships. She has served as Contracting Officer for AFRL Space Vehicle Contracting Office and Contracting Specialist for the 48th Contracting Squadron at Royal Air Force Lakenheath, United Kingdom. Prior to joining the AF family, she worked for the Arkansas Economic Development Commission-Energy Office and the Southeast Energy Efficiency Alliance, one of six regional energy efficiency organizations.

**Sasha Pellerin, City of Albuquerque**

Native Burqueña, advocate, and educator Sasha Pellerin is passionate about changing outcomes for children who have been historically underserved. As Senior Policy Advisor for the City of Albuquerque, Sasha has taken steps to serve families most in need. Prior to this role, Sasha served as Project Director at Southwest Creations Collaborative (SCC), a women-driven contract manufacturing company and social enterprise in Albuquerque, New Mexico. SCC’s mission is to alleviate poverty and build economic and educational opportunities across generations.

**Scott Malm, Deloitte**

Scott is a principal in Deloitte Consulting LLP’s Government & Public Services practice and serves as the market offering lead for our Labor Workforce Development practice. He has worked with US and international public sector agencies for more than 15 years and has completed award-winning business and system modernization projects for multiple labor workforce development clients. Scott also serves as the public sector chief people officer.

**Dick Wilkinson, Proof Labs**

Dick Wilkinson served in the US Army for 20 years and held a variety of technical leadership roles as Chief Warrant Officer. His career of service continued as the CISO and CTO for the New Mexico Supreme Court where he directed critical IT and Cybersecurity operations. Wilkinson co-founded Proof Labs, a cybersecurity technology firm focused on enterprise security and space technology development.

**Erik Strobert, Perspective Components**

Mr. Strobert is the founder and CEO of Perspective Components, Inc. Perspective Components is the creator of NoiseVu Audio Security, AI audio security technology, to help make cities, facilities, and utility substations safer.

**Ric Aguilar, ProofLabs**

Ric is the co-founder and CEO of Proof Labs Inc, a cybersecurity consulting firm with 20+ years of experience in the federal government sector. His current industry expertise is decentralized, peer-to-peer, data storage infrastructure, privacy, and security using blockchain technology. In 2018 he served as co-chairman of ABQgig, a non-profit organization working on bringing high-speed broadband infrastructure and services to underserved communities. He also served as former chairman of the New Mexico Technology Council cybersecurity peer group in 2015.

**Matt Lamanna, Deloitte**

Retired Air Force Master Sergeant, spent 15 years in Signals Intelligence, then the last 5 years in offensive cyber/cyber threat intelligence. Manages contracts with USSF and DCO SME for Dept of State while performing program management on defensive cyber, big data platforms, and cybersecurity in space growth offerings within Deloitte.

**Carl “C.J.” Unis w/USSF/SSC**

Mr. Unis is a Lead Systems Engineer, Space Systems Command, United States Space Force. He Spent over 10 years as technical staff at Sandia National Laboratories. He was the Critical Infrastructure protection program manager for the New Mexico Department of Homeland Security and Emergency Management.

Mr. Unis has served as a federal agent in the capacity of providing classified transportation for the Department of Energy, National Nuclear Security Administration (NNSA), (Office of Secure Transportation (OST)) as well as holding numerous positions for the U.S. Marine Corps in the capacity of performing internal embassy, dignitary, motor transport specialist and classified material security duties.

**Casey Anglada DeRaad, NewSpace New Mexico**

Casey is the Founder and Chief Executive Officer of NewSpace New Mexico. An energetic builder of partnerships and growth strategies to help all stakeholders succeed. She has over 30 years of leadership experience in space technology, business development, investment leveraging, technology engagement/transfer, strategic planning, workforce development, and portfolio investment. Casey is a 10th generation New Mexican who has promoted opportunities for New Mexico students and industries for her entire career.

**Severin Blenkush, SFA**

A 27-year Air Force veteran whose career in acquisition culminated as Director of Contracting for Air Mobility Command's $1.6B contract portfolio which spanned 11 geographically separated locations. Along the way, Severin was a three-time Commander, deployed to Iraq twice and Qatar once, and served at the U.S. Embassy in Copenhagen, Denmark. His space experience includes three years working classified space systems at Los Angeles Air Force Base (now Space Force Base) and two years in acquisition plus two years in operations for the National Reconnaissance Office. Severin held unlimited Contracting Officer Warrants in three different Air Force Major Commands.

**Dan Trujillo AFRL**

Joseph “Dan” Trujillo has been at AFRL for the past 18 years and is currently the Space Cyber Resiliency Tech area lead for Space Vehicles. Before that he has worked for both private industries, including Microsoft, ABC/Disney, and DoD companies, such as Loral Vought Space Missile Systems, Lockheed Martin, and Hughes Aircraft as a software developer and architect.

**Jon Luminati, Bluehalo**

Dr. Jon Luminati is the Director of Technical Program Management at BlueHalo’s Advanced RF Division which, among other efforts, is working in partnership with the Space Rapid Capabilities Office (SpRCO) to develop and deliver a series of electronically steerable phased array antennas to augment the Satellite Control Network (SCN) operated by the U.S. Space Force (USSF). Prior to joining BlueHalo he was a career Air Force officer focusing on engineering and program management of space, intelligence, and missile defense systems. He holds a PhD in electrical engineering with a focus on synthetic aperture radar and is married with three daughters who ensure he’s never bored.

**President Tracy Hartzler, CNM**

Before becoming CNM President, Ms. Hartzler was CNM’s Vice President for Finance and Operations and has been at CNM since 2015.

In September 2021, President Hartzler was one of 25 community college presidents nationwide selected to participate in the Aspen New Presidents Fellowship, managed by the prestigious Aspen Institute College Excellence Program. The program supports community college presidents in the early years of their tenure as they strive for higher and more equitable levels of student success.

President Hartzler has been a key leader among a partnership of five colleges in New Mexico to establish the Collaborative for Higher Education Shared Services (CHESS). The five partner colleges are collaborating on an unprecedented level to implement shared technology platforms that all five colleges will use to improve the student experience from recruitment and enrollment to completion and career, as well as modernizing and streamlining technology and processes that will be consistent across the colleges for administrative, HR and financial services. CHESS’ unique structure allows the colleges to take advantage of the efficiencies of a true college system while retaining their independence and unique connections to their local communities. In addition to CNM being a founding partner for CHESS, President Hartzler also serves as the Vice Chair on the CHESS Board.

Under President Hartzler’s leadership, CNM was one of five community colleges nationwide that helped found and launch Unmudl, a national skills-to-jobs marketplace that provides working learners with the shortest, most flexible and affordable options for skilling up quickly and improving their career prospects. Businesses use the service to find the skilled workers they need to grow. President Hartzler serves as Chair for the Unmudl Steering Committee.

President Hartzler has served the public sector for more than 25 years in education, government, and policy roles. She earned her Juris Doctorate from the Columbus School of Law at the Catholic University of America. She earned her Master of Education Degree from the University of Virginia with highest honors; and she earned her Bachelor of Arts Degree, cum laude, from Saint Mary’s College in Indiana. She is a member of the New Mexico, Indiana (inactive), and District of Columbia Bars.