

# Robert August

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## Summary

Experienced Chief Scientist and Deputy Director. Nuclear detection expert. Advanced Technology Developer. Over four decades of experience developing technology and methods for addressing the clandestine nuclear attack issue, quantum sciences, AI applications and advanced development for multiple problems.

## Experience

-  **Chief Nuclear Scientist** May 2022 - present  
Parsons
- Chief Scientist of Radiological & Nuclear Programs
    - Provide technology leadership for Parsons in strategic R/N Detection market
    - Support/lead technical solutioning for next-gen RPM (radiation portal monitors) and other technology development initiatives
    - Represent and market Parsons at customer presentations and meetings, key conferences, relevant industry events, and appointed committees to provide thought leadership
    - Work with Technology and Innovation groups within Parsons as R/N authority and bringing AI, Quantum Sciences & R/N integration expertise
    - Liaise with key technology partners and industry vendors to develop differentiated solutions
-  **Senior Scientist - Science Advisor in OUSD(R&E) Quantum Sciences Office** Sep 2021 – May 2022  
EY Parthenon / Quantitative Scientific Solutions. QS-2
- Science Advisor to the Principal Director in the Office of the Under Secretary of Defense for Research and Engineering (OUSD(R&E)) Quantum Sciences Office. OUSD(R&E) keeps track of cutting-edge technologies in quantum sciences and develops and maintains the roadmap for research and development.
-  **Technical Expert – NGA Emerald Support Program** Sep 2020 – Sep 2021  
S2 Analytical Solutions
- Support the National Geospatial-Intelligence Agency (NGA) satellite tasking modernization program by integrating machine learning, artificial intelligence, automation, and augmentation to modernize and optimize source architectures and tasking and collection processes.
-  **Senior Principal Scientist** Feb 2008- Sep 2020  
ARA
- Advanced Technology Development: initially a member of Chairman’s Group to develop company-wide initiatives in Homeland Security/Defense and later of the Advanced Concepts Team (ACT) to develop cutting edge initiatives.
    - Led ARA-ACT initiatives into neutrino detection and Active Muon Imaging that resulted in DARPA program awards for both.
    - Leadership in multiyear development of directed energy electron/x-ray accelerator and fast-timing detection system for DARPA.

- Led ARA-ACT investigation of Quantum Computing building on AI/Deep Learning program that transitioned to a multiyear program for the US Army Night Vision and Electronic Sensors Directorate (NVESD) to apply Deep Learning methods to the detection and discrimination of buried explosive hazards

- Nuclear Physicist specializing in the detection of Special Nuclear Material and integrating of ARA's nuclear capabilities.
- Build new capabilities in nuclear intelligence and related fields. Specific new capabilities include state-of-the-art nuclear detection algorithm and novel active/ passive SNM detection device.
- Focus on USG programs concerned with combating the clandestine nuclear attack issue, including advising OSD on policy development. Issues include metrics development for nuclear detection, modeling capabilities for DTRA, DTRA SNM detection demonstration planning, SNM detection CONOPS.



## Subject Matter Expert: WMD Detection

May 2007 - Dec 2008

### Nuclear Defense Working Group (NDWG)

1 year 8 months

- The NDWG was chartered to provide independent advice to Executive Branch agencies and to the Congress on matters related to the threat of clandestine nuclear attack and protecting the nation from it. A focus was the future of the Domestic Nuclear Detection Office (DNDO). Participated in this group separately from duties at ARA and the Homeland Security Institute, as an independent expert on nuclear detection technology as applied to the covert nuclear attack issue, and with an historical perspective on U.S. Government efforts in this area.



## Chief Scientist / Deputy Director for Systems Homeland Security Institute

Jan 2006 - Feb 2008

2 years 2 months

- The Homeland Security Institute (HSI) is a Studies and Analysis (S&A) Federally Funded Research and Development Center (FFRDC) established pursuant to Section 312 of the Homeland Security Act of 2002.
- Chief Scientist for HSI: point of contact for all science and engineering issues, including systems engineering. Responsible for ensuring that staffing and execution of all such studies by the Institute were of world class quality.
- Deputy Director for Systems: exercised responsibility for Institute strategic planning, management & business development, and oversight of the Systems Directorate. Head of the Systems Directorate: oversaw both the Science and Technology Assessments Division and the Systems Engineering and Architectures Division. Duties focused on assembling and leading a staff of subject matter experts to provide the highest quality studies and analysis on technical issues within the broad mission area of homeland security.



## Research Physicist

1985 - 2005

### U.S. Naval Research Laboratory

21 years


- Assigned as a Technical Direction Agent for the Domestic Nuclear Detection Office (DNDO) regarding their Advanced Spectroscopic Portal (ASP) program. Role included vendor guidance, Red Teaming test design, and technical evaluation of performance for source selection.
- Provided policy and project analysis for nuclear anti-terrorism to DOD, DHS and DOE.
- Invented the HELGA II anti-nuclear terrorism detection system, which provided best-in-the-world passive identification of covert nuclear weapons. The Navy and Coast Guard funded the prototype of this system.
- Developed and deployed special purpose gamma-ray and neutron detection systems in field platforms all around the world.
- Provided expert analysis and interpretation of nuclear intelligence data over twenty-one years, much of which has had policy impact for current nuclear anti-terrorism concerns.
- Invented the concept of the "neutron signature" and developed it for the Defense Nuclear Agency (now Defense Threat Reduction Agency) as a method of treaty verification of ICBMs as required by the SALT II Treaty.
- Headed the U.S. radio-nuclear contingent on a joint Russian-US cruise to the Russian Arctic, and subsequently set-up a U.S. lab for gamma-ray analysis of Arctic sediments.
- Senior nuclear scientist in a DOE/Navy expedition to sample Siberia's river sediments and analyze them in-country for nuclear and chemical contaminants.
- Principal investigator of a multi-disciplinary environmental remediation study involving nuclear, chemical, geophysical and biological measurements.

- Invented and patented a unique fast-neutron detector (US Patent #5078951) and an entirely solid-state neutron detector (US Patent #7271389).
- Program manager of the Interactive Discrimination Project Review Program for the Army SDIO (Strategic Defense Initiative Organization).
- Key developer and principal for the field testing and deployment of the HELGA (High Efficiency Large Germanium Array) System, this remains the most capable system ever transitioned to field deployment for the detection and identification of clandestine nuclear devices.

## Education

	Duke University Ph.D., Nuclear Physics	1979 - 1984
	Rutgers University - Camden BA, Physics	1976 - 1979

## Skills

 Nuclear Physics • Physics • Leadership • Invention • Simulations • Systems Analysis • Statistical Data Analysis • Testing • Counterterrorism • Experimental Physics

## Security Clearance

TS/SCI Security Clearance (formerly with CI polygraph)