

Dr. DANIEL M. DEVASIRVATHAM
Curriculum Vitae

Education: PhD, MS E.E., The Ohio State University (Fulbright)
B.S.E.E (Honors), University of Ceylon, Sri Lanka

Awards: Fulbright Scholar

Professional: Life Senior Member, IEEE

Citizenship: U. S. Citizen. Held Security Clearances

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PROFESSIONAL SUMMARY

Daniel Devasirvatham is an entrepreneurial, innovative and practical wireless engineer, researcher, manager & leader with extensive radio systems experience. His technical contributions extend from spectrum sharing, security, broadband, Land Mobile Radio and cellular/personal communications, to satellite communications, rain radars and radiometry. He worked on extending the wireless portfolio and its relationship to critical infrastructure at INL, and also issues on spectrum sharing and security. He was the technical leader of the FCC chartered Public Safety Broadband Communications LTE National Numbering Authority at SAIC. While CTO of the DHS/ICTAP program, Daniel provided technical assistance for First Responder Communications Interoperability nationally and Project 25 Standards. He has proposed disaster recovery strategies, using airborne, terrestrial and satellite systems, and chaired the WInnForum Public Safety Special Interest Group. He was an invited speaker on national FCC panels from Spectrum Sharing to Deployable Aerial Communications. He is nationally respected for his contributions to wireless and to public safety.

Daniel made pioneering contributions at Bellcore to mobile communications, and starting in 1993 to spectrum sharing, measuring and understanding the radio propagation channels. He invented and led the development of fast, computationally efficient, low-complexity models and algorithms to economically deploy communications systems, balancing coverage, capacity, interference, and reliability. Using these, he conceived and built a family of RF planning tools. As Director, he guided new wireless technology research in high bandwidth communications such as MIMO. He shares his knowledge through papers, talks and teaching. He holds three patents on predictive communications and spectrum sharing.

Science Applications International Corp. (SAIC), San Diego, CA. (July 2017->)

Consulting Employee: Worked part time on a futuristic NASA UAM Project, 5G & 4G

Wi-Plan Wireless Consulting (February - October 2013, January 2017->) wi-plan.com

Daniel is the Founder and President of Wi-Plan Wireless Consulting, a small business formerly registered in San Diego and now in Idaho. He offers Expert Technical Services, Representation, Research, and Education to Critical Infrastructure, Public Safety, Technology Companies, and to Academia.

Daniel is viewed as a trusted advisor by senior first responders from Hawaii to the Virgin Islands. He participated in US and Canadian Public Safety Broadband working groups. His work for clients included FirstNet architectural and applications related issues for the build-out of public safety broadband. He also explored Network, Spectrum, and Traffic sharing for broadband for clients and contributed to new ideas in Cognitive Radio communications. He spoke at an APCO Broadband Summit and other venues, published in Mission Critical Communications Magazine and has presented tutorials and written on disaster recovery.

Idaho National Laboratory, Idaho Falls, ID (INL), (October 2013 -- Jan 2017) www.inl.gov

Daniel joined the Idaho National Laboratory (INL) as a Director/Program Manager and subsequently worked in Critical Infrastructure Protection. He provided leadership in new directions in wireless research, spectrum sharing, security, V2V communications, public safety etc., and published several thought-leading articles, as part of an effort to establish INL as a leader with non-traditional clientele in wireless. He was interested in the use of wireless in the Smart Grid and in power stations. He was a member of the National Spectrum Consortium. He has participated in FCC activities such as a spectrum sharing workshop and a CSRIC Working Group. He co-chaired the National Wireless Research Collaboration Symposium (NWRCS) 2014 and represented INL in the Wireless Information Systems Research and Development Senior Steering Group (WISRD-SSG), run by the NITRD program of the US Federal Government. He was a member of the Spectrum Sharing committee of the Wireless Innovation Forum, and chaired the Public Safety SIG of the Forum, which released a major report on Context based Cognitive Radio, and on Disaster Recovery Communications. He worked on special projects related to FirstNet, as well as the state of Idaho. He also participated in the definition of CBRS Radio services through the Wireless Innovations Forum (WinnForum)

Science Applications International Corp. (SAIC), San Diego, CA. (Oct. 2001– Feb 2013)

Dr. Daniel Devasirvatham was CTO and previously a Vice President of the Applied Technology Division at SAIC. He was an administrator and technical lead of the Public Safety Broadband LTE National Numbering Authority which was chartered by the FCC. In other broadband work, Daniel advised a state on building a Public Safety Broadband LTE pilot in preparation for FirstNet. The technical RFI he helped develop was used as a model by others.

Daniel served in the Broadband Committee of the Association of Public Safety Communications Officials (APCO) and also in the APCO Standards Development Committee. He was an invited member of the APCO Homeland Security Committee. He participated in its 9/11 review conference, and its experts' team which conducted workshops around the country post 9/11. He chaired the wireless session of its Katrina Recovery seminar. He is a co-author of APCO's white papers on interoperable communications. He also chaired the WCAI (Wireless Communications Association International) Homeland Security Taskforce. The WCAI led industry broadband efforts in LMDS, MMDS, and the WiMax Forum.

Daniel was invited by the FCC to speak on a national panel on Deployable Aerial Communications after disasters (DACA), while at SAIC. He has proposed a three-layer disaster communications recovery strategy. He was also the invited chair of the Satellite Communications Special Interest Group of the (SDR) WinnForum and led an effort to define hybrid architectures for communications recovery after large disasters, including possible uses of Cognitive Radio technologies. He chaired its meetings in Belgium, Montreal, Rome, and Washington, DC. He organized a highly regarded workshop on Disaster Recovery Communications in San Diego for the WinnForum in 2012.

Daniel was Chief Technologist of the DHS/OEC Interoperable Communications Technical Assistance Program (ICTAP) for SPAWAR (Space and Naval Warfare Research) center. He participated in TR8 Project 25 Standards activities, and led the development of the full P25 Feature set matrix to assist all users and manufacturers. He is knowledgeable on TETRA systems. He educated and provided technical assistance to first responders, using his LMR, broadband and VOIP/ROIP knowledge to develop interoperability, narrow-banding, and technology transition approaches for state and local agencies. He was an evaluator in TIC plan validation exercises.

Daniel was consultant for a 800 MHz LMR system P25 upgrade effort at Kauai. He advised and performed due diligence from pricing to execution and commissioning. He participated in the cutover, acceptance testing and problem resolution for the new P25 controller in Phase 1 of the project. In past work, he advised the state on VOIP/ROIP and interoperability.

Daniel has a strong research and analytical background. He mined FCC's ULS database together with Canada's Spectrum Direct database, and developed innovative analytical tools to find multiple frequencies for site-specific and area-wide use in West Virginia and Stevens County, WA, which has trans-border Line-A issues. He has performed frequency searches and interoperability analysis in other states as well.

Under Daniel's technical leadership the team developed drive test coverage measurements and analysis capabilities at SPAWAR. This capability is now an ICTAP offering. He mentored the engineers and also jointly published a paper on coverage verification for LMR systems.

In other work, Daniel guided SAIC IR&D programs on Ultra Wideband, Indoor Position Location, and Ad-hoc Networks. He was also the technical lead in Tiger Teams to solve difficult communications problems in a nuclear plant in the US, and nuclear/seismic monitoring installations in South Korea and Ukraine for the US Government. He was named a Corporate Resource in SAIC's Experts list, and participated in many bids/proposals.

Telcordia Technologies/ Bellcore, Red Bank, NJ. (Feb 1984 to Oct 2001)

As ***Director, Advanced Wireless Technologies Research***, Daniel proposed, championed, obtained funding for, and developed the WINPLAN family of wireless planning and deployment tools. He architected, and developed the algorithms for the micro-cellular, wireless local loop/PCS, and MMDS design tools, based on his research. He collaborated on Broadband LMDS research and was closely involved in the development of the LMDS and CDMA broadband WINPLAN tools. Another incarnation of the tool by one of his direct reports was used as the basis for classified work. He co-invented extensions to automated frequency planning, and invented automated cell/base station placement methods. He invented new models for path loss and time delay spread, which affects data rates in the radio channel.

Daniel championed and guided Telcordia's smart antenna/ OFDM and MIMO research until it could become a separate group. He guided research for optimizing the deployment of GPRS and WCDMA systems, based on metrics such as coverage and revenue.

In Management, Daniel supervised, challenged and incentivized an outstanding team of internationally recognized PhD researchers, experts, technicians, software engineers and support staff. His work encompassed proposing the research and development agenda, personnel performance evaluation, salary matters, disciplinary action and promotion recommendations. Consequently Daniel was chosen and graduated from Telcordia's Pipeline Development Management Succession Training program for executive positions.

As ***Senior Scientist and Member of Technical Staff***, Daniel made pioneering, practical, contributions to understanding the micro, pico- and macro-cellular mobile radio propagation channel, at heights varying from near ground to the top of the Empire State Building! His papers on wide-band, spread-spectrum, time-delay-spread, and CW studies in indoor & outdoor environments, using equipment he designed and built, are fundamental references. His work on Time Delay Jitter bears on position location accuracy as well.

Daniel made measurements for spectrum sharing studies for the selection of the band of operation for PCS and participated the TR14.11 study group on frequency coordination and

spectrum sharing, contributing to the revision of Bulletin 10-F. He was part of a team that obtained two patents on a dynamic spectrum sharing technique for PCS. His third patent is on power efficient communications using novel, path aware, communications strategies to minimize battery drain while also enhancing Low Probability of Interception and Detection (LPI/LPD). This work also has applications in modern Cognitive Radio techniques.

Daniel developed academic liaisons with universities in Europe, and was an invited delegate to The European Telecommunications Standards Institute, ETSI. His experience spans the frequency spectrum from HF to above 40 GHz.

The Electro Science Laboratory, Columbus, Ohio

As Research Associate, Daniel studied Earth-space communications in turbulence and rain, and radar studies for NASA. He worked with the ATS-6, COMSTAR D1 and D2, and CTS satellites, spanning the L, S, X, Ku and Ka bands. He measured the communications links in key experiments. He then developed the first analytical models to match the microwave and millimeter-wave low-angle signal scintillation in turbulence measured by his group and others.

RELATED PAST EXPERIENCE / QUALIFICATIONS:

- National Spectrum Consortium
- Chair: WinnForum's Public Safety SIG, on Cognitive Communications for Public Safety
- Chair: WinnForum's SATCOM SIG task group, on disaster recovery communications
- APCO Homeland Security, Broadband, CBRS, Standards Development Committees.
- Chair: Wireless Communications Association (WCAI) Homeland Security Committee
- TIA/ Tr8 Project 25 Land Mobile Radio Standards
- Graduate, Telcordia's Pipeline Development Management Succession Training program
- Former Area Editor: International Journal of Wireless and Personal Communications.
- Manager / R&D, and Director of Studies, Computerlink Data Systems and Datalink Computers, Sri-Lanka (1982-84): He was in the Senior Management Team of the Company and built the first locally made commercial microcomputer in the country.
- Invited Member, UNESCO National Commission, Sri-Lanka (1981-1982): Helped establish the Arthur C. Clarke Center for Space, Communications, and Computers.
- Invited Member of the Advisory Board that set up TV broadcasting in Sri-Lanka.
- Faculty member, Dept. of Electrical Engineering, University of Sri-Lanka, Kandy.

AREAS OF INTEREST: Flying Cars, Wireless Security; Wireless in the smart grid and in power stations; 4G and 5G Communications, Network and Spectrum Sharing, Cognitive Radio, Dynamic Spectrum Allocation, Aggregate Interference, Software Defined Radios; Public Safety Broadband (LTE), Next Gen 911, Incident Scene Communications; Deployables and Airborne Disaster Recovery Communications, P25 Land Mobile Radio (LMR); Applications Interoperability; Wireless systems design & deployment/ Tools, Propagation measurements & Coverage Verification; Channel Modeling; Interference; Ultra Wideband Technology; Smart antennas and multipath multiplexing (MIMO) systems; Predictive communications, Meteor Burst Communications; Mobile Ad-Hoc networks, Vehicle-to-Vehicle and Vehicle-to-Infrastructure Communications.

PUBLICATIONS / PRESENTATIONS: Dr. Devasirvatham is an internationally recognized authority and has disseminated his experience in several publications and tutorials, and as an invited speaker at numerous organizations and international conferences. His work has been referenced in many books and papers.