

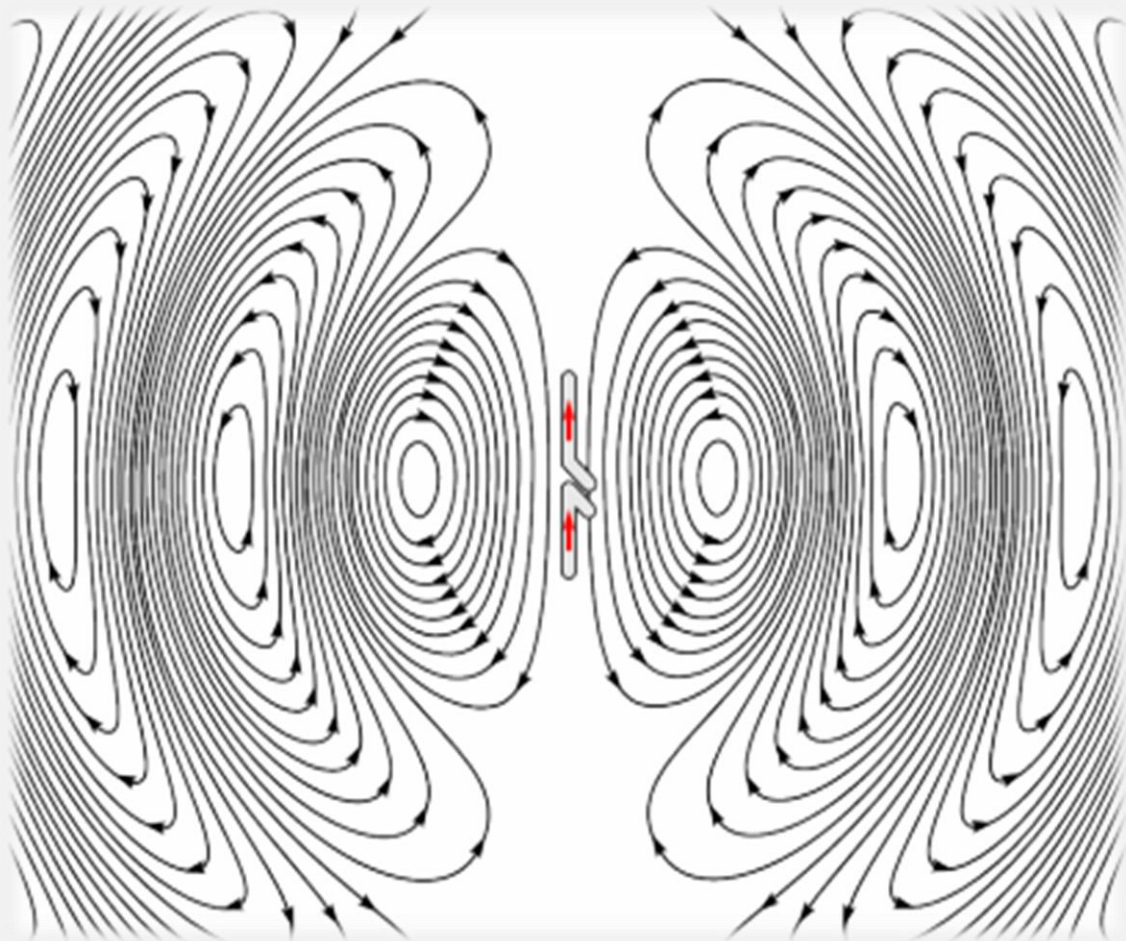
IEEE

North Jersey Section

2022 ANNUAL AWARD RECEPTION

IEEE Fellows, Region 1, Society and Section Award Recipients

In-Person Ceremony after the COVID-19 Pandemic



BIRCHWOOD MANOR, 111 N JEFFERSON RD, WHIPPANY, NEW JERSEY 07891

Award Ceremony Agenda and Booklet Contents

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SUNDAY, MAY 1, 2022



The Institute of Electrical and Electronics Engineers

IEEE is the world's largest technical professional volunteer organization dedicated to advancing technology for the benefit of humanity. IEEE and its members inspire a global community through its highly cited publications, conferences, technology standards, professional and educational activities and its members are engineers, scientists, and allied professionals whose technical interests are rooted in electrical and computer sciences, engineering, and related disciplines.

IEEE is a volunteer organization that has more than 410,000+ members in more than 160 countries, a little less than 50 percent of whom are from the United States, Canada and Latin America. There are more than 125,000 student members and have more than 3500 student branches at colleges and universities in over 100 countries. There are 343 sections and 2615 chapters in 10 Geographic Regions worldwide. There are 3.182 student branch chapters of IEEE technical societies, 608 affinity groups. IEEE affinity groups are non-technical sub-units of one or more sections or a council. The affinity groups are Young Professionals (YP), Women in Engineering (WiE), Life Members (LM), Consultants' Network, and IEEE Entrepreneurship.

Each Region manages multiple sections, having volunteer members of multiple societies and committees. Out of these 10 world-wide regions, USA members are divided in to 6 Regions. IEEE Region-1 includes the members residing in North East USA, which presently has more than 30 Sections. North Jersey Section falls in the IEEE Region-1 which is managed by volunteers of the technical society chapters and many other volunteer committees.

(Reference: <https://www.ieee.org/about/at-a-glance.html>).

IEEE North Jersey Section: Chair Message

IEEE North Jersey Section is one of the 343 IEEE Sections worldwide. It represents the members who live in the northern part of New Jersey. North Jersey Section consists of about 2,500 members and have 22 active Society Chapters, six Affinity groups, and several student branches. During the last two years (2020-21), this section hosted 163 events and about 176 events, educational seminars, workshops, technical symposiums and other events which drew more than 5000 participants. None of this would have been possible without the active participation of the Section volunteers who plan, organize and make these events possible. Today we recognize the newly elevated IEEE Fellows, IEEE Region-1, Award recipients, IEEE MGA Award recipients, IEEE Society Awards recipients, and IEEE Section Awards recipients. As we missed having this annual event during the years 2020 and 2021, due to the pandemic, this year we will take the opportunity to honor all the award recipients and Fellows of the years 2020, 2021, and 2022. We also congratulate the IEEE North Jersey Section members who have accomplished extraordinary technical achievements in IEEE and enhanced the services to the engineering profession. I am extremely grateful for their commitment, dedication and services for the section and IEEE. I know you will join me in congratulating our new Fellows and Award recipients

I am delighted that you all can join us this afternoon, in our section's Award Ceremony.

IEEE North Jersey Section Chair (2021-2022)



Dr. Ajay Poddar' received his Bachelor of Technology Degree in Electronics and Communication in 1990 from NIT-Calicut, Kerala, Electronic Fellowship Diploma in 1992 from DIAT (Defense Institute of Advanced Technology) Pune, Master of Technology Degree in Radar & Communication Engineering from IIT- Delhi in 1996, Diploma from FUCHS-Johannesburg, RSA in 1997; Doctorate (Dr.-Ing.) from TUB- Berlin, Germany in 2004 and Post Doctorate (Dr.-Ing. habil) from BTU-Cottbus, Germany in 2015. From 1991 until 2001 he worked as Senior Scientist and Program Manager in DRDO, Govt. of India, where his research work was in the field of RADAR, Guidance Systems,

microwave/millimeter wave electronic sensors, and microelectromechanical systems for defense, industry and medical applications. Since 2001, he has been working as a Chief Scientist at Synergy Microwave Corp., New Jersey, USA, responsible for design and development of state-of-the-art signal generation and signal processing electronics for current and later generation communication systems. His current research interests include Mobius Metamaterial inspired Energy efficient electronic circuits and systems that include high dynamic range sensors for biomedical, industrial, space, and low-cost technology for humanitarian applications. He has received over dozen awards for scientific and technological innovations, holds over two dozen patents, published over 300 papers in international symposium and journals, and co-authored 4 technical books/chapters. His current research interests include Mobius Metamaterial inspired Energy efficient electronic circuits and systems that include high dynamic range sensors for biomedical, industrial, space, and low-cost technology for humanitarian applications.

Dr. Poddar was Visiting Professor (1999-2004) for post graduate students in University of Pune, India, appointed as a Full Professor at Oradea University Romania (2015) and Guest Lecturer (2009) at Technical University Munich, Germany. Dr. Poddar is serving on the advisory board of MIT School of Electronics and Communication Engineering, Pune, India; and of the Don Bosco Institute of Tech, Mumbai, India. Dr. Poddar is a proactive IEEE volunteer, has served as a Chair of many committees including Chair of IEEE SIGHT Award & Recognition sub-communities, Co-Chair of MTT-S SIGHT, Chair of AP-S SIGHT, and Chair of AP-S CAC, TPC Vice-Chair of the Frequency Control Society. He is currently serving as a committee member of TC MTT-10, MTT-S MGA, MTT-S R1 Coordinator, Ex-Officio MTT-S Ad-Com Member (2019-2021), Ex-Officio AP-S Ad-Com member (2018-2020), AP-S DL (Distinguish Lecturer) Program, AP-S Committee on Equality (COPE), and AP-SIGHT (Special Interest Group on Humanitarian Technology), IEEE HAC (Humanitarian Activity Committee) Inter-Society Working Group, and IEEE North Jersey Section Chair. Dr. Poddar is currently serving as a Chair and member of several IEEE committees, and is proactively involved in volunteering services, helping the underprivileged and underserved community for more than 30 years.

Award Citation Agenda

<u>Welcome Message:</u>	Section Chair
<u>Introduction of Guests</u>	Section Chair/ IEEE Officer
<u>IEEE AWARDS:</u>	2020 to 2022 IEEE Officer

Fellows Awards and Citation

MGA / REGION 1 Awards - 2019 to 2021 IEEE Officer/Section Chair

2019 - Ronald Quade, Edip Niver

2020 - Ulrich L. Rhode, Naresh Chand

2021 - Kirit Dixit, Anisha Apte, Adriaan Wijngaarden

50 YEAR IEEE Membership Award IEEE / Region/Section Chair

Society Awards- **2019 to 2021** Society / Chapter Officer

2019 - AP/MTT-S - Best Chapter Award

2020 - PES/IES - Outstanding Small section

2020 - CS/EDS - Best Chapter Award

2021 - MTT-S - Distinguish Record of Service

Section's Chapter Volunteers Awards

2020 - PES/IES - Outstanding Engineer Award

2021 - PES/IES - Best Engineer Award

2022 – Section Award

2022 - High School Student's Award for their Projects in NJRSF and the Hudson County STEM Showcase

Industry Support Appreciation Industry Chair

2022 IEEE North Jersey Section – Officers

Chair	Ajay K. Poddar
Vice Chair- 1:	Hong Zhao
Vice Chair- 2:	Emad Farag
Secretary:	Adriaan Van Wijngaarden
Treasurer:	Avimanyou Vatsa
Member–at-Large:	Anisha Apte, Har Dayal, Kirit Dixit
Jr. Past Chairman:	Yu-Dong Yao
Sr. Past Chairman:	Kalyan Mondal

Awards Committee

Chair:	Kenneth Oexle
Co-Chair:	Adriaan Van Wijngaarden
Vice Chair:	Anne M. Giedlinski
Reception Coordinator:	Russell Pepe
Award Booklet Editor:	Har Dayal
Award Booklet Adviser:	Ajay K. Poddar

IEEE FELLOW AWARDS

Presented To

Prof. Durga Misra, 2020 IEEE FELLOW

Department of Electrical and Computer Engineering of NJIT, Newark, New Jersey

“for the contributions to the reliability of CMOS gate stacks with high-k dielectrics”



Prof. Durga Misra has been a faculty member at the New Jersey Institute of Technology (NJIT) since 1988 after receiving his Ph.D. in Electrical Engineering from the University of Waterloo, Canada. He is currently a Full Professor in Electrical and Computer Engineering Department.

He served as the Director of Microelectronics Research Center at NJIT (1996) and was a visiting professor at Bell Laboratories, at Murray Hill, NJ (1997). His research interests are in the areas of nano-electronic/optoelectronic devices and circuits especially high-k gate dielectrics for low power nano scale CMOS devices.

He edited and co-edited more than 35 books in his field of research and received several research grants from NSF, NASA and Industry. He has published more than 75 technical articles in peer reviewed Journals and more than 150 articles in International Conference proceedings. He is a Fellow of The Electrochemical Society (ECS) and served as the Chair of Dielectric Science and Technology Division of ECS and as a ECS Board of Directors (2008-10). He received Thomas Callinan Award and Electronic and Photonic Division Award from ECS.

He has contributed significantly to IEEE MGA Activities: As the Chair of Southern Area of IEEE Region 1 from 2008-2011, he organized Industry Day which is now organized all over the world including the North-Eastern Area of Region 1 and India Industry Day. As Chair of Subcommittee of Regions and Chapters (SRC) of Electron Device Society (EDS) he helped to start a new EDS joint chapter in New York Section of Region 1 (Southern Area) on EDS/SSC.

He also established a new EDS chapter, half-way around the world, in Bhubaneswar, India in Region 10. As the Section Chair of the North Jersey Section, he organized

Social Programs and Networking events like NY harbor cruise for the Section's 50th year celebrations.

He established the Sister Section relationship between North Jersey Section and Thailand Section of Region 10. As Southern Area Chair, he helped and supported the Sister Section relationship between Bangalore Section (Region 10) with Princeton Section, a Southern Area section of Region-1.

He was recognized by the IEEE Member and Geographic Activities Board (formerly RAB) Leadership Award in 2005 for leadership in the Section and Region level. Princeton and Central Jersey Section also recognized him with Excellent Leadership Award in 2008 for leading the flagship "Sarnoff Symposium" in Princeton.

Prof. Jaideep S. Vaidya, 2021 IEEE Fellow

MSIS Department at Rutgers University, Piscataway, New Jersey

“for contributions to privacy protection in data analytics and access control management”



Dr. Jaideep Vaidya is a Professor and Vice-Chair of the MSIS Department at Rutgers University and the Director of the Rutgers Institute of Data Science, Learning, and Applications.

He received the B.E. degree in Computer Engineering from the University of Mumbai, the M.S. and Ph.D. degree in Computer Science from Purdue University. His general area of research is in security, privacy, data mining, and data management.

He has published over 190 technical papers in peer-reviewed journals and conference proceedings, and has received several best paper awards from the premier conferences in data mining, databases, digital government, security, and informatics.

He is an ACM Distinguished Scientist, and IEEE Fellow, and is the Editor in Chief of the IEEE Transactions on Dependable and Secure Computing.

Dr. Peter Vetter, 2022 IEEE Fellow**President of Bell Labs Core Research at Nokia Bell Labs, Murray Hill, New Jersey**

“for leadership in broadband access technologies in advanced passive optical networks”



Dr. Peter Vetter is President of Bell Labs Core Research and Bell Labs Fellow. He leads an eminent global research organization with the mission to create game changing innovations that define the future of networks and insure portfolio leadership for Nokia’s core business.

During an international career of more than twenty-five years in research leadership mostly in fixed and mobile networks, he and his teams have realized several world-first system demonstrations and successfully transferred industry leading concepts to the business groups.

He was also co-founder of an internal venture that produced the first FTTH product in Alcatel. He received the degree of Physics Engineer from Gent University (Belgium) in 1986 and a PhD with Prof. H. Pauwels in 1991. After a post-doctoral fellowship with Prof. T. Uchida at Tohoku University (Japan), he joined the research center of Alcatel (now Nokia) in Antwerp in 1993.

Since 2009, he has worked at Bell Labs in Murray Hill, New Jersey, and has been on the senior leadership team of Bell Labs since 2013. He has authored over a hundred international papers and presented keynotes and tutorials at major technical industry events

Dr. Tara Sainath, 2022 IEEE Fellow
Principal Research Scientist at Google, New York, NY

“for contributions to deep learning for automatic speech recognition”



Dr. Tara Sainath received her S.B., M. Eng. and PhD in Electrical Engineering and Computer Science (EECS) from MIT. After her PhD, she spent 5 years at the Speech and Language Algorithms group at IBM T.J. Watson Research Center, before joining Google Research. She has served as a Program Chair for ICLR in 2017 and 2018.

She has co-organized numerous special sessions and workshops, including Interspeech 2010, ICML 2013, Interspeech 2016, ICML 2017, Interspeech 2019, NeurIPS 2020. In addition, she has served as a member of the IEEE Speech and Language Processing Technical Committee (SLTC) as well as the Associate Editor for IEEE/ACM Transactions on Audio, Speech, and Language Processing. She is an IEEE and ISCA Fellow and the recipient of the 2021 IEEE SPS Industrial Innovation Award. She is currently a Principal Research Scientist at Google, working on applications of deep neural networks for automatic speech recognition.

Dr. Guiling Wang, 2022 IEEE Fellow
Department of Computer Science, NJIT, Newark, New Jersey

“for contributions to distributed algorithm design for sensor networks and vehicular networks”



Dr. Guiling “Grace” Wang is a professor and associate dean for research in Ying Wu College of Computing at New Jersey Institute of Technology (NJIT). She is the founding director of the AI Center for Research.

She is also a Chartered Financial Analyst (CFA) and holds a joint appointment with the Martin Tuchman School of Management.

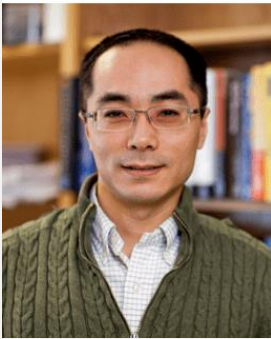
Her research interests include applied deep learning, blockchain technologies, IoT and FinTech.

She has been named Fellow of the Institute of Electrical and Electronics Engineers (IEEE). She is the first woman to earn the honor among several male recipients at NJIT.

Dr. Lei Wu, 2022 IEEE Fellow

Department of Electrical and Computer Engineering, Stevens Institute of Technology, NJ

“for contributions to stochastic modeling and optimization of power systems and large interdependent infrastructures”



Dr. Lei Wu is a Professor in the Department of Electrical and Computer Engineering at Stevens Institute of Technology. He was a Professor with the Electrical and Computer Engineering Department, Clarkson University, Potsdam, NY, USA till 2018. He received early promotion twice at Clarkson: from Assistant to Associate Professor, and from Associate to Full Professor. He received the B.S. degree in Electrical Engineering and the M.S. degree in Systems Engineering from Xi’an Jiaotong University, Xi’an, China, in 2001 and 2004, respectively, and the Ph.D. degree in Electrical Engineering from the Illinois Institute of Technology (IIT), Chicago, IL, USA, in 2008. He was a senior research associate at the Robert W. Galvin Center for Electricity Innovation at IIT during 2008-2010. He worked as summer Visiting Faculty at NYISO in 2012.

His primary research and teaching areas are focused on power and energy system optimization and control, with specific interests in the modeling of large-scale power systems with a high penetration of demand response and renewable energy, and community resilience microgrid. He is the recipient of Transactions Prize Paper Award from the IEEE Power and Energy Society (PES) in 2009, and the IEEE PES Student Prize Paper Award in Honor of T. Burke Hayes as adviser in 2014.

He is the receipt of NSF CAREER Award in 2013 and IBM Smarter Planet Faculty Innovation Award in 2011. He served as Editor for several internationally recognized journals, including the IEEE Transactions on Power System and the IEEE Transactions on Sustainable Energy. He is elevated to the Fellow of IEEE (Class of 2022) for the contributions to stochastic modeling and optimization of power systems and large interdependent infrastructures.

2021 Cross of Merit of the Federal Rep. of Germany

Presented to

Prof. Dr. Ing. habil Ulrich L. Rohde

Chairman Synergy Microwave Corp., NJ, Partner Rohde & Schwarz, Germany

“Highest tribute to Individuals for Service to Nation”



Prof. Dr. Ing. habil Ulrich L. Rohde, IEEE Life Fellow, is a Partner of Rohde & Schwarz, Munich Germany; Chairman of Synergy Microwave Corp., Paterson, New Jersey; President of Communications Consulting Corporation; serving as an honorary member of the Senate of the University of the Armed Forces Munich, Germany honorary member of the Senate of the Brandenburg University of Technology Cottbus–Senftenberg, Germany; and a past member of the Board of Directors of

Ansoft Corporation, Pittsburgh, Pennsylvania. Dr. Rohde is serving as a Professor of Radio-Microwave Frequency Theory and Techniques at several universities worldwide, to name a few: Honorary Professor IIT-Delhi, Honorary Chair Professor IIT-Jammu, Professor at the University of Oradea for microwave technology, Honorary professor at the BTU Cottbus-Senftenberg University of Technology, and professor at the German Armed Forces University Munich (Technical Informatics).

Dr. Rohde has published 300+ scientific papers, co-authored over dozen books, and over 4 dozen patents; received several awards, to name a few: recipient of 2021 Cross of Merit of the Federal Republic of Germany, *the Order of Merit of the Federal Republic of Germany, also known as the Federal Cross of Merit, is the highest tribute the Federal Republic of Germany can pay to individuals “for service to the Nation”*; 2020 IEEE R1 Technological Innovation Award *“for his pioneering research and leadership: 2019 IETE Fellowship Award for outstanding contributions for the applications of microwave theory and techniques”*; 2019 IEEE CAS (circuits and Systems) Industrial Pioneer Award, *“the Industrial Pioneer Award recognizes exceptional and pioneering contributions in translating academic and industrial research results into improved industrial applications and/or commercial products”*; 2017 RCA Life time achievement award; 2017 IEEE W. G. Cady Award *“for pioneering research, development and commercialization of signal generation and signal processing devices for commercial and scientific*

applications”; 2017 IEEE AP-S Distinguish achievement award “*for pioneering work and contributions to the field of Antennas and Propagation, leading to development of wireless communication systems for industrial, military, and space applications*”; 2017 wireless innovation achievement award-Software Defined Radio; 2016 IEEE MTT-S Applications Award “*for significant contributions to the development of low-noise oscillators*”; 2015 IEEE I. I. Rabi Award “*for intellectual leadership, selection and measurement of resonator structures for the implementation in high performance frequency sources, essential to the determination of atomic resonance*”; 2015 IEEE Region-1 Award “*for outstanding scientific contributions and leaderships in the design and implementations of sophisticated RF Technologies*”; and 2014 IEEE IFCS C. B. Sawyer Award “*for development of PC software allowing previously unavailable RF circuit analysis capability and the founding of Synergy Microwave, including the design and manufacture of RF components and subsystems exhibiting state-of-the-art performance*”.

In 2006, Dr. Rohde was honored as Microwave Legend by Microwave & RF Magazine; the selection was based on global voting. In 2009, Dr. Rohde was selected in the list of Divine Innovators of November 2011, published on cover page of Microwave Journal. Based on Dr. Rohde’s 5-decade of scientific creativity and pioneering contributions in the field of microwave communications systems and antenna, IEEE has established 3 awards in his name:

- ***IEEE Ulrich L. Rohde Innovative Conference Paper Awards on Antenna Measurements and Applications;***
- ***IEEE Ulrich L. Rohde Innovative Conference Paper Awards on Computational Techniques in Electromagnetics,***
- ***IEEE Ulrich L. Rohde Humanitarian Technical Field Project Award***

Dr. Rohde has served as a Chair of many committees including Chair of IEEE AP-S Strategic Planning Committee and member of AP-S SIGHT, TPC (Technical Program Committee) member of IEEE Frequency Control Society and IEEE MTT-S. He is currently serving as a Speaker Bureau MTT-10 Signal Generation and Frequency Conversion, Member IEEE MTT-10 Signal Generation and Frequency Conversion, Member IEEE MTT-20 HF-VHF-UHF Technologies and Applications, and Member of IEEE AP-S SIGHT (Special Interest Group on Humanitarian Technology). His hobbies are sailing, U.S. Merchant Marine Officer, Master of Steam or Motor Vessels, photography and Ham Radio (N1UL).

2021 Distinguish Service Award, European Microwave Association (EuMA)

Presented to

Dr. Richard Snyder

President of RS Microwave (Butler, NJ, USA)

"for Outstanding Career Award for his exemplified outstanding contributions in the field of microwaves"



Dr. Richard Snyder is the President of RS Microwave (Butler, NJ, USA, founded 1981), author of 124 papers, three book chapters and holds 26 patents. Interests: E-M simulation, network synthesis, dielectric and suspended resonators, high power notch and bandpass filters, and active filters. BS, MS, and Ph.D. degrees from Loyola-Marymount, USC, and Polytechnic Institute of New York University. Served the IEEE North Jersey Section as Chairman, 14-year Chair of the MTT-AP chapter. Chaired the IEEE North Jersey EDS and CAS chapters for 10 years. He twice received the Region 1 award. January 1997: named a Fellow of the IEEE and is now a Life Fellow. January 2000: received the IEEE Millennium Medal. He was General Chairman for IMS2003, and was Emeritus Chair for IMS2018 both in Philadelphia. He was elected to ADCOM in 2004. Within the ADCOM, he served as Chair of the TCC and Liaison to the EuMA. He served as an MTT-S Distinguished Lecturer: from 2007-to 2010, continuing as a member of the Speakers Bureau. Associate Editor for the IEEE Transactions on MTT, responsible for most of the filter papers submitted. He is currently a member of the American Physical Society, the AAAS, and the New York Academy of Science. He was the 2011 President of MTT-S and is a long serving member of MTT-S Ad-Com. He is an IEEE Life Fellow and an Honorary Life Member of MTT-S, currently a reviewer for IEEE-MTT, Circuits and Systems Transactions, and EMC publications. Teaches and advises at the NJIT, and is a Visiting Professor at the University of Leeds, in the U.K. He served 7 years as Chair of MTT-8 and continues in MTT-8/TPC work for many conferences, including IMS, EuMW, Asia-Pacific Microwave Conference, and others. He is currently Chair of the IMSEC and N&A committees, for the ADCOM.

**IEEE MGA and IEEE R1 Award
For Outstanding Support for the Mission of IEEE, MGA,
Region 1 and/or Section**

The William Terry Distinguished Service Award

Presented to

Kirit G. Dixit

“for a lifetime of sustained, dedicated and wide-ranging service to the IEEE at the Section, Council and Chapter levels”



Kirit Dixit, is the founder of Micro-com Sales LLC since 2004 and works as a manufacturer’s representative in Metro NY/NJ Area. He was with RFESCO for the past 15 years prior to forming his company. For the prior eight years, he was the area manager for California Eastern Labs, representing NEC RF and MW products. Prior to CEL, Kirit was a Product Marketing Manager for MSC, a semiconductor company in NJ.

Kirit has been very active in the IEEE North Jersey Section and has served as Section Chair in 2007-2008. He has been Co-Chair of APS/ MTTS chapter for the past 10 years from 2000 to 2009. Since 2000, he is Chair of North Jersey Symposium/Mini-show for APS/MTTS Chapter. From 2017 to 2019, he has served as Chair of Aerospace Electronic System Chapter, and 2010-2011, he was the chair of METSAC. In 2008 and 2011, he represented North Jersey section in IEEE Section Congress. In 2003, he participated in IMS held in Philadelphia as a member of TPC. Since 2008 to present, he is a member of Old Crow organization. Presently he is the founder and Chair of SSIT Chapter. In 2002, he has received IEEE Region 1 award for Leadership and Service Award and in 2008, IEEE MGA Recognition Certificate.

IEEE R1 Technological Innovation (Industry or Government) Award

Presented to

Prof. Dr. Ing. habil Ulrich L. Rohde

Chairman Synergy Microwave Corp., NJ, Partner Rohde & Schwarz, Germany

“for pioneering research and leadership in signal processing”



Prof. Dr. Ing. habil Ulrich L. Rohde, IEEE Life Fellow, is a Partner of Rohde & Schwarz, Munich Germany; Chairman of Synergy Microwave Corp., Paterson, New Jersey; President of Communications Consulting Corporation; serving as an honorary member of the Senate of the University of the Armed Forces Munich, Germany honorary member of the Senate of the Brandenburg University of Technology Cottbus–Senftenberg, Germany; and a past member of the Board of Directors of Ansoft Corporation, Pittsburgh, Pennsylvania. (Note: Dr. Ulrich L. Rohde ’s detailed bio is presented in earlier award page)

IEEE Region-1 Award

Presented to

Dr. Naresh Chand

US R&D Center of Huawei Technologies, New Jersey, Retd BAE Systems, NJ

“for leadership and sustained contribution to the IEEE North Jersey Section and its Chapters”



Dr. Naresh Chand is the Chair of Photonics Society and Robotics and Automation Society Chapters of IEEE North Jersey Section. He is also the Associate Vice-President, Chapter Relations, IEEE Photonics Society and Associate Editor of the Photonics Journal of the IEEE Photonics Society. During 2011-12, he served as Chair of the North Jersey Section. Since 2011 he works for the US R&D Center of Huawei Technologies on Ultra Broadband Optical Access Networks. Prior to this, he worked for BAE Systems (2003-11), Agere Systems (2001-2003), and AT&T/Lucent Bell Laboratories (1986-2000), and Dept of Electronics, Government of India (1974-79). He received his Ph.D. in Electrical Engineering from the University of Sheffield in 1983, and did his post-doctoral research at the University of Illinois, Urbana for 2 years. His research interests include optical communication systems and networks, broadband data networks, and a broad range of III-V semiconductors based high speed electronic and photonic devices and circuits. He has published over 150 research papers and has 10 patents.

IEEE Region 1 Award

Presented to

Prof. Edip Niver

Department of Electrical and Computer Engineering of NJIT, Newark, New Jersey

“for sustained contributions to the IEEE North Jersey Section and its Chapters”



Prof. Edip Niver received his B.Sc., M.Sc., and Ph.D. degrees from Middle East Technical University, Ankara, Turkey in 1970, 1973 and 1979, respectively, all in electrical engineering. He was a post-doctoral researcher at Polytechnic Institute of New York, Brooklyn between 1979-82 working on wave propagation problems.

He joined New Jersey Institute of Technology (NJIT) in 1982, where now, he is a Professor Emeritus in the Electrical and Computer Engineering Department.

His research interests are in antenna, microwave and light wave engineering, wave propagation in electromagnetic, acoustic and elastic media, involving analytical, numerical and experimental methods and their applications extended to transportation and biomedical fields.

He has about 100 publications in journals and conference proceedings. He holds seven U.S. issued patents. He was the recipient of the Robert W. van Houten Award for Excellence in Teaching at NJIT, September 25, 1991.

IEEE Region 1 Award

Presented to

Dr. Adriaan J. van Wijngaarden

Nokia Bell Labs, Murray Hill, New Jersey

“for sustained, dedicated and wide-ranging service to the IEEE at the MGA, Section, Council, Society and Chapter levels”



Dr. Adriaan J. (de Lind) van Wijngaarden is with Nokia Bell Labs, in Murray Hills, NJ. He received an engineering degree in electrical engineering from Eindhoven University of Technology, The Netherlands, and a doctorate in engineering from the University of Essen, Germany. From 1992-1998, he was a Research Engineer with the Digital Communications Group at the Institute for Experimental Mathematics, University of Essen, Germany.

He joined Bell Labs in 1998, where he has been deeply engaged in both theoretical and application-driven research in communications, information theory and coding. He provided key contributions to recording systems, high-speed optical systems and broadband access. He has authored more than 78 technical papers, and holds over 70 patents, and has more than 10 patents pending.

Dr. De Lind van Wijngaarden is a Senior Member of the IEEE, a Senior Member of the OSA, and a member of the ACM. He has served as a Publication Editor of the IEEE Transactions on Information Theory from 2005 until 2008, and as an Associate Editor (Communications) of the same journal from 2008 until 2011.

He has co-organized Shannon Day at Bell Labs in 1998 and several workshops, and served on the technical program committee of several international conferences. Since 2011, he has been a member of the Executive Committee of the IEEE North Jersey Section, and served as its Chair in 2015-2016. Since 2013, he has been a member of the IEEE Metropolitan Sections Activities Council, and currently serves as its Chair.

He has been a member of the IEEE Region 1 Board of Governors since 2014. Since 2014, he has also served as a member of the IEEE MGA ITCO and vTools Committees and currently he is the IEEE MGA vTools committee chair.

He is a co-recipient of the 2011 Bell' President Award and three Bell Labs Teamwork Awards, an Info-vision Award (2011), an IEEE Region-1 Award for outstanding Leadership (2012), a COSMOS best paper Award (2014) and a Green Touch 1000X Award (2014).

Enhancement of the IEEE or Engineering Profession's Image with the Public Award

Presented to

Dr. Anisha M. Apte

Senior Design Engineer, Synergy Microwave Corp., NJ

“for outstanding leadership in publicizing and organizing IEEE North Jersey Section activities”



Dr.-Ing. Anisha M Apte (IEEE Senior Member), graduated in Instrumentation and Control Engineering from The Savitribai Phule University of Pune, College of Engineering Pravaranagar, India; MSEE (Master of Electrical Engineering) from NJIT (New Jersey Institute of Technology) NJ, USA; and Doctorate (Dr.-Ing.) from BTU (Brandenburg Technical University) Cottbus, Germany. Previously, she worked at Hindustan Instruments, Pune in 1993 and then as a Production

and Testing Engineer at Ultra-line Instruments, Pune from 1994-1997. She then joined Discovery Semiconductors, New Jersey, USA in 2001. She joined the Synergy Microwave team in 2003, and after pursuing her Master's degree, returned to Synergy in 2011. For the last 10 years, she has been working on signal generation and signal processing electronics, reference frequency standards, and Metamaterial Resonators for signal source applications.

Dr. Apte has published over dozen papers in IEEE conferences and journals, received several awards for her scientific contributions in the field of frequency sources for industrial, medical and space applications. Dr. Apte is a dedicated IEEE volunteer, currently serving as the Editor of the IEEE North Jersey Section Newsletter, Editor of the IEEE AP-S Magazine COPE Column, Vice-Chair-2 of the IEEE AP-S COPE Committee, Co-Chair of IEEE North Jersey Section SIGHT Group, Vice Chair of the IEEE North Jersey Section MTT/AP Chapter, IEEE R1-R6 AP-S Chapter Activity Committee coordinator, and Region 1 Coordinator IEEE MTT Young Professionals. She is an elected Ad-Com member for the term 2022-2024 of the IEEE AP-S. She is the recipient 2012 IEEE Region-1 - Support for IEEE Mission Award for Outstanding contributions to the IEEE North Jersey Section.

IEEE Region 1 Award

Presented to

Mr. Ronald W. Quade

Licensed Professional Engineer (P. E), New Jersey

“for outstanding contributions to the IEEE North Jersey Section and its Power and Energy Society Chapter”



Ron has worked in the electric power industry for 30 years. Beginning with a consulting firm right from college, he progressed through experiences with electric utilities, manufacturers, and representative firms. He is currently working as an independent sales representative bringing value added solutions to utility customers.

Ron holds Bachelor and Master’s Degrees in Power Engineering and is a licensed Professional Engineer (P.E.). He has chaired the IEEE Power & Energy Society for many years, and has received several awards of recognition during this time. Outside of his professional activities, Ron and his wife have two college aged children. Ron has been an active leader in the Boy Scouts, Vice Chair of the Boonton Township Planning Board, Coach and many other local activities. In 2017, he was honored by the NJ Senate and General Assembly with the YMCA Citizen of the Year Award.

50 Year, IEEE - Achievement Award

Presented to

Kenneth J. Oexle

“for Sustained leadership and accomplishments in advancing programs and activities at the section level”



Ken Oexle has served in numerous capacities over the past 45 years in the IEEE North Jersey Section, including: Section Chair; Power and Energy Chapter Chair; Industrial Applications Chair; Section Awards Chair; MTT/AP Symposium Event Coordinator; METSAC Officer.

He was IEEE ELECTRO Committee Representative; Section Life Member Activity Chair; IEEE Milestone Review Committee and various Section Officer positions. Ken continues to contribute to the Section activities. He is a recipient of IEEE R1 and North Jersey Section award; presented the IEEE Centennial and 3rd Millennium Medals.

He received undergraduate and graduate degrees in Engineering and completed Graduate Business Programs in New Jersey Pennsylvania and Idaho. He serves in a leadership capacity for several community organizations.

IEEE SOCIETIES - AWARDS

MTT-S (Microwave Theory and Techniques) Society

2019 Outstanding Chapter Awards

Presented to

IEEE North Jersey AP03/MTT17 Jt. Chapter

Chapter Officers: Prof. Edip Niver-Chair and Dr. Anisha Apte-Co Chair

“MTT-S Best Chapter Award: 1st Place to North Jersey Section AP/MTT Chapter”

The award committee selected IEEE North Jersey AP03/MTT17 Jt. Chapter as the Best Chapter-1st place in entire IEEE region. The chapter award consists of Chapter plaque and travel grant for attending the award banquet event at IMS (International Microwave Symposium) 2020, was scheduled to take place in Los Angeles, California from 21-26 June 2020. However, due to the Covid-19 pandemic, the event took place virtually from 4-6 August 2020.



Prof. Edip Niver received his B.Sc., M.Sc., and Ph.D. degrees from Middle East Technical University, Ankara, Turkey in 1970, 1973 and 1979, respectively, all in electrical engineering. He was a post-doctoral researcher at Polytechnic Institute of New York, Brooklyn between 1979-82 working on wave propagation problems. He joined New Jersey Institute of Technology (NJIT) in 1982, where now, he is a Professor Emeritus in the Electrical and Computer Engg.

Department. (**Prof. Niver bio is presented in earlier award page**)



Dr.-Ing. Anisha M Apte (IEEE SM), is currently serving as the Editor of the IEEE North Jersey Section Newsletter, Editor of the IEEE AP-S Magazine COPE Column, Vice-Chair-2 of the IEEE AP-S COPE Committee, Co-Chair of IEEE North Jersey Section SIGHT Group, Vice Chair of the IEEE North Jersey Section MTT/AP Chapter, IEEE R1-R6 AP-S Chapter Activity Committee coordinator, and Region 1 Coordinator IEEE MTT YP (**Dr. Apte's bio is presented in earlier award page**)

IEEE AP-S (Antenna Propagation Society)

2019 Outstanding Chapter Awards

Presented to

IEEE North Jersey AP03/MTT17 Jt. Chapter

Chapter Officers: Prof. Edip Niver-Chair and Dr. Anisha Apte-Co Chair



The photograph shows the recipient of “1st place IEEE AP-S Outstanding Chapter Award” in entire IEEE Region 1-10, presented to IEEE North Jersey AP03/MTT17 Jt. Chapter at IEEE AP-S International Flagship Symposium, Atlanta, GA, USA, July 10, 2019. IEEE North Jersey AP/MTT Jt. Chapter officers (Chair-Dr. Edip Niver and Co Chair- Dr. Anisha Apte) were not present at the award function held in Atlanta. The photo shows Dr. Charlotte Blair, IEEE AP-S Chapter Region Coordinator, is representing the North Jersey Section, receiving the plaque from Dr. Ajay K. Poddar (2019 AP-S AdCom member and Global Chair of AP-S Chapter Activity Committee), and IEEE AP-S leaderships. The photo shows from left, Dr. Koichi Ito (2019 IEEE AP-S President), Dr. Ajay K. Poddar (2021-22 IEEE North Jersey section Chair), Dr. Carlotte Blair (IEEE R1 BOG Committee Member, and Dr. Weng Cho Chew (2018 IEEE AP-S President).

IEEE ED-S (Electronic Device) Society

2020 Best Chapter Award

Presented to

IEEE North Jersey ED/CAS Jt. Chapter

Chapter Chair- Professor Durga Misra



Prof. Durga Misra has been a faculty member at the New Jersey Institute of Technology (NJIT). He is currently a Full Professor in Electrical and Computer Engineering Department. His research interests are in the areas of nano-electronic/optoelectronic devices and circuits especially high-k gate dielectrics for low power nano scale CMOS devices.

(Prof. Misra's bio is presented in earlier award page)

IEEE PES (Power & Energy) Society

PES Outstanding Engineer Award

Presented to

David J. Ellis

“for leadership in the Engineering Specification, Data Management and Application of Digital Metering Technology to improve Power System Grid Efficiency and Energy Management”



David graduated from the University of Michigan, he has worked since 2002 with electric metering process management at Public Service Electric and Gas. He is a consultant on retail metering and interconnection metering. Involved with equipment selection and qualification, evolution of work practices, training, and new construction review. Recent focus has included metering and connection of Distributed Energy Resources (connected to the grid under IEEE 1547). While inverter-based resources dominate this space, many types of resources are installed in New Jersey. Finding the path to implementation of FERC 2222 will include many

stakeholder voices. This order is expected to include mixtures of resource types for both demand response and export to the grid. Metering for settlement & compliance will include both state and PJM requirements. Previously worked for 20 years with an equipment supplier working in sales and application engineering of meters, instrument transformers, and other distribution products. A member of the EEI Meter committee since 2002, David previously served as chairman of the AEIC Meter and Service committee. He is a member of ANSI C12, and participates in IEEE 57.13 and UL 414. Activities outside the industry include cycling and volunteering with the Delaware & Lehigh National Heritage Corridor. David and his wife Lucretia live in Bethlehem, PA.

IEEE PES Outstanding Engineer Award

Presented to

John Szabados

“for leadership and contributions in the Engineering Design and Project Management of Electric Power Systems”



John Szabados, is currently serving as a Vice President and Project Director for Sargent and Lundy, one of the largest Private engineering companies in the country. Sargent and Lundy are currently ranked #4 in the United States in Engineering and Design for Electric Power projects. As Vice President he was in charge of key Northeastern accounts and resources up to 50 people. He is happily married to his wife Christina for the past 17 years and have two daughters, Jackie (15) and Ella (14) and live in Summit, NJ. He has been fortunate enough to love my job and make a living in the engineering profession and remain active in the IEEE community. He is a Pennsylvania State University graduate with a BS in Electrical Engineering focused in Power Systems. John has taken MBA courses at RPI, had a PE in 11 states. He was on the Nuclear IEEE (SC-4) committee during the 90's and early 2000's, Co-Author on an IEEE white paper relevant to today's grid (Application of STATCOM to Enable Integration of Solar PV Generation in the Distribution Network"). He is currently serving on the Rutgers Design Thinking Advisory Board. I am on the Summit Utility Infrastructure Committee.

He started his career as an intern at Ebasco in my Sophomore year performing relay coordination studies at Army bases. After college he has started in the Nuclear Industry at the New York Power Authority as an Electrical/I&C Engineer from 1992 to 1997 performing Electrical and I&C modifications. In 1997, he has started his own company and performed various Engineering/Management consulting services at Indian Point 2, Fitzpatrick, Millstone Unit 1, Millstone Unit 2, Millstone Unit 3 and Clinton Power Station until 2001. In 2001, he joined BGA, LLC as a managing partner that performed professional engineering services in the Transmission, Substation, Generation, Renewable and MEP field from small projects to billion-dollar programs with a primary focus in the NY/NJ area.

He was Chief Electrical and VP from 2001 to 2012 and sold the company with my partners to a larger public engineering company, RCMT, in 2012. At RCMT, he was General Manager/VP of Engineering for a company of 2000 people, 500 in engineering that performed Engineering services around North America. He ran his own office in NJ of up to 75 multidiscipline engineers/designers and performed marketing, BD, Executive Leadership, company direction for up to 300 employees. He was part of the Executive Leadership Team that mapped out the future direction of the overall Engineering organization. He has enjoyed my time running an Engineering office where he performed a variety of T&D, Generation and Renewable project.

IEEE PES Outstanding Engineer Award

Presented to

Herman R. Zablatzky

“for leadership and contributions in the Engineering Design, Construction, Operations, and Maintenance of Large-Scale Wastewater Treatment Systems”



Herman is a member of the IEEE starting with his student membership circa 1987.

Herman has a long-term and strong technical background in industrial plant engineering with an extensive breadth and depth in the planning, designing, operation, and maintenance of water and wastewater treatment facilities. These facilities include electrical power generation and distribution microgrids ranging up to 34.5kv with apparatus including a 20MW biogas fueled combined cycle cogeneration power plant and four (4) Solar PV facilities up to 5MW.

Herman enjoys a hands-on approach in his work activities. Since 2008, Herman is a Senior Project Engineer with the Middlesex County Utilities Authority.

Herman's previous employment includes: -18-years Chief of Electrical Design engineer for a NJ consulting engineering firm. -4-years as acting chief electrical engineer for NYC Department of Environmental Protection (DEP) and 0-years as part time industrial controls service technician. Herman holds a bachelor's degree in Electrical Engineering (1981) and a master's degree in Environmental Engineering both from Manhattan College.

He is a licensed P.E. (Professional Engineer) in seven (7) states including NY, NJ, PA, CT, DE, MD, and FL and a Professional Planner in the state of NJ; NJDEP C4 collection system and S4 wastewater treatment operator and an NJDCA Electrical Inspector, Electrical Subcode Official and Construction Official.

IEEE Outstanding Volunteer Award

Presented to

Gregory Olson

“for contributions and leadership in advancing the continuing education of engineers”



Gregory Olson, is currently an independent consultant to the electric power industry and end user community focusing on electric power quality and related matters impacting electric utility providers and their residential, commercial and industrial customers. Expertise includes power quality (PQ), electric and magnetic fields (EMF), radio/television/CATV interference (RFI/TVI/CATVI), interconnection and performance of solar photovoltaic (PV) and distributed energy resources (DER), and stray and contact voltage (SV & CV) issues. He was previously employed as a Distribution Business Team Leader – Power Quality in the Asset Reliability; Technical Services group at Public Service Electric & Gas Company (PSE&G) in Newark, NJ. Greg was responsible for overall strategy issues involving power quality initiatives and activities affecting PSE&G's electric customers and electric transmission and distribution system facilities. Included in Greg's responsibilities was the development of products, services, programs and standards which helped PSE&G in meeting the power quality requirements of customers and regulatory agencies within the New Jersey market.

He worked in support of managing and directing PSE&G's power quality strategy efforts as well as in his current consultancy role, Greg serves as an industry advisor to a variety of associations and organizations which are chartered to the advancement of power quality in the areas of guidelines, recommended practices, standards, and technologies. Included in these are his current participation with various IEEE committees and serving on the Executive Board and as Board Secretary for the Delaware Valley Power Quality Group (DVPQG). Past participation has included service as an EPRI Power Quality Business Line Council Member and advisor to various EPRI Power Quality related Targets and projects and as a Technical Committee Member and Session Chair at EPRI's PQA Conferences.

Greg's prior responsibilities included the management of PSE&G's Power Quality Services Group that provided comprehensive power quality related educational and technical assistance to PSE&G's electric customers and other end-users of electric power. Greg was instrumental in the creation of this tactical power quality support group in 1993 and has continued to champion the power quality crusade both within PSE&G and throughout the industry. Throughout his 39 years at PSE&G, Greg held a variety of engineering and management positions ranging from Associate Engineer

through Principal Engineer within the operating and engineering departments of PSE&G's Electric Transmission and Distribution organization.

Greg is a member of the Power Engineering and Industrial Applications Societies of the Institute of Electrical and Electronic Engineers (IEEE), the National Society of Professional Engineers, the New Jersey Society of Professional Engineers, the Georgia Society of Professional Engineers, the Professional Engineering Society of Mercer County, the Delaware Valley Power Quality Group, Association of Energy Engineers and the National Fire Protection Association. Greg graduated in 1981 from the University of Delaware with a Bachelor of Science degree in Electrical Engineering. He is also a Registered Professional Engineer in the State of NJ and the State of Georgia and an AEE (Association of Energy Engineers) Certified Power Quality (CPQ) Professional.

IEEE – North Jersey Section Award

Presented to

Prof. Kalyan Mondal

“for a decade of continuous, dedicated and wide-ranging service to the IEEE at ExCom, YP, and Students Engagement/Activities”



Dr. Kalyan Mondal, (S 1976, LS 2017) received his B.Sc. degree in Physics, B. Tech degree in Radio Physics & Electronics and MTech degree specializing in Systems and Computers from the University of Kolkata. He was awarded the PhD degree in 1978 by the University of California, Santa Barbara researching in the field of digital filter structures. He is a tenured Professor of Electrical Engineering in the Gildart Haase School of Computer Sciences and Engineering (GHSCSE), Fairleigh Dickinson University, Teaneck, NJ. He teaches courses on linear systems, digital signal processing, VLSI design, microcontroller-based system design, and power systems among others. His research interests are in digital filtering, embedded system design, and VLSI systems. As the Coordinator of Information Technology programs, he is involved with curriculum enhancement, student advisement, Computing Accreditation Commission of ABET accreditations in NJ, Degree Quality Audit Board (DQAB) accreditations in Vancouver, BC,

faculty searches and program coordination between Metropolitan and Vancouver campuses. He is the Director of the FDU Center for Cybersecurity & Information Assurance. His efforts led to getting FDU designated as a Center of Academic Excellence in Cyber Defense Education by the NSA & DHS for BS degree programs in Computer Science, and information Technology offered at the two NJ campuses since 2013. Under his leadership, FDU students have been winning the very prestigious, selective, and lucrative DoD CySP Scholarships. He has 24 years of industrial experience in the telecommunications and semiconductor industries at AT&T Bell Laboratories, Lucent Technologies, and Agere Systems, received several awards and has 9 U.S. patents granted. He was a member of the design teams of the industry-first 32-b floating-point programmable digital signal processor, MPEG2 Decoder ASIC, HDTV Demodulator ASIC, and a Sonet, Mux/Demux chip among others. Prior to joining the industry, he was a tenure-track Assistant Professor at Lehigh University, Bethlehem, PA between 1980-82 where PPL awarded a \$50 k grant for residential load controller and smart meter research.

Dr. Mondal has been a Life Senior member of the IEEE since 2017. He served as an elected member of the IEEE Circuits and Systems Society Board of Governors in 1989-92 and was the founding chair of the IEEE Circuits and Systems Society Chapter of the Lehigh Valley Section during 1987-88. Between 2012 – 2014 he was the Treasurer of the IEEE North Jersey Section when he adopted the NetSuite system for financial transactions of the Section. He was the Local Arrangements Chair of the IEEE METSAC Career Advancement Workshop held at FDU in May 2013. He received the IEEE Region 1 Outstanding Support for the Mission of the IEEE award in 2015. He is facilitating training course development and offerings as the Education Committee Co-chair of the IEEE North Jersey Section since 2012.

He was the Chair of the IEEE North Jersey Section between 2017-18 and attended IEEE Sections Congress 2017 representing the IEEE North Section, he developed policies and procedure for funding project proposals submitted to the Section. To facilitate project funding decisions, he convened a Program Review Committee which is an active standing committee of the Section. As the past Chair of the IEEE North Jersey Section since 2019, he is helping IEEE Student Branches in the Section to remain active through membership drives and regular activities. He is a member and currently Chair of the Section Audit Committee which has successfully concluded financial audits of Section spending and budget in a timely manner.

IEEE North Jersey Section Award

Presented to

Russell Pepe

“for a decade of continuous, dedicated and wide-ranging service to the IEEE at ExCom, YP, and Students Engagement/Activities”



Russell C. Pepe, RCDD is the Vice President and Sales Engineer with Advanced Technical Marketing (ATM), representing many tests equipment and component companies in the northeastern USA. Russell holds a BSEE and MSEE from NJIT. Russell is also an Adjunct Professor at NJIT in the ECE and ECET Departments.

He is a Registered Communications Distribution Designer (RCDD). He published several technical papers in technical magazines and conferences, related to Fiber Optics, RF, Microwave and EMC. Russell served as Chair of the IEEE North Jersey Section in 2013-2014, and he currently Chair several Technical Societies chapters, Affinity Groups and Committees.

IEEE Recognition Award

Presented to

Stephen Wilkowski

“for the successful launch of IEEE Discovery Point for Communications”



Stephen Wilkowski has practiced Electrical Engineering for over four decades. He started his career with Bell Laboratories in Whippany, NJ and he eventually retired with thirty-five years of service from Nokia in Murray Hill, NJ as Distinguished Member of Technical Staff (DMTS).

Along the way he worked in many different roles, including exploratory circuit design, systems engineering, education and training, field trials, methods and procedures, customer

support and system test. Since his retirement he has worked for Verizon Wireless in Warren, NJ, IEEE in Piscataway, NJ, and he currently works as a System Test Engineer for CACI (LGS Labs) in Florham Park, NJ.

He has earned degrees in Electrical Engineering from The Cooper Union, California Institute of Technology (Caltech) and Columbia University. He is a Senior Member of IEEE and a Member of IEEE-HKN (Eta Kappa Nu), Tau Beta Pi and Association of Old Crows.

IEEE Foundation Award

Presented to

Harry T. Roman

“for 2020 Tommy Award for local Humanitarian”



Harry Roman did his BS in Electrical Engineering in 1970 and MS in Environmental Engineering in 1974, both from Newark College of Engineering (NJIT). He retired early from PSE&G in 2006 after 36 years in R&D, earning many accolades for his pioneering work in solar energy, robotics, energy storage, fuel cells, artificial intelligence, microsensors, and the smart utility of the future.

He has 12 U.S. patents. He wrote approximately 50 refereed papers, and over 150 articles in engineering trade and conference publications. During his tenure at PSE&G, Harry was involved in the direction of approximately \$100 million in research funding and projects at the local and national levels.

Harry was instrumental in establishing the NJ Inventors Hall of Fame, also serving as its chairman for 6 years. In 2005, Harry's inventive work earned him recognition as a NJ Inventor of the Year for the Development of Robots for Hazardous Environments Application.

In his post PSE&G activities, he has written over 100 short books and educational guides for the classroom teacher--all with a powerful STEM theme; also, several hundred professional and journal papers, including a variety of science publications for the venerable Highlights for Children magazine. He also created 18 commercial educational math card games ranging from basic math to trigonometry. He has often visited local schools to teach middle school grades about engineering, creativity,

invention, entrepreneurship, and the value of a STEM education. Between 2013 and 2016, Harry co-taught several 500-level graduate courses at Montclair State University's School of Education, bringing new STEM techniques to enrolled math and science teachers. As far back as 1986, he was involved in the start of the Technology Education curriculum in NJ and national schools, and continues to publish extensively in this area [technology education is the forerunner of modern STEM courses]. Tens of thousands of teachers nationwide read his bi-monthly feature in Technology and Engineering Teacher Magazine, the seminal publication for technology education/STEM today.

His work with his alma mater at NJIT has been extensive, serving on many schools governing and industrial boards, and lecturing to engineering students on campus. He mentored 33 NJIT/NCE engineering student project teams who worked with him in his daily R&D activities and projects. He was a participant in the recent implementation of the school's new campus-wide maker space.

In 1995, he received the school's Alumni Service Award. He was involved in the original publication of NJIT's collegiate magazine. From 1985-1993, he taught a 600-level graduate course at NJIT--Principles of R&D Project Management. From 1990-1997, Harry served as president of the East Orange Board of Water Commissioners, where he provided leadership for his hometown's 70-member water utility, serving 77,000 citizens. **Harry's noteworthy IEEE honors include:**

2015 Region 1 Teaching Excellence Award for Outstanding Contributions to Technological Innovation and Education

2006 Outstanding Engineer Award for Leadership in the R&D of Technologies to Improve the Operation and Performance of Electric Power Systems

1996 Meritorious Achievement Award in Continuing Education for the Development of Products for IEEE Members. He writes a column in every issue of the North Jersey Section monthly newsletter.

He has published IEEE USA **e-books [36 published to-date]** on management/leadership; and engineering/STEM applications in the classroom.

He has Served on the IEEE Educational Activities Board [1980's/90's] in charge of developing products to address the continuing education needs of IEEE members.

2021 IEEE Electron Devices Society Undergraduate Student Scholarship Award

Presented to

Andressa Marangon
Undergraduate Student, NJIT, Newark, New Jersey

“to promote, recognize, and support Undergraduate level study and hands on experience within the Electron Devices Society’s field of interest”



Andressa Marangon is a third-year undergraduate student at NJIT, Newark, New Jersey, she has demonstrated extreme determination in collaborating with others yet being fiercely autonomous. She immigrated from Brazil and currently resides in Elizabeth NJ. She is fluently trilingual in English, Spanish, and Portuguese. She graduated from Hudson County Community College with a 3.7 GPA in Engineering Science. She is currently enrolled at Newark Institute of Technology pursuing Electrical and Computer Engineering Technology degree with a cumulative GPA of 3.87. She was a member of the STEM club and the Phi Theta Kappa while volunteering on weekends. She has always been independent and supported herself while focusing on her studies. She demonstrated excellent salesmanship, handled extreme pressure gracefully, and has inventory management skills. She demonstrated excellent interpersonal and communications skills while providing leadership and guidance in the workforce. Having no one to rely on except herself made her disciplined, organized, trustworthy, diligent, and predominantly persistent. Her outstanding academic achievements allowed her to become a member of the Honor Society and Golden Key honor achievement. She joined the Engineers Without Borders Club, the Entrepreneur Society, and the Institute of Electrical and Electronics Engineers (IEEE). All the adversities and experiences she encountered enhanced her purpose in becoming a researcher. She has been conducting research under the Louis Stokes Alliances for Minority Participation (LSAMP) with the funding of the National Science Foundation (NSF) for the last two consecutive years. She mainly focused on the effect of plasma treatment on the antibacterial properties of a copper composite and on the development of a thermochromic ring with the guidance of Professor Clive Li (PhD). She was recently admitted into the Ronald E. McNair

Post-Baccalaureate Achievement Program and she is currently doing research in Engineering the Carrier Dynamics of III-Nitride Ultraviolet Nanowire Light-Emitting Diodes, under the tutelage of professor Hieu Pham Trung Nguyen (PhD). After closely working with the PhD students in her field, she is more committed than ever to further her studies. After Graduating from NJIT, she plans to go to graduate school and pursue a PhD in Electrical Engineering while specializing and focusing on nanotechnology.

2022 NJRSF IEEE North Jersey Section Young Engineer Award

Presented to

Nathanael Gunawan

“for Novel Magnetic levitation train using a triple-dipole-line track system”

Samhita Pokkunuri

“for Real-Time 3D Human Tracking and Pose Construction for Using Millimeter-Wave Radar System”

Yuxuan (Daniel) Tian

“for Design of oxygen-carrying autonomous following vehicle for pulmonary rehabilitation”

2022 Hudson STEM Showcase Award

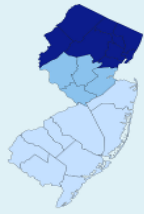
Presented to

Arnav Ambre

“for Measuring Blood Alcohol Concentration with Near-Infrared Spectroscopy”

Thanhloan Tran

“for Using the Seebeck Effect and body heat to harvest electricity in coats”



IEEE

North Jersey Section

A Brief History

The IEEE anniversary date for the North Jersey Section is May 1954. This does not tell the whole story. When the IRE and AIEE merged in 1963, the anniversary date was determined by whichever society had the oldest established Section. Since North Jersey never had an AIEE Section, their anniversary date was their Section entry into IRE, which was 1954. Again, this is not all the story. Although North Jersey never had an AIEE Section, they were very active since its formation and were a New York Subsection by 1948. The New York Section, District 3, covered our current IEEE.

Region 1, Area B without Connecticut, but including Mid-Hudson. Many executives to the IRE New York Section including four Section Chairs, and three Section Secretaries hailed from North Jersey over the decade, before they formed their own Section. They were also by far the largest Geographic District, among all countries including outside of North America. North Jersey also had an AIEE student Branch at Newark College of Engineering, which was formed in 1927. North Jersey was very active not only in the NY Section activities prior to becoming a Section but was also very active in IRE Professional Groups. As an example, in 1955, the Chairs for the following IRE Professional Groups: Audio; Information Theory; Instrumentation; Telemetry and Remote Control; and Ultrasonic came from North Jersey.

North Jersey joined New York as a Subsection in 1947. North Jersey members were active at the Institute and District levels: three members served two terms as Vice-President of AIEE; three members served as District 3 Secretary; and four members served as Chairs of the District 3 Student Activities Committee. Their activities in the New York Section included eight members who served as Chair of the New York Section; and the ninth member as the New York Section Secretary.

North Jersey has continued to have an active involvement in IEEE Region-1 Committee/Board of Governors activities. The North Jersey Section has held many Regions-1 Board of Governors meeting since 1978. The first one was held in Newark in 1978. Since 2000, North Jersey Section continued to be very active and its VOLUNTEERS received on an average of more than 4 Region 1 awards, every year

for their Leadership and the Bill Terry award for technical excellence and they have the enviable record of winning the prestigious Alex Gruenwald Pace Award for five consecutive years starting in 1991. Many Section volunteers have been very active in the leadership positions of their respective societies.

At present in 2022 we have 22 society chapters, representing single or Joint societies chapters. We have been hosting an MTT/AP chapter's one day mini-show, symposium, for more than 34 years, very successfully managed by section volunteers and creating revenue for the section. Our IAS/PES Chapters, Communication Society Chapter and Education committee volunteers are holding Seminars and workshops year after year to educate IEEE members, and non-members, who are always welcome in these activities and technical meetings.

IEEE NORTH JERSEY SECTION – 2022 Volunteers

IEEE Society Chapter	Society	Chair
1. Aerospace & Elec. Syst.	AES10	Cherif Chibane
2. Antenna Prop. /Microwave Theory & Tech	AP03/MTT17	Anisha Apte/Edip Niver
3. Circuits and Syst./Elec. Devices	CAS04/ED15	Durga Misra
4. Communications	COM19	Amit J. Patel
5. Computer	C16	Hong Zhao
6. Computational Intelligence Society	CIS	Prasenjit Ranical
7. Control Systems	CS23	David Haessig
8. Electro-Magn. Compatibility/Prod. Safety Eng.	EMC27/PSE43	Russell Pepe
9. Eng. in Medicine & Biology	EMB18	Har Dayal
10. Industrial Applications	IA34 (w. P/CJ)	Kenneth Oexle
11. Information Theory	IT12 (w. NY)	Adriaan Wijngaarden
12. Instrument. & Measurements	IM09	Russell Pepe
13. Magnetic/UFFC/Sensor Council	Mag/UFCS/Sen	Philip Pong
14. Nanotechnology Council	NANO42	E-Hyeok Yang/ D. Datta
15. Photonics	PHO36	Naresh Chand
16. Power and Energy	PE31	Ron Quade/M. Miller
17. Robotics and Automation	RA24	S. Chakrabarty/Naresh
18. Signal Processing	SP01	Alfredo Tan
19. Society on Social Implications of Tech	SSIT30	Kirit Dixit
20. Systems, Man, and Cybernetics	SMC28	Mengchu Zhou

21. Tech. & Eng. Management	TEMS14	Kirit Dixit
22 Vehicular Technology	VT06	Ionel Bajescu

IEEE North Jersey Section Committees- Chairs

Audit Committee	Kalyan, Ajay, Emad, Howard, Mani, Adriaan
Awards Committee	Ken Oexle, Adriaan van Wijngaarden
Pre-University Committee	Chitra Venkatraman
Educational Activities	Kalyan Mondal/Don Hsu/Amit Patel
Employment Network	Chitra Venkatraman/Naresh Chand
Govt. and Industrial Liaison	Russell Pepe
Group Coordination/History Committee	Howard Leach
Legal	Safet Metjahic
Membership Development	Michael Newell/ Ajay Poddar
Newsletter	Anisha Apte
Nominations & Appointments	Kalyan Mondal, Durga Misra, Yu-Dong Yao
Program Review Committee	Hong Zhao, Amit Patel, Durga Misra, Emad Farag
Student Activities Committee	Hong Zhao, Sergio Agreda, Trusha Kared, K. Patel
Student Rep. Committee	Kalyan Mondal, Trusha Kared, Krishna Patel
Webmaster	Adriaan Wijngaarden, Hong Zhao, Avimanyou Vatsa
PACE	Richard Tax/Russell Pepe
Program/ History	Howard Leach

Affinity Groups Chairs

Consultants Network	Steven Garfinkel
LIFE Members Affinity Group (LM-AG)	Michael Miller
Women In Engineering (WIE)	Chitra Venkatraman/Reena Dahle
Young Professionals (YP)	Ajay Poddar/Adriaan Wijngaarden
Symposium/Seminars: AP/MTT Mini-Show	Kirit Dixit/ Har Dayal
Communication	Amit Patel
IES/PES	Ken Oexle / Ron Quade
METSAC (Chair)/Rep (6 Sections Council)	A. van Wijngaarden/Yu-Dong Yao

IEEE NORTH JERSEY SECTION-Major Event Photos (2020-2022)



Fig. 1: Shows the photograph of Prof. Tapan Sarkar (2020 IEEE Vice President for Publications Services and Products, IEEE Director and IEEE Board of Directors member) receiving the plaque from Prof. Moshe Kam, 2011 IEEE President, venue New Jersey Institute of Technology (NJIT), **Jan 30, 2020**. From the left Dr. Anisha Apte, Vice Chair AP/MTT North Jersey Chapter, Prof. Durga Misra, Chair IEEE ED/CAS, Dr. Katherine Duncan, 2021 IEEE USA President, Prof. Moshe Kam, 2011 IEEE President, Prof. Tapan Sarkar (2020 IEEE Vice President for Publications Services and Products, IEEE Director and IEEE Board of Directors member), Dr. Ajay K. Poddar, Global Chair AP-S CAC & Chair AP/MTT North Jersey Chapter, Prof. Edip Niver, Co-Chair AP/MTT North Jersey Chapter, Mr. Har Dayal, Chair EMB North Jersey Chapter, Dr. Richard Snyder, 2011 MTT-S President, Dr. Simone Bastioli, 2020 MTT-S DL, Prof. Gerald Whitman at NJIT, venue New Jersey Institute of Technology (NJIT), Newark. This talk was last lecture of Dr. Tapan. Sarkar, he passed away on March 12, 2021. **(On behalf of the section, Section chair extend deepest condolences to the family members loved ones of Prof. Tapan K. Sarkar).**



Fig. 2: Photo taken during dinner with speaker (Dr. Tapan Sarkar), NJ Section ExCom members and attendees, **Jan 30, 2020**.



Fig. 3: Inter-Section (North Jersey and Mumbai Section) Event, Sangamner, Maharashtra, Oct 02, 2020. The photo shows the virtual conference session, in the left top corner, Dr. Poddar, Chief Scientist, Synergy Microwave, New Jersey USA is delivering invited talk on Zoom platform, on topic "Education for Rural & Underprivileged Students", highlighting the IEEE mission – Advancing the technology for humanity. The dignitaries seated from left: Mr. Viresh Nawale, Dr. Sudhirji Tambe, Mr. Bhausaheb Chaskar, and Mr. Sandip Wakchaure.



Fig. 4. IEEE North Jersey SIGHT and IEEE AP-S COPE Project, Aug 03, 2021: NJ Section jointly collaborate with WWDA, non-profit suppliers of donated school materials for the Woreilu region of South Wollo in Ethiopia. This is to improve the inadequate resources (libraries, science labs, computers, and internet connections) and high drop-out rates especially high in girls. The photo show in the top left, panel speakers (from left **Prof. Yahia Antar**, AP-S President, **Dr. Ajay Poddar**, Chair North Jersey Section, **Prof. Jawad Siddiqui**, IEEE AP-S SIGHT, **Prof. M. Essaaidi**, IEEE HAC, **Prof. Weng Chew**, Past President, IEEE AP-S, **Dr. Anisha Apte**, Vice-Chair North Jersey AP/MTT Joint Chapter, **Dr. Alebel Arage**, IEEE ISV (IEEE Smart Village), discussion on inter-section and inter-regions collaborations initiatives for Leveraging Technology for Better Tomorrow.

North Jersey Section SIGHT/COPE Projects Aug 25, 2021

Dr. Ajay Poddar, Chair North Jersey MTT/AP Chapter gave presentation at IEEE Power Africa on Aug 25
IEEE PowerAfrica Conference 2021

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Aug 23-27, 2021

MTT-S SIGHT

IEEE HUMANITARIAN ACTIVITIES COMMITTEE

Panel

Topic: Best Practices to Design and Deliver High-Impact IEEE HAC/SIGHT Sustainable Development Projects

Description:
In this workshop, participants will learn about the best practices and strategies to design and deliver successful IEEE Humanitarian Activities Committee (HAC) projects. Specifically, we will deep dive on elements of successfully funded projects, resources available to formulate an effective proposal, and various aspects of program management to drive HAC projects from design to launch. We will share lessons learned from recently completed HAC projects. Further, we will explore how best in class technologies can be leveraged to solve pressing global humanitarian challenges.

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#PAC2021

Fig. 5. Inter-Section and Inter-Regions Collaboration on Humanitarian Project Activities, Aug 25, 2021: Dr. Ajay Poddar, Chair North Jersey MTT/AP Chapter gave presentation at IEEE Power Africa Symposium, the panel session was well attended with the successful outcome: STEM initiatives in the underserved regions.

Project-1: Govt. UP School Ponnudi

Project-2: GTLPS Thalathoothakavu

North Jersey Section SIGHT and IEEE AP-S SIGHT

CURRENT PROPOSALS (AP-S COPE)

Equip, Establish and Engage Underprivileged Kids through Smart Class Room

Project-1: Govt. UP School Ponnudi, Kerala, India
Project-2: GTLPS Thalathoothakavu, Kerala, India

Fig. 6. Inter-Section and Inter-Regions Collaboration on Humanitarian Project Activities, Sept 04, 2021: North Jersey section and Kerala section joint collaboration humanitarian project, IEEE Kerala Section uses the approved funds from IEEE AP-S COPE and SIGHT budget for the benefit of students of Government UP hill-based tribal School, coming from a marginalized community (tea plantation workers between grades 1 and 7) situated in Ponnudi, Kerala, India. The funds will be primarily used to a) establish and install a smart classroom in the school. b) provide the young students some necessary learning materials, c) provide the kids with textbooks, notebooks, and water bottles, d) provide basic e-literacy to the Parents. Dr. Ajay Poddar, Chair North Jersey Section and Global Chair of IEEE AP-S CAC addressed the benefit of Humanitarian Project Activities for engaging school children in STEM programs.



Fig. 7: Members of the IEEE North Jersey Section at the Outdoor Event: The North Jersey Section and its Membership Development, Students, YP, WiE and all Chapters gathered together at the Lewis Morris Park, in Morristown, New Jersey, on Sunday, **September 26th 2021**. Members enjoyed the outdoors and volunteered to organize food and other arrangements, about 80 members attended the event.



Fig.8: Members of the IEEE North Jersey Section at the Outdoor Event: IEEE North Jersey Section Members, Students, and Guests-Interactions and Discussions about membership engagements and STEM Projects activities in local schools, **Sept 26, 2021**



Fig. 9: North Jersey Section at the Outdoor Event Sept 26, 2021. David (wearing blue cap) and his wife, Robin sitting next to him, were very actively participating and interacting with all the participants and sharing his experience and benefits of IEEE with students and other members during the picnic event. On a sad note, David Soll, who has been a long-time friend, past Princeton Central section chair, and a proactive Princeton Central Jersey IEEE Volunteer, passed away a few weeks after we had the wonderful opportunity to meet him and his wife Robin, at our North Jersey Section Picnic event on Sept 26, He will be missed greatly. **(On behalf of the section, Section chair extend deepest condolences to his wife Robin and all his loved ones).**



Fig. 10: The 35th AP/MTT Joint Chapter Annual Symposium and Mini-Show, Hanover Manor, NJ, Oct 07. From Left: George Kannell, TPC Chair North Jersey MTT/AP Mini symposium, Dr. Jawad Siddiqui, Chair AP-S SIGHT, Dr. Anisha Apte, Vice Chair North Jersey MTT/AP Chapter, Dr. Rashaunda Henderson, President IEEE MTT-S, Yahia Antar, President IEEE AP-S, Har Dayal, Chair North Jersey EMB Chapter, .Kirit Dixit, Chair North Jersey MTT/AP Mini Symp, Ken Oexle, North Jersey ExCom Member, Dr. Naresh Chand, North Jersey ExCom Member Dr. Ajay Poddar, Chair North Jersey section, Prof. Ulrich Rohde, IEEE AP-S SIGHT, Dr. Richard Snyder, past IEEE MTT-S President, Prasenjit Bhadra, Chair North Jersey Nano council Chapter.

North Jersey MTT/AP Symposium, Oct 07, 2021



Oct 07, 2021	Integration and Packaging Strategies for Millimeter-Wave CMOS		
	Dr. Rashaunda Henderson	2022 MTT-S President/Elect Associate Professor	University of Texas

Millimeter-wave CMOS circuits are being developed for consumer products operating up to 100 GHz and beyond. Applications range from 77 GHz automotive radar to spectrometers for gas analysis operating from 200 to 300 GHz. High data rate communication systems for wireless and wireline applications take advantage of the wide bandwidth available at millimeter-wave frequencies. While the design of active components and sub-circuits has been explored by many, there is still a need to provide integration and packaging strategies that remain low in cost and high in performance. This presentation will cover results related to the integration of CMOS circuits from 150 GHz to 325 GHz using post-CMOS and printed circuit board techniques. A 200GHz to 300 GHz spectrometer design will be presented with interconnect and antenna studies using a post-CMOS process to deposit low loss polymers. In addition results on passive components and antennas designed for a 120 Gbps wireline system will be presented. In this work, on-chip antennas are used to excite a broadband rectangular waveguide. The electromagnetic simulation studies along with measured results will be presented for these two application areas.



Fig. 11: The 35th AP/MTT Joint Chapter Annual Symposium and Mini-Show -Exhibition and Banquet Hall, Hanover Manor, NJ, Oct 07, 2021. The photo in left top shows the in-person talk given by 2022 MTT-S president, Dr. Rashaunda. The photo in left bottom shows the photo of 2022 MTT-S President Dr. Rashaunda Henderson, receiving plaque from North Jersey MTT/AP Chapter. The photo in right bottom shows the attendees participating in-person.

North Jersey MTT/AP Symposium, Oct 07, 2021



Oct 07, 2021	Public Roles for Technical Experts: Will my Innovation have Unintended Consequences?		
	Dr. Clinton Andrews	President, IEEE SSIT	Professor, Rutgers University

Engineers and scientists make technological changes that impact the real world. They also receive the blowback when things do not go as planned, and things pretty much never go as planned. This presentation provides a roadmap for anticipating consequences, using historical analogies, systems thinking that includes socioeconomic factors, attention to social practices and how they change, reflective professional practices, and straightforward moral reasoning. The goal of the presentation is to get innovators talking about how to avoid undesirable outcomes in their own work.

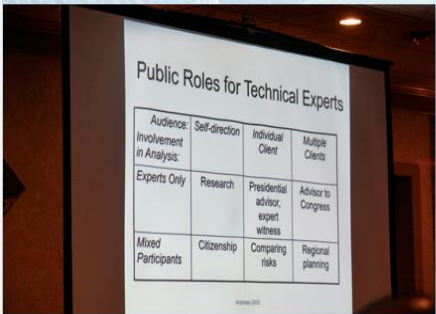


Fig. 12: The 35th AP/MTT Joint Chapter Annual Symposium and Mini-Show -Exhibition and Banquet Hall, Hanover Manor, NJ, Oct 07, 2021. The photo in left top shows the in-person talk given by 2022 IEEE SSIT President, Dr. Clinton Andrews in NJ addressing the important issues of engineering and new technology, “Will my innovation have Unintended Consequences?”. The photo in right bottom shows the attendees participating in-person.

North Jersey MTT/AP Symposium, Oct 07, 2021



Oct 07, 2021, Advancements and future trends in Modern Antenna Systems for Communications & Sensors

Dr. Yahia Antar

President IEEE AP-S

Professor, Royal Military College of Canada & Queen's University

Many aspects of our lives are becoming more and more dependent on wireless technology. This trend is exemplified by the massive investment in current and future endeavors, such as 5G,6G technologies, internet of things (IoT) which are enabling fundamentally new applications. A common denominator in many of these new applications is the antenna, which forms the "eyes and ears" of many systems. New developments for advancing the state of the art in antenna technology and associated microwave and millimeter wave circuits to meet future challenges will be needed. This talk will address some current and new emerging directions of research in antenna systems. This will include new fundamental approaches for antenna analysis, the near fields and electromagnetic energy around antenna systems and possible implications on future antenna systems design, in what is expected to be an increasingly crowded electromagnetic environment. Finally, a brief introduction of the IEEE Antennas and Propagation Society and available opportunities for research and engineering education will be addressed



Fig.13: The 35th AP/MTT Joint Chapter Annual Symposium and Mini-Show -Exhibition and Banquet Hall, Hanover Manor, NJ, Oct 07, 2021. The photo in left top shows the in-person talk given by AP-S President Prof. Yahia Antar. The photo in left bottom shows Prof. Antar and Dr. Ajay Poddar are participating in questions/answers season with students and YPs. The photo in right shows the picture of North Jersey Section ExCom members and invited speakers.



Fig. 14: The 35th AP/MTT Joint Chapter Annual Symposium and Mini-Show -Exhibition and Banquet Hall, Hanover Manor, NJ, Oct 07, 2021.

Token of Appreciation: Plaque, Oct 07, 2021



Matt Diesner, Wireless Telecom Group, receiving Plaque from North Jersey MTT/AP Chapter



Interactive Discussions



Interactive Discussions



Interactive Discussions

Fig. 15: The 35th AP/MTT Joint Chapter Annual Symposium and Mini-Show -Exhibition and Banquet Hall, Hanover Manor, NJ, Oct 07, 2021.

Token of Appreciation: Plaque, Oct 07, 2021



Dr. Jawad Siddiqui, IEEE AP-S SIGHT and MTT-S and IEEE HAC member, receiving Plaque from North Jersey MTT/AP Chapter



Jay Darish, Senior Staff Engineers, Linear Photonics, receiving Plaque from North Jersey MTT/AP Chapter



Dr. Kaushik Gupta, IEEE MTT-S DML, Princeton University, receiving Plaque from North Jersey MTT/AP Chapter



Mark Elo, Tabor Electronics, receiving Plaque from North Jersey MTT/AP Chapter



Rafi Hershtig, Chief Technology Officer, K&L Microwave, receiving Plaque from North Jersey MTT/AP Chapter



Bob Muro, Pentek Systems, receiving Plaque from North Jersey MTT/AP Chapter

Fig.16: The 35th AP/MTT Joint Chapter Annual Symposium and Mini-Show -Exhibition and Banquet Hall, Hanover Manor, NJ, Oct 07, 2021.

Token of Appreciation: North Jersey Section Plaque



Fig. 17: The 35th AP/MTT Joint Chapter Annual Symposium and Mini-Show -Exhibition and Banquet Hall, Hanover Manor, NJ, Oct 07, 2021.

Exhibitors: North Jersey MTT/AP Symp. Oct 07, 2021



Fig. 18: The 35th AP/MTT Joint Chapter Annual Symposium and Mini-Show -Exhibition and Banquet Hall, Hanover Manor, NJ, Oct 07, 2021.

Exhibitors: North Jersey MTT/AP Symp.Oct 07, 2021



Fig. 19: The 35th AP/MTT Joint Chapter Annual Symposium and Mini-Show -Exhibition and Banquet Hall, Hanover Manor, NJ, Oct 07, 2021.

Exhibitors: North Jersey MTT/AP Symp.Oct 07, 2021



Fig. 20: The 35th AP/MTT Joint Chapter Annual Symposium and Mini-Show -Exhibition and Banquet Hall, Hanover Manor, NJ, Oct 07, 2021.

NORTH JERSEY MTT/AP CHAPTER PARTICIPATION: PANEL EVENTS at G-STIC CONFERENCE Join the G-STIC conference during the World Expo in Dubai
24 - 26 October 2021 / 27 October 2021 MITT Summit / 17 - 19 January 2022
Live in Dubai: free / Online participation: €20 (students €10)

<https://www.gstic.org/dubai/>

GET INSPIRED BY WORLD-RENOUNDED KEYNOTE SPEAKERS ON SUSTAINABLE DEVELOPMENT
Accelerating breakthrough technological innovations for the SDGs

Dr. Ajay Poddar, Chair NJ Section: Invited for speaking at IEEE HAC Panel Session at G-STIC conference

Fig. 21: Photo shows the IEEE North Jersey Section and IEEE AP-S representation at G-STIC (Global Sustainable Technology and Innovation Conference), held on **Oct 24-26, 2021** in Dubai. This conference focused on knowledge and technologies that are crucial to achieving the Sustainable Development Goals. Dr. Ajay Poddar, Chair IEEE North Jersey Section, gave talk at G-STIC, Dubai.



Fig. 22: shows the screenshot of the event: from top left, first photo shows the speaker (Dr. Levent Sevgi, IEEE AP-S DL) giving lecture, second photo shows North Jersey Section volunteers, and from bottom left, first photo shows Dr. Anisha Apte (Vice Chair North Jersey AP-S Chapter) addressing the audience and welcoming the speaker, second photo shows Dr. Levent Sevgi receiving plaque from Dr. Ajay Poddar, Chair IEEE North Jersey Section Chair and AP-S COPE Co-Chair, and third photo shows Dr. Edip Niver, Chair North Jersey Section AP-S Chapter and Dr. Levent Sevgi at NJIT, Newark, NJ; **Nov 15, 2021**.



Fig. 23: Section's End-of-the-year Dinner Meeting Event, Nov 30, 2021. The event held at the Hanover Manor in East Hanover, New Jersey, hosted all the section officers, and the invited speaker Prof. Atam Dhawan (NJIT) presented the topic, "Critical Grand Challenges Calling for Technology Innovations". Standing left, Dr. Ajay Poddar, Chair North Jersey section and Prof. Atam Dhawan, NJIT.



Fig. 24: Section's End-of-the-year Dinner Meeting Event, Nov 30, 2021. The event held at the Hanover Manor in East Hanover, New Jersey, hosted all the section officers, and the invited speaker Prof. Atam Dhawan (NJIT) presented the topic, "Critical Grand Challenges Calling for Technology Innovations".



Fig. 25: Shows the photo of IEEE North Jersey section AP-S Booth at Exhibit area at 2022 IEEE RADAR Conference, NY, March 21-25, 2022. Dr. Ajay Poddar, Chair North Jersey section and Global Chair of IEEE AP-S Chapter Activity Committee, distributed the promotional gifts (T-shirt, Tie, Cap, and Face Mask) to attendees.



	<p>Howard Gartland of Mesa Technical Associates</p>		<p>Ms. Nisha Thirumurthy of Vybe Energy</p>
	<p>Topic: Energy Storage</p>		<p>Topic: Energy Storage</p>
	<p>Energy Storage Use Cases:</p> <ol style="list-style-type: none"> 1. Review of Use Cases and the problems they address 2. Design Considerations 2. Battery Energy Storage System (BESS) Architecture 1. Interconnection Scheme 2. Power and Energy 3. Battery Chemistry, Performance Characteristics, Management Systems, Supply Chain 4. BESS Controls, Communications and Reporting 5. Power Conversion System (PCS) design and controls 6. Balance of Plant Equipment 7. Engineering and Construction 8. Codes and regulations 3. Operations, Maintenance and Decommissioning <ol style="list-style-type: none"> 1. Installed, Commissioned, Accepted – now what !? 2. Decommissioning planning and execution 3. Safety Considerations 4. Financial Modeling <ol style="list-style-type: none"> 1. Battery Plant Optimization 2. Integration with other energy sources 3. Monetizing models. 		<ol style="list-style-type: none"> 1. Energy Storage Use Cases: <ol style="list-style-type: none"> 1. Review of Use Cases and the problems they address 2. Design Considerations 2. Battery Energy Storage System (BESS) Architecture 1. Interconnection Scheme 2. Power and Energy 3. Battery Chemistry, Performance Characteristics, Management Systems, Supply Chain 4. BESS Controls, Communications and Reporting 5. Power Conversion System (PCS) design and controls 6. Balance of Plant Equipment 7. Engineering and Construction 8. Codes and regulations 3. Operations, Maintenance and Decommissioning <ol style="list-style-type: none"> 1. Installed, Commissioned, Accepted – now what !? 2. Decommissioning planning and execution 3. Safety Considerations 4. Financial Modeling <ol style="list-style-type: none"> 1. Battery Plant Optimization 2. Integration with other energy sources 3. Monetizing models.

Fig.26: Shows the PES / IAS / LM Joint Meeting, held on May 29, 2020, sponsored by North Jersey Section PE31 Chapter. From Left, photo shows the speaker, **Howard Gartland**, President and Principal Owner of Mesa Technical Associates, Inc. and Mesa Veterans Power, LLC; right shows the speaker **Ms. Nisha Thirumurthy of Vybe Energy**.



Fig. 27: North Jersey Section Student Scholarship Luncheon Events, March 24 2022 ([scholarship luncheon story \(fdu.edu\)](https://www.fdu.edu/scholarship-luncheon-story)). Dr. Ajay Poddar, Chair of IEEE North Jersey Section, standing in the left, represented as a donor of “Ajay Kumar Poddar Endowed - Divyansh Atman Poddar Student Scholarship/Project Award”, this award is given to school and college students for STEM Project activities supervised by North Jersey ExCom Members and faculty of FDU (Fairleigh Dickinson University), New Jersey.



Fig. 28: Inter Section (North Jersey-Pune Section) STEM Project Demo Event: Photo shows the demonstration student Game project. From left, Mrs. Sanjeevani Joglekar, Mrs. Ranade, Ms. Akanksha, Dr. Ajay Poddar, and Prof. GS Mani, venue Raja Dinkar Kelkar Museum, Feb 25, 2022



Fig. 29: shows the North Jersey and Pune inter-section workshop held at DIAT, March 02, 2022. From left first row sitting: Dr. KP Ray, Director, DIAT Pune, Prof. GS Mani, Chair IEEE JCAME Pune Section, Dr. CP Ramnarayan, Vice-Chancellor, DIAT Pune, and Dr Ajay Poddar, Chair IEEE North Jersey Section and Chief Scientist, Synergy Microwave, NJ, USA



Fig. 30: IEEE Pune and North Jersey Inter-Section Joint Collaboration Activities: A meeting was held on March, 5, 2022 to explore possible ways in which IEEE North Jersey and Pune section can collaborate, focusing on AP-S SIGHT, AP-S COPE and Technical Events. Photo shows from left front row, Prof. GS Mani, Chair IEEE JCAME Pune, Dr. Ajay Poddar, Chair IEEE North Jersey Section, Mr. Girish Khilari, Chair IEEE Pune Section, Dr. Neha Sharma, Secretary IEEE Pune Section, and Dr. Dinanath Kholkar, Past Chair IEEE Pune Section.



Fig. 31: Shows the North Jersey and Pune inter-section events. Photo shows from left, Dr. KP Ray, Vice-Chair IEEE JCAME Pune, Prof. GS Mani, Chair IEEE JCAME Pune, Dr. Ajay Poddar, Chair IEEE North Jersey Section and Global Chair AP-S CAC, and Mr. Suresh Kumar, at Govind Swarup Hall, March 07, 2022



Fig. 32: shows the North Jersey and Pune inter-section events. Photo shows the meeting conducted at NCRA, Pune March 11, 2022. From left, Dr. Dinanath Kholkar, past-Chair IEEE Pune Section, Dr. KP Ray, Vice-Chair IEEE JCAME Pune Section, Dr. J.K. Solanki, NCRA Pune, Dr. Ajay Poddar, Chair IEEE AP-S CAC, Dr. Yashwant Gupta, Director NCRA Pune, Prof. GS Mani, Chair IEEE JCAME Pune Section, Dr. Neha Sharma, Secretary, IEEE Pune Section, Dr. Preeti Ramdasi, IEEE Pune Section ExCom Member, Mr. Girish Khilari, Chair IEEE Pune Section. The background screen shows the scientists of GMRT joined through video link, venue NCRA, Pune.

8TH ANNUAL IEEE NORTH JERSEY ADVANCED COMMUNICATIONS SYMPOSIUM (NJACS-2020) (THEME: AI AND DEEP LEARNING)

The 8th Annual IEEE North Jersey Advanced Communications Symposium (NJACS-2020) held online (Zoom), on **Saturday, September 12, 2020.**

Symposium Program

01:00-01:10PM Welcome Remarks

Dr. Adriaan van Wijngaarden, Nokia Bell Labs

Amit Patel, IEEE ComSoc North Jersey Chapter Chair

01:10-01:15PM Opening Remarks - Still Deep Learning

Prof. Yu-Dong Yao, Stevens Institute of Technology

01:15-02:00PM **Autonomous Space-Time Waveform Design for Controlled-Interference Spectrum Coexistence**

Prof. George Sklivanitis, Florida Atlantic University, Boca Raton, FL

02:00-02:45PM **Exploring Artificial Intelligence in Wireless Communications and Internet-of-Things Applications**

Prof. Huaxia Wang, Oklahoma State University, Stillwater, OK

02:45-03:30PM **Practical Adversarial Machine Learning Attacks Against Voice-controllable Systems**

Prof. Jian Liu, University of Tennessee, Knoxville, TN

03:30-04:15PM **Deep Learning for MIMO Systems in 5G and Beyond: Enabling Mobility and Enhancing Reliability**

Prof. Ahmed Alkhateeb, Arizona State University, Tempe, AZ

04:15-04:30PM Closing Remarks

Dr. Adriaan van Wijngaarden, Nokia Bell Labs

9TH ANNUAL IEEE NORTH JERSEY ADVANCED COMMUNICATIONS SYMPOSIUM (NJACS-2021) (THEME: AI AND DEEP LEARNING)

Symposium Program

01:00-01:10PM Welcome Remarks

Dr. Adriaan van Wijngaarden, Nokia Bell Labs

Amit Patel, IEEE North Jersey ComSoc Chapter

01:10-01:15PM Opening Remarks - Deep Reinforcement Learning

Prof. Yu-Dong Yao, Stevens Institute of Technology

01:15-02:00PM **Functional Pruning for Fast Learning Algorithms in Optimal Change Point Detection**

Prof. Toby D Hocking, Northern Arizona University

02:00-02:45PM **Hardware/Software Co-Design of Deep Learning Accelerators**

Prof. Yiyu Shi, University of Notre Dame

02:45-03:30PM **Some New Results on Federated Learning**

Prof. Pramod Varshney, Syracuse University

03:30-04:15PM **Learning-Based Strategies in Aerial Networks with UAVs**

Prof. M. Cenk Gursoy, Syracuse University

04:15-04:30PM Closing Remarks

Dr. Adriaan van Wijngaarden, Nokia Bell Labs

Organizing Committee

Symposium Chair Adriaan van Wijngaarden, Nokia Bell Labs

Organization Chair Amit Patel, Chair, IEEE North Jersey COMSOC Chapter

Program Chair Yu-Dong Yao, Stevens Institute of Technology

Program Co-Chair Hong Zhao, Fairleigh Dickinson University

Registration Chair Michael Newell, IEEE North Jersey Section



Fig. 33: Shows the photo of New Jersey Girls Scout NJ Makers STEM Day event with partner Phillips 66 held on Saturday, March 26, 2022 in Linden, NJ



Fig. 34: **Sitting:** From Left: Ken Oexle (1979-80), Mike Liechtenstein (1993), Fred Chiechester (1999), Kalyan Mondal (2017-18), Ann Giedlinski (1983-84), Har Dayal (2005-06). **Standing:** From Left: Amit Patel (2009-10), Nirwan Ansari 2001-02), Durga Misra (2003-04), Mani Ayer, (Treasurer), Naresh Chand (2011-12), Howard Leach (1989), Russell Pepe (2013-14) and Arther Greenberg (1997)

IEEE NORTH JERSEY SECTION - Past Chairs

1947-48	Jerry Minter	1985-86	Richard F. Tax
1948-49	Alanson W. Parker Jr.	1986	Richard F. Tax
1949-50	J. F. Morrison	1987	John Van Savage
1953-54	Gordon P. McCouch	1988	Robert R. Sinusas
1958-59	Thomas P. Goldsmith	1989	Howard H. Leach Jr
1959-60	George Hulst	1990	Raymond W. Sears
1961-62	Alanson W. Parker Jr.	1991	George D. Groul
1962-63	Alanson W. Parker Jr	1992	Richard V. Snyder
1963-64	Charles W. Vandesen	1993	Michael Liechenstein
1964-65	John K. Redmon	1994	R. V. Rebbapragada
1965-66	Walter L. Glomb	1995	Thomas D. Denigris
1966-67	Stephen A. Mallard	1996	R. V. Rebbapragada
1967-68	Bernard Meyer	1997	Arthur H. Greenberg
1968-69	Joseph O'Grady	1998	Melvin A. Lewis
1969-70	Merle M. Irvine	1999	Fredrick Chichester
1970-71	Herbert C. Blaicher Jr	2000	Alan H. Stolpen
1971-72	Robert Sokalski	2001-2002	Nirwan Ansari
1972-73	Carl Torell	2003-2004	Durga Misra
1973-74	Harlan J. Perlis	2005-2006	Har Dayal
1974-75	Max J. Shindler	2007-2008	Kirit Dixit
1975-76	Robert E. McMillan	2009-2010	Amit Patel
1976-77	Frank Gialanella	2011-2012	Naresh Chand
1977-78	Norman Bleshman	2013-2014	Russell Pepe
1978-79	Donald G. Bathke	2015-2016	A. V. Wijngaarden
1979-80	Kenneth J. Oexle	2017-2018	Kalyan Mondal
1980-81	Alan H. Stolpen	2019-2020	YU-Dong
1981-82	Alex T. Brown	2021-2022	Ajay K. Poddar
1982-83	Frank J. Relotto		
1983-84	Anne M. Giedlinski		
1984-85	Eugene W. Niemiec		

Short Bio of Some Past Section Chairs

Biographies of several section chairs are presented here. Some are IEEE documents and some are provided by the past chairs.

First Section Chair; Jerry B. Minter, 95, (Section Chair- 1947-1948)

Engineer, inventor, and businessman of Morris Township, NJ.



Jerry passed away on May 19, 2009. He grew up in Fort Worth, Texas, and graduated from MIT in 1934 with a BS EE. During that time, he showed his technical gifts at an early age with the building of crystal radio sets and the sale and installation of radios at the age of 12 through stores in Ft Worth, Texas. He went on to build, sell, and service other radios and public address systems in Texas and in Massachusetts while at MIT. After graduating from MIT, he returned to Fort Worth to build a ham station. From one of his ham contacts, he heard about a job in New Jersey. As a result, he arrived in Boonton on May 20, 1935 with his portable 5-meter ham rig on his old Model A roadster. He used to drive to Sheep Hill in Boonton and work hams at Rocky Point, Long Island.

In 1935, he joined Boonton Radio at \$15.00 per week in the development of band-pass intermediate frequency transformers. In 1936, at the Radio Frequency Laboratories of Boonton, he helps design aircraft receivers for new tower frequencies. Unfortunately, RFL was closed when the IRS ruled in 1936 to tax all surplus corporate profit at 100 percent. He then joined the Ferris Instrument Corp on Boonton Ave in 1936 and worked on the Model 16 and 25A Standard Signal Generators. He also worked on the US Navy Model 32A Radio Noise and Field Strength Meter.

In 1939, he helped found the Measurements Corporation, Boonton, NJ, as VP and Chief Engineer with some of his associates from the Ferris Instrument Corp. They were successful with the design and production of test equipment, particularly signal generators models 78, 79, and 84 that supported the WWII radar development and operation. In fact, the first Model 84 was shipped to England to help with a countermeasure's laboratory. Another of their signal generators was in use at Pearl Harbor during the Japanese attack. At that time, they were producing about ten percent of the test equipment made in this country. Later they developed the Model 90 Signal Generator for color television receiver testing.

In 1947, he formed the Northern NJ Subsection of the IRE, the predecessor organization of the IEEE North Jersey Section. This became the IRE Northern NJ Section in 1954 which was eventually re-named the IEEE North Jersey Section in 1962-63 with the combination of the IRE and the AIEE into the IEEE. The Section is now celebrating its 55th anniversary. The picture below was taken from the 1948 'Proceeding of the IRE, Waves and Electronics Section which recognized him as Chairman of the IRE Northern New Jersey Subsection, organized in October of 1947

In 1953, after the Measurements Corp. was sold to the Edison Company, Jerry had a number of conversations with Charles Edison about his father, Thomas A. Edison. One related to the fire at

the West Orange Laboratories where Thomas Edison, excited about the size of the fire, asked his son, Charles, to go get his mother so she could see the blaze. In 1954, Mr. Minter bought the Components Corp., Denville, NJ, and entered into the audio business where he developed a series of special test records using their own 'Professional' turn table and record presses. Also in 1954, He was elected president of the Audio Engineering Society and helped start publication of 'The Audio Engineering Society Journal.'

In the 1960's, the company designed and built miniature high voltage power supplies for use in high altitude probes for NASA. They also developed a high-reliability edge-board connector called the "DigiKlip" that was used commercially in the Univac 1108, DC-10, as well as in space and military programs. Jerry also worked on video-taping systems, many that were setup in the surgical suites within hospitals in New York City and in other major hospitals across the country. In another medical project, he modified VCRs to reduce their startup time for recording surgical training videos in NYC. Jerry, at the time of his death, was still President of The Components Corp., Denville, NJ, which is still in business and provides printed circuit wire, form interconnect products, see: www.componentscorp.com/.

His most recent technical innovation was a passive collision warning system for small aircraft. Jerry Minter holds 26 patents of which the last six are on his aircraft collision avoidance system. As a private pilot with his own 1946 Navion airplane at Morristown Airport, he was a member of the Civil Air Patrol (CAP) and used his own plane to perform search and rescue and other CAP missions. He was also a longtime member of the Quiet Birdmen. In 2006, he presented a demonstration of his patented aircraft collision warning system to a joint meeting of the IEEE North Jersey Section Aerospace and Electronics Systems Society (AESS) Chapter and the Lone Eagle Composite Squadron, Civil Air Patrol, Peapack-Gladstone, NJ. He was also in the process of installing a prototype system on his aircraft for in-flight demonstrations.

On March 13th, 2007, Mr. Jerry B. Minter, the founder of the predecessor organization to our IEEE North Jersey Section made history again by becoming the first individual to be videotaped for an oral history for the IEEE History Center Archives. Until this time, the oral history recordings were all audio only. The video oral history taping was arranged by Mary Ann Hoffman, Archival & Web Services Manager, and conducted by Dr. Michael N. Geselowitz, Director, of the IEEE History Center, Rutgers University, New Brunswick, NJ. Below sees a photo taken of Jerry with Mary Ann Hoffman just before the video oral history taping at the Components Corp., Denville, NJ. A Measurements Corp. product, a Grid dip meter, which were produced in large volumes, is shown on the table.



Jerry was the first to have his oral history video-taped as he was instrumental in the innovation of the use of video taping of surgical procedures for educational purposes. To see his edited video, go to: the www.ieee.org home page, search on IEEE TV, select it, and under IEEE.tv Public Access, scroll down to: Oral History: Jerry Minter. Jerry Minter was also very active in other profession organizations as well. He was a Fellow and past President of the Radio Club of America. Some of the information in this article was taken from an autobiography (1995) and profile (2002) of Jerry Minter published within the Radio Club of America Proceedings. He was also a past President of the Audio Engineering Society and held memberships in the Radio Electronic Television Manufacturing Association, the Society of Automotive Engineers, the American Standards Association, and the American Society of Metals.

Gerhard M. Sessler

(born February 15, 1931 in Rosenfeld, [Baden-Württemberg, Germany](#)) is a [German](#) inventor and scientist. Sessler invented together with [James E. West](#) the [foil electret microphone^{\[1\]}](#) at [Bell Laboratories](#) 1962 and the [silicon microphone](#) (co-inventor: D. Hohm) in 1983. First patent on foil electret microphone by G. M. Sessler and J. E. West (pages 1 to 3). He received his Ph.D. from the [University of Göttingen](#) in 1959. After working in the United States at [Bell Labs](#) until 1975, he returned to academia in Germany. From 1975 up to 2000, he worked as a professor of electrical engineering at the [Darmstadt University of Technology](#) where he invented the silicon microphone.

He is an [IEEE](#) fellow and holds over 100 international [patents](#) and 18 US; the first one, US3,118,022, with James E. West, was issued on January 14, 1964. Sessler is the author/editor of several books on electrets and acoustics. Furthermore, he is well known for his over 300 scientific papers in prestigious international magazines and journals. In the year 2000, he was awarded an honorary doctors degree from the [National Academy of Sciences of Belarus](#). He is currently Professor emeritus at Darmstadt University of Technology and still active in research. He invented the microphone. Gerhard Sessler is married to Renate Sessler and has three children Cornelia, Christine and Gunther

John Bardeen (May 23, 1908 – January 30, 1991)

John was an American [physicist](#) and [electrical engineer](#), the only person to have won the [Nobel Prize in Physics](#) twice: first in 1956 with [William Shockley](#) and [Walter Brattain](#) for the invention of the [transistor](#); and again in 1972 with [Leon N Cooper](#) and [John Robert Schrieffer](#) for a fundamental theory of conventional [superconductivity](#) known as the [BCS theory](#).

The transistor revolutionized the electronics industry, allowing the [Information Age](#) to occur, and made possible the development of almost every modern electronic device, from [telephones](#) to [computers](#) to [missiles](#). Bardeen's developments in superconductivity, which won him his second Nobel, are used in [Nuclear Magnetic Resonance](#) Spectroscopy (NMR) or its medical sub-tool [magnetic resonance imaging](#) (MRI).



A stylized replica of the first transistor invented at Bell Labs on December 23, 1947.

On December 23, 1947, Bardeen and Brattain—working without Shockley—succeeded in creating a [point-contact transistor](#) that achieved amplification. By the next month, [Bell Labs](#)' patent attorneys started to work on the patent applications.^[9] Bell Labs' attorneys soon discovered that Shockley's field effect principle had been anticipated and patented in 1930 by [Julius Lilienfeld](#), who filed his [MESFET](#)-like patent in Canada on October 22, 1925.

Shockley took the lion's share of the credit in public for the invention of transistor, which led to a deterioration of Bardeen's relationship with Shockley.^[11] Bell Labs management, however, consistently presented all three inventors as a team. Shockley eventually infuriated and alienated Bardeen and Brattain, and he essentially blocked the two from working on the junction transistor. Bardeen began pursuing a theory for superconductivity and left Bell Labs in 1951. Brattain refused to work with Shockley further and was assigned to another group. Neither Bardeen nor Brattain had much to do with the development of the transistor beyond the first year after its invention.^[12] The "transistor" (a combination of "trans-conductance" and "resistor") was 1/50 as large as the [vacuum tubes](#) it replaced in televisions and radios and allowed electrical devices to become more compact.^[1]

In 1972, John Bardeen shared the [Nobel Prize in Physics](#) with [Leon N Cooper](#) of [Brown University](#) and [John Robert Schrieffer](#) of the [University of Pennsylvania](#) "for their jointly developed theory of superconductivity, usually called the BCS-theory".^[26] This was Bardeen's second Nobel Prize in Physics. He became the first person to win two Nobel Prizes in the same field.^[27] He also became the third person out of only four to win two Nobel Prizes. The first two were [Marie Skłodowska-Curie](#), who received the [Nobel Prize in Physics](#) in 1903 and [Nobel Prize in Chemistry](#) in 1911, and [Linus Pauling](#), who received the [Nobel Prize in Chemistry](#) in 1954 and [Nobel Peace Prize](#) in 1962. In 1980, [Frederick Sanger](#) won his second Nobel Prize in Chemistry and became the fourth person to win two Nobel Prizes.^[28]

William Bradford Shockley Jr. (February 13, 1910 – August 12, 1989)

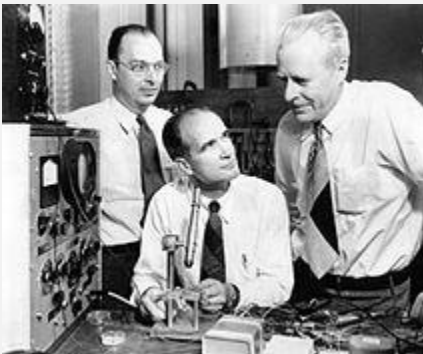
William Shockley was an [American physicist](#) and [inventor](#). Along with [John Bardeen](#) and [Walter Houser Brattain](#), Shockley co-invented the [transistor](#), for which all three were awarded the 1956 [Nobel Prize](#) in Physics. Shockley's attempts to commercialize a new transistor design in the 1950s and 1960s led to California's "[Silicon Valley](#)" becoming a hotbed of electronics innovation. In his later life, Shockley was a professor at [Stanford](#) and became a staunch advocate of eugenics^{[1][2]}

Shortly after the end of the war in 1945, Bell Labs formed a solid state physics group, led by Shockley and chemist Stanley Morgan, which included [John Bardeen](#), [Walter Brattain](#), physicist [Gerald Pearson](#), chemist Robert Gibney, electronics expert Hilbert Moore, and several technicians. Their assignment was to seek a solid-state alternative to fragile glass [vacuum tube](#) amplifiers. Its first attempts were based on Shockley's ideas about using an external electrical field on a

semiconductor to affect its conductivity. These experiments failed every time in all sorts of configurations and materials. The group was at a standstill until Bardeen suggested a theory that invoked [surface states](#) that prevented the field from penetrating the semiconductor. The group changed its focus to study these surface states and they met almost daily to discuss the work. The rapport of the group was excellent, and ideas were freely exchanged.^[11]

By the winter of 1946 they had enough results that Bardeen submitted a paper on the surface states to *Physical Review*. Brattain started experiments to study the surface states through observations made while shining a bright light on the semiconductor's surface. This led to several more papers (one of them co-authored with Shockley), which estimated the density of the surface states to be more than enough to account for their failed experiments.

John Bardeen, William Shockley and Walter Brattain at Bell Labs, 1948.



Bell Labs' attorneys soon discovered Shockley's field effect principle had been anticipated and devices based on it patented in 1930 by [Julius Lilienfeld](#), who filed his [MESFET](#)-like patent in Canada on October 22, 1925.^{[13][14]} Although the patent appeared "breakable" (it could not work) the patent attorneys based one of its four patent applications only on the Bardeen-Brattain point contact design. Three others (submitted first) covered the electrolyte-based transistors with Bardeen, Gibney and Brattain as the inventors. Shockley's name was not on any of these patent applications. This angered Shockley, who thought his name should also be on the patents because the work was based on his field effect idea. He even made efforts to have the patent written only in his name, and told Bardeen and Brattain of his intentions.^[15]

On February 13, 1948 another team member, [John N. Shive](#), built a point contact transistor with bronze contacts on the front and back of thin wedge of germanium, proving that [holes](#) could diffuse through bulk germanium and not just along the surface as previously thought.^{[16]:153[17]:145} Shive's invention sparked^[18] Shockley's invention of the junction transistor.^{[16]:143} A few months later he invented an entirely new, considerably more robust, type of transistor with a layer or 'sandwich' structure. This structure went on to be used for the vast majority of all transistors into the 1960s, and evolved into the bipolar junction transistor. Shockley later admitted that the workings of the team were "mixture of cooperation and competition." He also admitted that he kept some of his own work secret until his "hand was forced" by Shive's 1948 advance.^[19] Shockley worked out a rather complete description of what he called the "sandwich" transistor, and a first proof of principle was obtained on April 7, 1949.

Meanwhile, Shockley worked furiously on his [magnum opus](#), *Electrons and Holes in Semiconductors* which was finally published as a 558 page treatise in 1950. In it, Shockley worked out the critical ideas of drift and diffusion and the differential equations that govern the flow of electrons in solid state crystals. [Shockley's diode equation](#) is also described. This seminal work became the "bible" for an entire generation of scientists working to develop and improve new variants of the transistor and other devices based on semiconductors.^[20] This resulted in his invention of the [junction transistor](#), which was announced at a press conference on July 4, 1951.^[21]

In 1951, he was elected a member of the [National Academy of Sciences](#) (NAS). Two years later, he was chosen as the recipient of the prestigious [Comstock Prize](#)^[22] for Physics by the NAS, and was the recipient of many other awards and honors. The ensuing publicity generated by the "invention of the transistor" often thrust Shockley to the fore, much to the chagrin of Bardeen and Brattain. Bell Labs management, however, consistently presented all three inventors as a team. Though Shockley would correct the record where reporters gave him sole credit for the invention,^[23] he eventually infuriated and alienated Bardeen and Brattain, and he essentially blocked the two from working on the junction transistor. Bardeen began pursuing a theory for superconductivity and left Bell Labs in 1951.

Walter Houser Brattain (February 10, 1902 – October 13, 1987)

Walter H. Brattain was an American physicist at Bell Labs who, along with John Bardeen and William Shockley, invented the transistor.^[11] They shared the 1956 Nobel Prize in Physics for their invention. He devoted much of his life to research on surface states.

Edward Weston (May 9, 1850 – August 20, 1936)

Edward Watson was an English-born American chemist noted for his achievements in [electroplating](#) and his development of the [electrochemical cell](#), named the [Weston cell](#), for the [voltage](#) standard.^{[2][3]} Weston was a competitor of [Thomas Edison](#) in the early days of electricity generation and distribution.^[4]

Born in [Oswestry, Shropshire, England](#), in 1850 to a merchant family, Weston originally studied medicine but soon became interested in chemistry.^[4] He emigrated to the [United States](#) after receiving his medical diploma in 1870, where he found a job in the electroplating industry. Realizing the need for a constant source of current, he developed an interest in power generation and invented several dynamos and generators. He eventually co-founded the [Weston Electric Light Company](#) in [Newark, New Jersey](#) and later won the contract to illuminate the [Brooklyn Bridge](#).^[2] Weston was a founding member of the board of trustees of what later became the [New Jersey Institute of Technology](#). Some of his inventions, instruments, and writings are maintained at the university's library and the [Weston Museum](#)^[5] Weston was president of the [American Institute of Electrical Engineers](#) from 1888-89.^[6]

He invented two alloys, [constantan](#) and [manganin](#).^[2] Weston developed [measurement instruments](#) for [electrical current](#)—the modern foundation for the [voltmeter](#), [ammeter](#) and [wattmeter](#). In 1888 he formed the [Weston Electrical Instrument Corporation](#) which would become famous for its [voltmeters](#), [ammeters](#), [wattmeters](#), [ohmmeters](#), [frequency meters](#), [transformers](#), and [transducers](#). Weston developed a method for producing a "true" [permanent magnet](#).^[3] Weston conceived of and built a magnetic [speedometer](#). Weston also developed the dashboard ammeter for [Harley-Davidson motorcycles](#). Also in 1888, Weston became president of the American Institute of Electrical Engineers (AIEE) until 1889.^[7]

Weston invented and patented the [saturated cadmium cell](#) in 1893.^[4] The cathode in the cell is an amalgam of cadmium with mercury, the anode is of pure mercury, and the electrolyte is a solution of cadmium sulphate. The Weston cell is a wet-chemical cell that produces a highly stable voltage suitable as a laboratory standard for calibration of voltmeters. The temperature coefficient was reduced by shifting to an unsaturated design, the predominant type today.^[3] When the Weston cell became the International Standard for [EMF](#) in 1911, Weston waived his patent rights. Weston died in [Montclair, New Jersey](#) in 1936, having attained 334 [United States patents](#) during his life.

Oberlin Smith (March 22, 1840 - July 19, 1926)

He was an American [engineer](#) who published one of the earliest works dealing with [magnetic recording](#) in 1888. He was born on March 22, 1840 in [Cincinnati, Ohio](#). He started a small machine shop in [Bridgeton, New Jersey](#), where he lived most of his life, which became known as the [Ferracute Machine Company](#) in 1877.^[1] For the entire existence of the company he was the president and chief engineer. He died on July 19, 1926 in [New Jersey](#).

He suggested (probably for the first time) the use of permanent magnetic impressions for the recording of sound. “**Magnetic recording:** In an article that appeared in the British magazine - *Electrical World*”. Smith had fabricated a cotton or silk thread, into which steel dust or short clippings of fine wire would be suspended. These particles were to be magnetized in accordance with the [alternating current](#) from a [microphone](#) source. Smith also discussed the possibility of using a hard steel wire, but thought it scarcely possible. A working unit was never built. Many of Smith's ideas were used by [Valdemar Poulsen](#) when he developed the first true magnetic recorder.

Alfred Lewis Vail (September 25, 1807 – January 18, 1859)

Alfred Lewis Vail was an American [machinist](#) and inventor. Vail was central, with [Samuel F. B. Morse](#), in developing and commercializing the telegraph between 1837 and 1844.^[1] Vail and Morse were the first two telegraph operators on Morse's first experimental line between Washington, DC, and Baltimore, and Vail took charge of building and managing several early telegraph lines between 1845 and 1848.

He was also responsible for several technical innovations of Morse's system, particularly the sending key and improved recording registers and relay magnets. Vail left the telegraph industry in 1848 because he believed that the managers of Morse's lines did not fully value his contributions. His last assignment, superintendent of the Washington and New Orleans Telegraph Company, paid him only \$900 a year, leading Vail to write to Morse, "I have made up my mind to leave the Telegraph to take care of itself, since it cannot take care of me. I shall, in a few months, leave Washington for New Jersey, ... and bid adieu to the subject of the Telegraph for some more profitable business."^[2]

Jan Aleksander Rajchman ([London](#), 10 August 1911 – 1 April 1989)

Jan Aleksander was son of [Ludwik Rajchman](#) and Maria Bojańczyk. His father was a Polish [bacteriologist](#) and one of the founders of [UNICEF](#). He was born in London, where his parents temporarily lived, and where his father held various positions at the Royal Institute of Public Health and King's College. He received the Diploma of Electrical Engineering from the [Swiss Federal Institute of Technology](#) in [Zurich](#) in 1935, and became a [Doctor of Science](#) in 1938. Rajchman immigrated to [America](#) in 1935. He joined [RCA](#) Laboratory directed by [Vladimir K. Zworykin](#) in January 1936. He was a prolific inventor with 107 US patents among others logic circuits for [arithmetic](#). He conceived the first [read-only memory](#), which was widely used in early computers. He conceived and developed the selectively addressable storage tube, the ill-fated [Selectron tube](#), and the [core memory](#).

He was a Fellow of the [Institute of Electrical and Electronics Engineers](#) (IEEE), and a member of the [National Academy of Engineering](#). He is also a member of [Sigma Xi](#), the [Association for Computing Machinery](#) (ACM), the [Physical Society](#), the [New York Academy of Sciences](#), and a Fellow of the [American Association for the Advancement of Science](#) and the [Franklin Institute](#). He received the 1960 [IEEE Morris N. Liebmann Memorial Award](#) and the 1974 IEEE [Edison Medal](#) *for a creative career in the development of electronic devices and for pioneering work in computer memory systems*

FRANK GIALANELLA, Section Chair (1976 -77):

Frank has been working at SDM Metro 2012 to present as Business Development. In 2011, he worked with Intelligent Building Solutions 2011 as Director of Business Development and East Coast Power Systems 2010 to 2011, as Manufactures Rep and at Nova Corp 2009 to 2010

As Eastern Regional Sales Director. His Responsibilities include strategic planning and business development and other sales and service-related work to the client base for mission critical data centers. From 2005 to 2009, he worked with Cummins Power Systems as Application engineer responsible for providing the technical assistance to engineering firms in the greater New York area on applications requiring generating systems & review specifications. Assisted the sales force on customer visits & technical seminars.

He has worked for short term from one to two years with various companies like: Datatech 2004-2005; ISO Power lynx (Caterpillar & Eaton Company) 2003 to 2004, As Regional Sales Manager; Liebert Corporation 1995 – 2003; Smith Barney 1993 – 1995 for engineering services of a 300,000 s/f infrastructure upgrade, and Power Conversion & Control, New York 1991 – 1992 where he Managed all service and sales of UPS systems in the Tri State New York Area. Provided technical seminars to engineers and contractors engaged in new and existing construction design of computer room infrastructure. Prior to these he worked Securities Industry Automation Corp. 1989 - 1991; Penske G.M. Power, New York 1983 - 1989 and North American Turbine Corp., Houston, Texas 1978- 1983, mostly sales, marketing and coordinated services and handled the staff activities. From 1961 - 1978, he worked with Automatic Switch Company, Florham Park, New Jersey as a Customer Engineer, managed sales of electro-mechanical transfer switches, relays, lighting

contractors and solenoid valves to industrial companies, OEM's distributors, and electrical contractors. Developed group seminars with distributors, OEM's and professional plant engineers.

He received his Bachelor of Science degree in Industrial Engineering from Fairleigh Dickinson University. He was the IEEE, north Jersey Section chair in 1976 - 1977. He is Past Member Executive Committee Essex Electrical League, Past Member EGSA and Past Vice President, 7x24 Exchange (previously Uninterruptible Uptime Users Group). He served, US Navy from 1956-1958.

Kenneth Oexle- Section Chair (1979-1980):

See the Bio mentioned earlier in the Award section of vendor appreciation section.

Richard F. Tax, Section Chair (1985-86): Richard F. Tax is the North Jersey Section PACE Chair. He has always been concerned with Engineering opportunities and jobs for students. He is ardent supporter for the welfare of the engineering community. He designed systems for the



NASA, Dyna-Soar, program, FAA, Control Tower Simulator and solved problems for the USAF C-119 Gun Ship and Hubble Telescope programs.

His experience is in design, development, test, validation, programming, systems engineering, project management, reliability, Quality Control, production and manufacturing support. This includes proto-type development, fault isolation and solution of electronic and electro-mechanical problems for commercial medical, military and space applications.

Howard Leach, Section Chair (1989)

Howard has been very active in the activities of North Jersey activities for a long time. He was the chair of the section in 1989. He has served the section in several society and committee positions in the past. He was instrumental in initiating, getting approved and installed plaques for several IEEE milestone in the north Jersey Section. Presently he is serving as chair of section's society coordinator and historic committee. He is an excellent photographer and has been taking photographs for the activities of section activities including banquet, workshops, seminars, symposiums and section's annual ceremony.

Dr. Richard V. Snyder, (Section Chair- 1992)

See the Bio mentioned earlier in the Award section of vendor appreciation section

Michael Liechtenstein (Section Chair-1993)

Michael I. Liechtenstein became a member of the IEEE as a student more than 50 years ago. He received a Bachelor of Science Degree from MIT in 1960, a Master of Science Degree from Yale University in 1962, and a Ph.D. Degree from Yale in 1965 as Honeywell Award winner. He was a member of the professional staff at Bell Laboratories in Murray Hill, NJ until moving to Santa Monica, California, to join the RAND Corporation for the next 10 years. He came back to New Jersey when RAND opened its Rand Institute in New York City. He is President of Integrated Technology Services whose consulting clients included the United Nations, Mobil Oil, and Institute for Design Community Analysis, and Westinghouse Corporation. He has had a long academic career teaching at Columbia University, City University of New York, and St. John's University. He has been an active member of the IEEE, serving as Chairman of Systems, Manf. and Cybernetics Society chapter, Treasurer of the North Jersey Section Chapter, Section Chair in 1993 and is a Senior Life Member.

Arthur Greenberg (Section Chair-1997):



Art Greenberg received a BSEE in Electrical Engineering from the University of Pennsylvania, an MBA from Fairleigh Dickinson University and studied mathematics in the graduate department of New York University. He worked in the military and wireless fields for 52 years. Art held all the executive committee offices in the North Jersey section, serving as chairman for two terms. He was chairman of the section's Vehicular Technology chapter from 1999 to 2007 and was Conference Chairman of the 2001 Fall Vehicular International Conference in Atlantic City. He is currently the chair of the section's Industry Liaison committee.

Frederick D. Chiechester, (Section Chair 1999):

Dr. Frederick Chiechester received his BS and MS degree in Aeronautical Engineering from Purdue University, Indiana and Dr. of Engineering Science from the New Jersey Institute of Technology in 1977. Currently Fred is conducting research in number theory and Tutoring mathematics and Adjunct Instructor in Mathematics in Bloomfield College for Algebra and Trigonometry (2004 - 2010). He was the president and treasurer of New Jersey Microsystems, a small think-tank, conducting research on micro-electro-mechanical machines (1999 - 2002). He was Mathematics Tutor with Sage tutoring team in East Orange, preparing students for New Jersey High School Proficiency Test (1996 -1999) and New Jersey Eight grade Tests (1999 - 2004). He was Adjunct and Substitute Professor at Montclair State University, Department of Mathematical Sciences, teaching introductory courses in Mathematics and courses in Calculus and History of Science (1992 - 1994) and fall 1995).

He was privately tutoring calculus and Physics, 2nd grade to upper grade and (1992 -1994, 2010) At Bloomfield College at Tutoring Center, he taught remedial Mathematics (1994 - 1995) and

Instructed English at Kumon Center, Hanover, Nj (1990 - 1992). He was Associate Professor of Electrical and Computer Engineering at NJIT FROM 1995 TO 1990 and Senior Staff Engineer at Allied-Bendix Aerospace in Guidance Systems Division at Teterboro, NJ (1977-78). He served as Engineer at Advanced Technology Systems, a division of the Austin Company in 1977 -1978. Fred Chichester has been actively involved in the activities of North Jersey Section Chair of North Jersey Section. He also served as Secretary, Treasurer and Vice chair of the North Jersey section. He Chaired the Section in 1999 and served as the chapter chair of the Control Systems Society. He Chaired, various section's committees such as Education, Nomination, Audit and Teller committee.

Nirwan Ansari (Section Chair- 2001-2002):

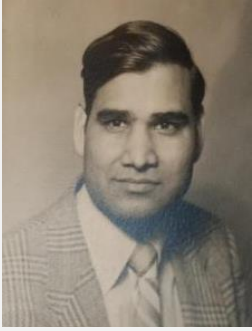


Nirwan Ansari received the BSEE from the New Jersey Institute of Technology (NJIT), Newark, the M.S.E.E. degree from University of Michigan, Ann Arbor, and the Ph.D. degree from Purdue University, West Lafayette, IN. He is Distinguished Professor of Electrical and Computer Engineering at NJIT, where joined in 1988. He has also assumed various administrative positions at NJIT. He authored Media Access Control and Resource Allocation (Springer 2013) with J. Zhang and Computational Intelligence for Optimization (Springer 1997, translated into Chinese in 2000) with E.S.H. Hou, and edited Neural Networks in Telecommunications (Springer 1994) with B. Yuhas. He has (co)-authored over 450 technical publications, of which over one third in widely cited journals and magazines. He has guest-edited a number of special issues, covering various emerging topics in communications and networking. His current research focuses on various aspects of broadband networks and multimedia communications.

Dr. Ansari has served on the Editorial Board and Advisory Board of nine journals, including as a Senior Technical Editor of IEEE Communications Magazine (2006–2009). He has been serving the IEEE in various capacities such as Chair of IEEE North Jersey COMSOC Chapter, Chair of IEEE North Jersey Section, COMSOC Member-at-Large, Member of IEEE Region 1 Board of Governors, Chair of IEEE COMSOC Networking TC Cluster, Chair of IEEE COMSOC Technical Committee on Ad Hoc and Sensor Networks, and Chair/TPC Chair of numerous conferences/symposia. Some of his recognitions include IEEE Fellow, several Excellence in Teaching awards, NCE Excellence in Research Award (2014), Outstanding Service Recognition Award (COMSOC AHSN TC, 2013), a couple of best paper awards, NJ Inventors Hall of Fame Inventor of the Year Award (2012), Thomas Alva Edison Patent Award (2010), and designation as an IEEE COMSOC Distinguished Lecturer (2006- 2009). He has also been granted over 20 US patents.

Durga Misra- (Section Chair 2003-2004):

See the Bio mentioned earlier in the Award section of vendor appreciation section.



Har Dayal- (Section Chair 2005-2006):

Har Dayal Received his BSc and MSc degree from Agra University Agra, India. in 1963. He taught at VSSD College Kanpur India and worked, two years at the Instrument Research and Development Lab (IRDE), presently called DEAL, in Dehradun, India. He spent two more years in Somali Republic, under United Nations, UNDP program and taught at Technical Institute Borao, before migrating to the USA in 1968. From 1968 to 1972, he pursued his Ph.D. degree in Electrical Engineering at the University of Mississippi, Oxford, Miss. USA. He worked at Lorch Electronics in Englewood NJ and from 1975 at Frequency Engineering Lab, Farmingdale NJ. In 1982, he joined Singer Kearfott which is presently known as BAE Systems, located in Wayne NJ. There he worked for 28 years till his retirement. He headed the team of engineers of RF Hardware, R&D department and developed, the state of the art, RF and Microwave components and sub-systems which are being used in the Defense communication and EW equipment. He contributed for the development of advanced receivers, transmitters, synthesizers and unique components like wide band Voltage Tuned and low loss evanescent mode filters, ultra-wide band power Amplifiers for the systems like JTIDS, LPIA, and others. "THE RECEIVER ON A CHIP" was recognized by the BAE Systems as the 2nd best innovation of the year for which we received a Silver Award within BAE organization. He authored and presented many papers at IEEE Conferences, workshops and in Microwave Industry journals.

Har Dayal is a Senior Life Member of IEEE. At present he is serving as GMA MTT-S/ sub-committee member of Life Member Group and coordinating LMG for R1, R2, R3 and R7. He is a member of MTT-S, APS, EMBS and chapter chair of Engineering Medicine and Biology Society in North Jersey section. He has been participating in the activities of the IEEE North Jersey section since 1984 and served in several positions including the chair of the North Jersey section in 2005-2006, Co-Chaired the MTT/AP Chapter and section's one day symposium for more than 10 years. He has served for the IMS Technical Papers Review Committee and was also the member of steering Committee of International VTS Symposium in 2000 and for International Microwave Symposium held in Philadelphia. In 2003. He was presented IEEE Region 1 Award for Distinguished Leadership.

Kirit Dixit - (Section Chair-2007-2008):

See the Bio mentioned earlier in the Award section of vendor appreciation section.



Amit J. Patel - (Section Chair-2009-2010):

Amit Patel is a Senior Principal Embedded Engineer and working at ITT Exelis, Integrated Communications, and Force Protection Systems, in Clifton, NJ. He received a B.Sc. degree in Electrical Engineering and a M.S. degree in Computer Science from Stevens Institute of Technology, Hoboken, NJ, in 1994 and 1996, respectively. He joined ITT in 1996, and has held several engineering and management positions in its embedded systems and networking programs. He holds three U.S. patents. As of 2011, he holds an Adjunct Faculty position at the Dept. Of Engineering Technology, New Jersey Institute of Technology (NJIT), teaching “Fundamentals of Telecommunications”. Amit Patel received the 2001 IEEE Region 1 Award for Electrical Engineering Support for Student Activities for distinguished service to students and new graduates pursuing electrical engineering careers. In 2007, he received the IEEE Region 1 Gold Activities Award for outstanding leadership and substantial contributions to North Jersey GOLD and Region 1 GOLD activities. He received the IEEE North Jersey Section 2013 Distinguished Service Award in recognition of leadership and outstanding service to the IEEE North Jersey Section.

Dr. Naresh Chand (Section Chair- 2011-2012):

See the Bio mentioned earlier in the Award section of vendor appreciation section.

Russell Pepe - (Section Chair- 2013-2014):

See the Bio mentioned earlier in the Award section of vendor appreciation section.

Adriaan V. Wijngaarden- (Section Chair - 2015-2016):

See the Bio mentioned earlier in the Award section of vendor appreciation section.

Kalyan Mondal (Section Chair- 2017-2018):

See the Bio mentioned earlier in the Award section of vendor appreciation section.

Yu-Dong Yao (Section Chair- 2019-2020):



Yu-dong Yao (Fellow, IEEE) received the B.Eng. and M.Eng. degrees in electrical engineering from the Nanjing University of Posts and Telecommunications, Nanjing, China, in 1982 and 1985, respectively, and the Ph.D. degree in electrical engineering from Southeast University, Nanjing, in 1988. Since 2000, he has been with the Stevens Institute of Technology, Hoboken, NJ, USA, where he is currently a Professor and the Chair of the Department of Electrical and Computer Engineering. His research interests include wireless communications, machine learning and deep learning techniques, and healthcare and medical applications. For his contributions to wireless communications systems, he was elected as a fellow of the National Academy of Inventors, in 2015, and the Canadian Academy of Engineering, in 2017. He has served as an Associate Editor for the IEEE Communications Letters, from 2000 to 2008, and the IEEE Transactions on Vehicular Technology, from 2001 to 2006. He has served as an Editor for the IEEE Transactions on Wireless Communications, from 2001 to 2005.

IEEE North Jersey Section - Milestones

IEEE North Jersey Section has contributed to the submission for approval and subsequent dedication of following IEEE Milestones.

[Demonstration of Practical Telegraphy, 1838](#)

Morristown, NJ, U.S.A., Dedicated 7 May 1988 -- IEEE North Jersey Section

In this building in January 1838, Samuel F. B. Morse and Alfred Vail first demonstrated publicly crucial elements of their telegraph system, using instruments that Vail had constructed during the previous months. Electrical pulses, transmitted through two miles of wire, caused an electromagnet to ink dots and dashes (grouped to represent letters and words) on a strip of paper. Commercialization began in 1844 when funding became available.

[Thomas Alva Edison Historic Site at Menlo Park, 1876](#)

Menlo Park, NJ, U.S.A., Dedicated 9 September 2006 -- IEEE Princeton/Central Jersey Section

Between 1876 and 1882 at Menlo Park, New Jersey, Thomas Edison developed the world's first industrial research and development laboratory devoted to developing new technology. At this laboratory, Edison and his staff developed the first system of incandescent electric lighting and electric power generation, and invented recorded sound and a commercially successful telephone transmitter

[Thomas A. Edison West Orange Laboratories and Factories, 1887](#)

West Orange, NJ, Dedicated 18 October 2008 -- IEEE North Jersey Section

Thomas Alva Edison, a West Orange resident from 1886 until his death in 1931, established his final and most comprehensive laboratory and factory complex about one-half mile (0.8 km) north of here in 1887. Edison's visionary combination in one organization of basic and applied research, development, and manufacturing became the prototype for industrial enterprises worldwide. Work here resulted in more than half of Edison's 1,093 patents

[Two-Way Police Radio Communication, 1933](#)

Bayonne, NJ, U.S.A., Dedicated May 1987 -- IEEE North Jersey Section

In 1933, the police department in Bayonne, New Jersey initiated regular two-way communications with its patrol cars, a major advance over previous one-way systems. The very high frequency system developed by radio engineer Frank A. Gunther and station operator Vincent J. Doyle placed transmitters in patrol cars to enable patrolmen to communicate with headquarters and other cars instead of just receiving calls. Two-way police radio became standard throughout the country following the success of the Bayonne system.

[Invention of the First Transistor at Bell Telephone Laboratories, Inc., 1947](#)

Murray Hill, NJ, U.S.A., Dedicated 8 December 2009 -- IEEE Northern New Jersey Section

At this site, in Building 1, Room 1E455, from 17 November to 23 December 1947, Walter H. Brattain and John A. Bardeen under the direction of William B. Shockley, discovered the transistor effect.

[Bell Telephone Laboratories Technical Achievements - 4 cited Technologies](#)

Murray Hill, NJ, USA, Dedicated in 2014 at Bell Labs/Nokia - IEEE Northern New Jersey Section

BELL LABS – WIRELESS AND SATELLITE COMMUNICATIONS, 1925-1983

Bell Telephone Laboratories, Inc. introduced: the first radio astronomical observations (1933), Smith Chart (1939), early mobile phone service (1946), cellular wireless concept (1947), TDX Microwave Radio System (1947), TD Transcontinental Microwave Radio System (1950), [Transatlantic Transmission of a Television Signal via Satellite, 1962 Telstar](#) - first active communications satellite (1962), first observation of the cosmic background radiation (1964), first U.S. cellular wireless system (1978), digital cellular technology (1980), and the AR6A SSB-SC Microwave System (1981).

BELL LABS - DIGITAL SIGNAL PROCESSING AND COMPUTING, 1925-

1983 Bell Telephone Laboratories, Inc. introduced: the first electronic speech synthesizer (1936), first binary digital computer (1939), first long-distance computing (1940), digitized and synthesized music (1957), digital computer art (1962), text-to-speech synthesis (1962), UNIX operating system (1969), the C and S languages (1972, 1976), first single-chip digital signal processor (1979), single-chip 32-bit microprocessor (1980), 5ESS Digital Switching System (1982), and C++ language (1983).

BELL LABS - SOLID STATE AND OPTICAL DEVICES, 1925-1983

Bell Telephone Laboratories, Inc. introduced: the point-contact and junction transistors (1947, 1948), zone refining (1951), silicon epitaxy (1951), ion implantation (1952), solar cell (1954), oxide masking (1955), laser concept (1958), MOSFET (1959), foil electret microphone (1962), CO2 laser (1964), silicon gate (1966), heterostructure semiconductor laser (1968), charge coupled device (1969), theory of disordered states of matter (1977), heterojunction phototransistor (1980), and VLSI CMOS technology and circuits (1981).

BELL LABS - COMMUNICATIONS THEORY AND NETWORKS, 1925-

1983 Bell Telephone Laboratories, Inc. introduced: type A facsimile service (1925),

first long-distance television transmission (1927), negative feedback amplifier (1927), first stereo sound transmission (1933), Hamming error-correcting codes (1948), information theory (1948), direct distance dialing (1951), [TAT-1](#) transatlantic telephone cable (1956), T1 transmission system (1962), touch-tone dialing (1963), 1ESS electronic switch (1965), wide area telephone 800 service (1965), and first U.S. commercial fiber-optic system (1977).

[*Weston Meters, \(187 – 1893\) cited Technology on September 2016*](#)

Dedicated at New Jersey Institute of Technology, Newark, New Jersey

Edward Weston and the Weston Electrical Instrument Company introduced the first portable and direct-reading current and voltage meters in 1888-1893. Weston's inventions enabling these meters included: the first truly permanent magnets; temperature-insensitive conductors; low-resistance and non-magnetic springs; metal coil frames where induced eddy currents provided pointer damping (1887); the electric shunt (1893) for the measurement of large currents; and multiple current ranges in a single meter.

IEEE North Jersey Section - Milestone Petition in Progress:

[**Neutrodyne Circuit, 1922**](#)

Babbio Center, Stevens Institute of Technology, Electrical Building, Hoboken, NJ

The Neutrodyne Circuit was invented on the site in 1922 by Prof. Louis Alan Hazeltine. It used neutralizing capacitors to eliminate the squeals and other noise that previously plagued radio amplifiers. The Neutrodyne made radio easier to tune. These improvements in performance and simplicity rapidly expanded radio use from armature radio operator to a mass consumer market. By 1923, 500 stations were broadcasting to about two million listeners.

[**Magic Eye \(Cathode Ray Tube\), 1932:**](#) Dedicated at Montclair, NJ

The Magic Eye Tube, also known as Electron Ray Tube, was invented in Upper Montclair, NJ USA, in 1931-1932 by Allen B. Du Mont. It was used as a tuning accessory in radios and as a level meter in mono and stereo home, reel-to-reel tape recorders. Magic eye tubes, provided radio designers with a less expensive and more profitable way to add a feature usually found in higher price equipment. The general public reception was a success as customers like the green glow and the seemingly magical way it worked.

In Memorium....

Remembering the contributions of the departed

Dr. Fredrick Chichester

Dr. Fredrick Chichester passed away on May 06, 2021. On behalf of the section, Section Chair extends deepest condolences to the family members and loved ones of Dr. Fredrick Chichester. Some of the recent activities that Fred was involved in are highlighted below. speakers to Discuss Apollo's Impact on Technology and Innovation on Dec. 12, 2019

(Ref.: [Speakers To Discuss Apollo's Impact on Technology and Innovation On Dec. 12 – Harry A. Sprague Library - Montclair State University](#))



Photo: On Thursday, Dec. 12, 2019, the program organized “From CAT Scans to Computer Microchips: Apollo’s Impact on Technology & Innovation” at 7pm at Buzz Aldrin Middle School, 173 Bellevue Ave. Montclair. Dr. Frederick Chichester (North Jersey Section ExCom member) discusses his work on the Apollo 11 Lunar Excursion Module (LEM) and engineering design for space travel.



Photo: Dr. Frederick Chichester of Montclair, a member of the team that developed the Apollo 11 Lunar Module rocket engine control system speaks to the crowd. He was also involved in the climate change activities.

<https://montclairlocal.news/montclair-buzz-aldrin-moon-landing-nj/>



Photo: From Left: Pat Kenschaft, her husband



Photo: Dr. Fred Chichester

Dr. Fred Chichester passed away on May 06, 2021. Fred was a very active and dedicated IEEE volunteer, helped North Jersey Section in several capacities, Chaired the Section in 1999 and was a long time North Jersey section ExCom member, served in several committees, always ready to help new members, including extending support and help to the local communities. On behalf of the North Jersey section, Section chair extends deepest condolences to the family members and loved ones of Dr. Fred Chichester. Prof. Tapan Sarkar (2020 IEEE Vice President for Publications Services and Products, IEEE Director and IEEE Board of Directors member.

Prof. Tapan Sarkar (2020 IEEE Vice President for Publications Services and Products, IEEE Director and IEEE Board of Directors member



On behalf of the North Jersey section, the section chair extends our deepest condolences to the loved ones of Prof. Tapan K. Sarkar, who passed away on March 12, 2021. The picture shown in the photon the left and figure below depicts the photo of Dr. Sarkar with 2020 IEEE Dr. Toshio Fukuda (2020 IEEE President) and IEEEAP-S leaderships. As a president of the IEEE AP-S society and Chair of IEEE AP-S MGA, Dr. Tapan. Sarkar was very supportive in increasing the technical activates at IEEE North Jersey Section, which helped in receiving the best 2019 AP/MTT chapter award-1 ST place among all the IEEE regions (R1-R10). Dr. Sarkar was a great advocate of IEEE, especially North Jersey MTT and AP Chapter.

Unfortunately, he got infected by the Corona virus in March/April 2020, and later passed away on March 12, 2021. Dr. Sarkar will be dearly missed by North Jersey MTT/AP Chapter volunteers and members.

The obituary for Dr. Tapan Sarkar can be found here:

<https://obits.syracuse.com/obituaries/syracuse/obituary.aspx?pid=198036233>



Photograph showing the welcome speech by Dr. Toshio Fukuda (2020 IEEE President) at the IEEE AP-S Symposium on Antennas and Propagation and USNC-URSI Radio Science Chapter Chairs Luncheon presentation meeting, July 11, 2019, Hilton Hotel in Atlanta, GA, USA. From left, Dr. Tapan K. Sarkar (2020 IEEE Vice President for Publications Services and Products, IEEE Director and IEEE Board of Directors member), and Chair IEEE AP-S MGA, and Dr. Toshio Fukuda, 2020 IEEE President, Dr. Ajay K. Poddar, Global Chair IEEE AP-S CAC, Dr. Koichi Ito, 2019 IEEE AP-S President, and Dr. Weng Cho Chew, 2018 AP-S President. As a president of the society, Dr. Tapan. Sarkar was very supportive in increasing the technical activities at IEEE North Jersey Section, which helped in receiving the best 2019 AP/MTT chapter award in entire regions (R1-R10). Dr. Sarkar passed away on March 12, 2021.

On behalf of the section, Section chair extend deepest condolences to the family members loved ones of Prof. Tapan K. Sarkar). Figure (8) shows the photograph of Dr. Tapan Sarkar (AP-S Past President), Dr. Ulrich L. Rohde, (Chair IEEE AP-S

Strategic Planning Committee and AP-S SIGHT Member, Chairman Synergy Microwave, New Jersey), Dr. Ajay K. Poddar (Chair AP-S Chapter Activity Committee), and Dr. Ahmed Kishk (AP-S Past President) discussing about the Student Project Activities at IEEE North Jersey Section, focusing on humanitarian technology for year 2018. Dr. Rohde agreed to support for additional funding for supporting the SIGHT Project to support the great mission of IEEE, “Advancing Technology for Humanity”. Dr. Tapan Sarkar and Dr. Ajay Poddar were emphasizing to build the bridge between the societies and industries, this effort can lead to dissemination of knowledge for the benefit of members and society globally.

David Soll, Past Princeton Central section chair

On another sad note, David Soll, who has been a long-time friend, past Princeton Central section chair, and a proactive Princeton Central Jersey IEEE Volunteer, passed away a few weeks after we had the wonderful opportunity to meet him and his wife Robin, at our North Jersey Section Picnic event on Sept 26, 2021, the first in-person out-door section event, after the meeting guidelines of the pandemic were relaxed a little. He will be missed greatly. David and his wife, Robin were very actively participating and interacting with all the participants and sharing his experience and benefits of IEEE with students and other members during the picnic event. Our Section chair had personally contacted David extending the invitation to join the social event on Sept 26, which he and his wife gladly accepted. May God give strength to bear this loss to his family members, especially his wife Robin and all his loved ones.



Photo shows David (wearing blue cap) and his wife, Robin (sitting next to him)



Photo: At the North Jersey Section at the Outdoor Event Sept 26, 2021. **From the right, David (wearing blue cap) and his wife, Robin (wearing red jacket)** sitting next to him, were very actively participating and interacting with all the participants and sharing his experience and benefits of IEEE with students and other members during the picnic event.

Max J. Schindler, Past Chairman of the North Jersey Section of the IEEE



Boonton Township reported - Max J. Schindler of Boonton Township, Past Chairman of the North Jersey Section of the IEEE (Institute of Electrical and Electronic Engineering), died on January 6, 2021 at the age of 98.

The obituary can be found at:

[Max Schindler Obituary \(1922 - 2021\) - 98, Boonton Township, NJ - The Daily Record \(legacy.com\)](#)

2022 IEEE North Jersey Section: Industrial Sponsors

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*Please contact Russell Pepe, Cell: 201-960-6796, Email: rcpepe@ieee.org
We thank our industry sponsors for their participation in our section's award ceremony. They are listed below in alphabetical manner as follow:*



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Russell C. Pepe, Bio has been presented earlier in the Award section



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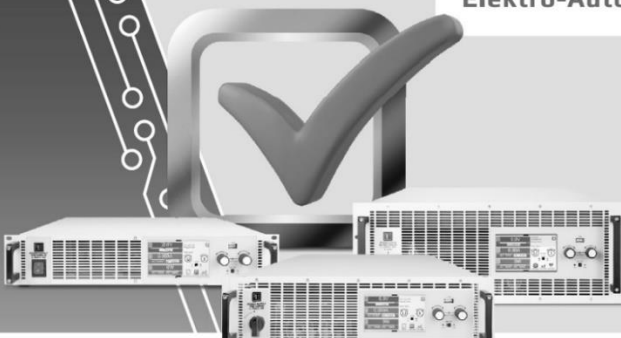
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Kirit Dixit He is the founders of Micro-com Sales LLC since 2004 and works as a manufacturer's representative in Metro NY/NJ Area. He was with RFESCO for the past 15 years prior to forming his company. For the prior eight years, he was the area manager for California Eastern Labs, representing NEC RF and MW products. Prior to CEL, Kirit was a Product Marketing Manager for MSC a semiconductor company in NJ. (See the Bio mentioned earlier in the Award section of vendor appreciation section).

 The advertisement for MegaPhase features a purple-tinted background with images of military vehicles and communication equipment. The MegaPhase logo, a stylized orange and red 'S' shape, is prominently displayed. Below the logo, the text reads "With the right connections, anything is possible." In the foreground, several RF cables and a black connector box are shown. The box has the MegaPhase logo and the text "MegaPhase Products" on it.

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