

*The Radio Club of America*  
1909  2009

*2009*  
Technical  
Symposium  
*Program*

In conjunction with the 100th  
anniversary celebration of  
*The Radio Club of America.*

Georgetown University Hotel  
and Conference Center

Saturday, Nov. 21, 2009

**8:30 a.m. to 4 p.m.**

Photo of the Armstrong Regen Set,  
used with permission from the  
Antique Wireless Association.

# 2009

## SYMPOSIUM SCHEDULE

**8:30 a.m. – 10:00 a.m.**     **“Historic Communications Equipment, Communications with Space Craft and Innovations in Amateur Radio.”**

Moderated by Rich Reichler.

Presenters: Bruce Roloson, Felicia Kreuzer, Henry Richter and Carole Perry.

**10:15 a.m. – 11:00 a.m.**     **“Association Leaders Roundtable: Wireless Yesterday, Today and Tomorrow.”**

Moderated by Debra Baker.

Presenters: Mike Fitch, Stan Reubenstein, Michael Altschul and Richard Mirgon.

**11:15 a.m. – 12:00 p.m.**     **“What’s New in Transmission Technology?”**

Moderated by Andrew Seybold.

Presenters: Peter Moncure and Dennis Martinez.

**1:00 p.m. – 2:00 p.m.**     **“Do We Need More Spectrum, and What For?”**

Moderated by Debra Baker.

Presenters: Harlin McEwen, Stu Overby and Katherine Waldron.

**2:15 p.m. – 3:00 p.m.**     **“Trends in IP Convergence.”**

Moderated by Keith Kaczmarek.

Presenters: John Facella and Mike Hunter.

**3:15 p.m. – 4:00 p.m.**     **“Centennial Gala Panel Wrap-Up.”**

Moderated by Rich Reichler and Debra Baker.

*A free-for-all discussion and Q&A session addressing the day’s topics with moderators, presenters and special guests.*



## Biographies of presenters:



### **Michael Altschul, senior vice president & general counsel, CTIA**

Altschul, Fellow, who joined CTIA in 1990 after a stint in the Antitrust Division of the U.S. Department of Justice, is responsible for the association's legal advocacy and CTIA's compliance with antitrust and other applicable laws. He also is an active participant in the development of the Association's public

policy positions. During his 10 years at the Justice Department, Altschul worked exclusively on communications matters, including the Modification of Final Judgment and the GTE decree as well as related FCC filings, and telecommunications-industry mergers and acquisitions. Altschul received a Bachelor of Arts degree in Political Science from Colgate University, and a Juris Doctor from the New York University School of Law.



### **Debra Baker, director and co-chairman of the Radio Club Centennial Gala**

Baker, Fellow, began her wireless-industry reporting career in 1981, creating and editing its first product tabloid. Since that time, she has reported and/or edited every major U.S. wireless magazine and newsletter; she currently works for consulting and information provider T3i

Group LLC. She has been an active member of the Radio Club since the mid-1980s, chairing the Publications Committee for many years. She was awarded the Radio Club's Special Services award in 2004.

### **V.G. Duvall, Jr.**

Duvall, Fellow, is a Registered Professional Engineer in 40 states and D.C. He has designed and evaluated several thousand communications structures and provided civil site designs for hundreds of wireless carrier sites. Duvall has been employed by tower manufacturing companies, a broadcast antenna manufacturing company, as well as general consulting firms. His experience includes supervising projects in Egypt, Venezuela, and Brazil. He graduated with a BSCE from the University of Oklahoma with a year of graduate studies in Structural Engineering before accepting a position with Microflect.



### **John Facella, director for Public Safety Markets at Harris RF Communications (formerly Tyco Electronics M/A-COM)**

Facella, Fellow, has 30+ years of experience in public safety and military radio communications. He is a member of the Association of Public Safety Communications Officials (APCO); the International Association of Fire Chiefs (IAFC), and other organizations. He is

a vendor member of the IAFC Communications Committee and served on its "Digital Radio Problem Working Group." He is also an active firefighter/EMT with 20+ years of experience, and is a Massachusetts state certified Firefighter I/II and Fire Instructor I. During Hurricane Katrina he was Harris' senior management representative on scene in New Orleans. He has been on numerous land mobile radio industry panels, is frequently interviewed in the industry press,

and has authored numerous articles. Facella has a BSEE degree from Georgia Tech, an MBA in marketing from Georgia State University, and is a registered professional engineer in Illinois and a chartered engineer in the U.K. He has one patent in process. He has served as an officer in the U.S. Army Signal Corps.



### **Michael T. N. Fitch, president & CEO, PCIA**

Prior to joining PCIA, Fitch, Fellow, held senior positions in industry and government. He began his career at the Federal Communications Commission as an attorney, and he advanced through management positions to Bureau Chief, and Senior Legal and International Advisor to the Chairman. Fitch moved from the FCC to

the U.S. Department of State, where he was an Office Director and Deputy Assistant Secretary for International Communications and Information Policy. He headed U.S. delegations to International Telecommunication Union and Inmarsat conferences as well as bilateral negotiations with other countries. Fitch then moved to Hughes Communications as vice president for Spectrum Management. After the acquisition of Hughes Space and Communications by Boeing, he continued in that responsibility for Boeing Satellite Systems, and he also was responsible for new Homeland Security programs. Fitch received a Bachelor of Science degree in Electrical Engineering from Purdue University and a Juris Doctor degree from Columbia University.



### **Michael W. Hunter, president and CEO of RCC Consultants, Inc.**

Hunter, Fellow, has been engaged in communications systems consulting, engineering, and operations for forty three years. In addition to his work in public safety he has been on the management team in the planning and start-up of wireless businesses including cellular telephony, paging, wireless data networks, and

communications towers. He earned the Bachelor of Science from Virginia Commonwealth University and the Master of Business Administration from the Stern School of Business at New York University. He is a member of American Mensa, Ltd., the Association of Public Safety Communications Officials, the Institute of Electrical and Electronics Engineers, and the National Fire Protection Association. In 2008 he was honored by the Radio Club of America with the Fred M. Link Award for contributions to the land mobile communications industry.



### **Keith Kaczmarek, founder and president of inPhase Wireless**

Kaczmarek has more than 25 years of wireless telecommunications experience, and he has played prominent technology and operations leadership roles at Cyren Call Communications, FiberTower, Teligent, Nextel, AirTouch, PrimeCo and GTE. Prior to inPhase Kaczmarek was co-founder and president of Cyren

Call Communications. As an early investor in FiberTower, Kaczmarek also held a number of roles including CTO and COO. Kacz-

marek led the development, deployment and operations of Teligent's fixed wireless network. Prior to Teligent, Kaczmarek served as CTO for PrimeCo (later acquired by Verizon) where he launched the first CDMA network in the PCS band. Continuing to serve as a technology pioneer, Kaczmarek developed and deployed first and second-generation iDEN specialized mobile radio networks at Nextel. He also was instrumental in the early development of CDMA and the evaluation and selection of several leading edge technologies while at AirTouch (later acquired by Verizon). Kaczmarek holds a MBA degree, a MS degree in Electrical Engineering and a BS degree in Electrical Engineering from the University of Illinois.



**Felicia Kreuzer, KA2GXL**

Kreuzer is an avid collector and Historian of Early Wireless Apparatus and Literature. A ham radio operator since 1979, she is a Military Contracts Administrator for Moog Inc. of East Aurora, NY. She is a Charter member of the NFWA (Niagara Frontier Wireless Assoc.) as well as serving as its President from 1985 - 1988. Kreuzer is on the AWA (Antique Wireless

Assoc.) Board of Directors and is currently serving as its Secretary. She is also an Assistant Curator of the AWA Museum, in charge of Pre-1920 Wireless and Telegraph Apparatus. Felicia and her husband Jim have a daughter who is an Occupational Therapist for a NY school district, and a son who is attending school and is a member of the RCA, his ham call is KC2OTK. They have built a significant Private Wireless Museum containing mainly Pre-1920 Wireless Apparatus such as Marconi, DeForest, Wireless Specialty Company Receivers and Transmitters. Their substantial library contains many early works on electricity and wireless, as well as catalogs, magazines and autographs. They are authors of many articles on early wireless published by the AWA, ARC and ARCA. They received the AWA Houck Award for Preservation in 1999.



**Dr. Dennis M. Martinez, vice president of Broadband and Cellular Products at Harris Corp.**

Martinez is the senior manager responsible for developing, assessing, and applying new technologies utilized in mission critical wireless networks for applications such as Public Safety, Utilities, and Transportation. He has led the development of core technologies and products utilized in Harris' IP-Based VIDA System Solutions, including OpenSky, P25IP, and NetworkFirst. VIDA is a family of compatible systems that share a common IP-Based core of network switching and management products. OpenSky is Harris' high capacity TDMA Land Mobile Radio system that supports fully integrated voice and data applications. P25IP is Harris' Project 25 compatible Land Mobile Radio System that supports Conventional and Trunking system configurations. NetworkFirst is M/A-COM's IP-Based Interoperability Solution that supports interconnection of disparate radio systems into a fully interoperable network. Martinez has taught graduate level courses in Digital Signal Processing, and offers lectures on Signal Processing Theory and Communication System Design and Analysis. Martinez has co-authored patents for Wireless Communication and Image Processing Systems. He received his BSEE, MSEE, and Ph.D. from the Massachusetts Institute of Technology, all in the field of Electrical Engineering.

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**Harlin McEwen, chairman, Public Safety Spectrum Trust Corporation**

Harlin McEwen, Fellow, has had a long career in public safety, spending most of the last 50 years to law enforcement. He is the retired police chief for the City of Ithaca, N.Y., and he also retired as a deputy assistant director of the Federal Bureau of Investigation in Washington, D.C. For the past 30 years, McEwen has served

as chairman of the Communications and Technology Committee of the International Association of Chiefs of Police (IACP). As chairman of the Public Safety Spectrum Trust Corporation (PSST), a non-profit corporation formed under the laws of the District of Columbia, he has overseen the group as it serves as licensee for the 700 MHz nationwide Public Safety Broadband License (PSBL), granted to the PSST by the Federal Communications Commission on Nov. 19, 2007.



**Bruce McIntyre, vice president of RCA and advisor to AGL magazine**

McIntyre, Fellow, has been a leader within other wireless organizations, including service as a Director on the Board of PCIA - The Wireless Infrastructure Association, Chairman of SOMA (Site Owners and Managers Association), and President of a chapter of AFCEA (Armed Forces Communications and Electronics Association).

He was one of the founding members of SOMA, and in 2004 received a pioneer award from PCIA. Bruce is a member of several other telecommunications associations and has been in the wireless industry for nearly 40 years. In 1999, Bruce founded Tower Innovations, Inc. and has been its President ever since. Since 1999, he has consulted to the wireless industry and has done work for Hughes Network Services, TerreStar Networks, Qualcomm/MediaFlo, Richland Towers, Pinnacle Towers and others. In 1985, he joined Tower Technology Corp as VP and General Manager after spending nearly 14 years with Motorola as a Service Manager, Account Executive and work with Motorola's Computer Division. He started his career as an avionics technician in the U.S. Air Force during the Vietnam War, and then joined Motorola. Bruce has a BA degree from Eckerd College.



**Richard Mirgon, president, APCO International**

Richard Mirgon, RCA member, recently retired from his position as Director of Technology Services for Douglas County, Nev., a position he held since 1991. The Technology Services Department includes public safety communications/911, information systems, emergency management, and animal control. He has participated in several statewide activities, including being a past president and founding member of the Nevada Chapter of the National Emergency Number Association (NENA) and the Nevada Chapter of APCO. In December 1999, he was appointed by the governor to the State Emergency Response Commission, where he served as co-chair from March 2001 until March 2006. Additionally, he served as co-chair of the WMD/Homeland Security Steering Committee from 1999 through the fall of 2003. Prior to his employment with Douglas County, Mirgon spent 13 years in Jefferson County, Colo., as a deputy sheriff, and he worked as a special projects manager for the

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Board of County Commissioners. Mirgon also served four years in the U.S. Air Force as an intelligence analyst assigned to the National Security Agency. He holds a Bachelors Degree in Political Science.



**Peter Moncure, vice president and founder of RadioSoft.**

Fellow Moncure's life's work has involved antennas and radio of every description. He is a member of the Association of Public-Safety Communications Officials International (APCO), the Association of Federal Communications Consulting Engineers (AFCCE), the Society of Broadcast Engineers (SBE), IEEE

and other groups. He is very active in spectrum management, FCC policy and the development of related software.



**Stu Overby, senior director/Global Spectrum Strategy, Motorola.**

Overby, RCA member, has more than 33 years of experience in spectrum management and communications, including 21 years at Motorola and 12 years at the Federal Communications Commission, where his career spanned the areas of mobile spectrum allocation, field enforcement and broadcast licensing. He has

taken a leadership role in spectrum allocations for public safety and private mobile radio systems, personal communications services, digital television and unlicensed consumer systems. Overby also works with NPSTC, where he serves as vice chair of the Spectrum Management Committee, and chair of the 700 MHz Advocacy Working Group and the In-Building Communications Working Group. In addition to his participation in NPSTC, Overby is active in industry associations and is a member of the International Association of Chiefs of Police (IACP) Communications and Technology Committee and of the Homeland Security Committee of Association of Public-Safety Communications Officials - International (APCO). Overby holds a Bachelor of Science degree in Electrical Engineering (BSEE) from the University of Virginia.



**Carole J. Perry, WB2MGP, director of RCA.**

Perry, Fellow, is currently Co-Chair of RCA's Education Committee. Perry created the RCA Young Achievers Award, which is awarded to students in grades 12 or below who have demonstrated technical expertise and creativity in wireless communications. At RCA's Centennial Awards Banquet this year, Perry will be presented with RCA's President's Award. In 1996, RCA awarded her its "Barry Goldwater Award." The Quarter Century Wireless Association presented its "President's Award" to Perry in 1993. In 1991, she was the recipient of the "Marconi Memorial Award" given by the Veteran Wireless Operator's Association. In 1987, Perry received the prestigious Dayton Hamvention "Ham of the Year" award and the American Radio Relay League "Instructor of the Year" award.

After a 16-year career as executive vice president for RapidCircuit Inc., an electronics manufacturing company, Perry in 1981, joined the staff of Intermediate School 72 in Staten Island, NY, where she created the curriculum for "Introduction to Amateur Radio," which she taught until her retirement in 2004. Perry currently serves as a columnist for WorldRadio magazine, and has moderated the "Youth

Forum" and "Instructor's Forum" at the Dayton Hamvention for the past 22 years.



**Richard J. Reichler, coordinator/moderator of the RCA Technical Symposium.**

Reichler, Fellow, also is serving as chair of RCA's Sections/Industry Conferences Committee and served for 8 years as a director on RCA's Board. He is a Life Member of RCA, and, in 2006, he received RCA's Special

Services Award. He is currently president and founder of RJR Wireless, providing consulting and special project services to the antenna site industry. Reichler has been a presenter, speaker, and writer on issues relating to the business of antenna site management. He was previously general manager of the Southern California Region of American Tower, plus vice president and a corporate director of Meridian Communications. He is also currently a director and vice president of the Brookwood Office Park Owners Association. He successfully passed the CPA examination but is not a licensed or practicing Certified Public Accountant. Rich received a Bachelor of Science Degree in Mathematics - Computer Science from the University of California at Los Angeles (UCLA).



**Stan Reubenstein, president, RCA and president/founder of Aurora Marketing Company.**

Reubenstein (WA6RNU), Senior Member and Fellow, is the current president of the Radio Club of America and president/founder of Aurora Marketing Company in Denver. During his long career in wireless communications, he has worked for the Jet Propulsion Lab in Pasadena,

Calif.; for Standard Communications; for Dynatel Communications; and for TPL Communications. He has been a member of APCO International since 1970; a member of the Communications Marketing Association since 1973 (including a stint as president 1979/81). a Life Member of the ARRL (winning that organization's Emergency Service Award in 1971); a Life Member of QCWA; a Life Member of the National Eagle Scout Association (winning the James E. West Fellow Award from the Boy Scouts of America in 1996); and a member of Alpha Phi Omega. Reubenstein also is a recipient of the CMA Pioneer Award (2003) and the Radio Club of America Special Services Award (1997).



**Dr. Henry L. Richter, W6VZA**

Richter, Fellow, has been active in telecommunications since leaving the US Navy in 1946. After earning a PhD. in Chemistry, Physics, and Electrical Engineering from the California Institute of Technology, as well as his Bachelor of Science from the same institution, his career includes the Jet Propulsion Laboratory from 1955-1960 where he had the responsibility for

the USA's first earth satellite, Explorer I. Richter also had responsibility for all scientific instruments for the Ranger, Surveyor, and Mariner programs and spacecraft, and helped develop the worldwide DOD/NASA spacecraft tracking and communications network. He was at Electro Optical Systems in Pasadena, Calif., as Vice President and Technical Director 1960-1966. He was on staff with UCLA

1966-1968. For several years he was with the Los Angeles County Sheriff's Department as Communications Engineer. Since 1978 he has been a communications consultant to Public Safety agencies. In 2008 he was honored by CalTech, JPL, and the American Institute of Aeronautics and Astronautics as a "Space Flight Pioneer" for his work in the early space program. He is a life member of the American Chemical Society, the IEEE, APCO.



**Bruce D Roloson, W2BDR**

Roloson has been involved in the history of radio for over 45 years. He has been a member of the Antique Wireless Association (AWA) during this time. He served AWA as vice president, president, Board member, conference chairman, OTB editor, and original electrician for the Museum and now curator of the AWA Museum. Roloson also worked for Westinghouse building

a 1 megawatt test transmitter to test tubes made for Radio Free Pacific. He is currently a Project Manager in the R&D section of New York State Electric and Gas. He has worked at NYSEG for over 40 years. By the way, Roloson built his first radio from a Knight-Kit 10 in 1 tube Lab when he was in the sixth grade.



**Andrew M. Seybold, CEO and principal consultant of Andrew Seybold, Inc.**

Seybold, Fellow, is one of the most respected and influential champions of mobile wireless innovation. Since 1983, he has served his clients and the industry as an analyst, consultant, commentator and author, and as an active participant in industry trade organizations.

Seybold has and does serve on a number of advisory boards including Motorola's prestigious Visionary Research Council. He is widely known throughout the wireless communications industry for his keen perspective, his sense of what customers want, need and are willing to pay for and his track record for accurately predicting trends in mobile wireless technology and convergence. Seybold is a frequent speaker at leading industry events such as CES and CTIA Wireless, and at corporate events for Fortune 1000 companies. He serves on the board of directors of Commnexus San Diego.



# Good things are meant to be shared!

Have you enjoyed the Technical Symposium today?

If so, why not jot down three friends' names that you'll invite to join you next year.

The Radio Club of America's membership has grown over the years by word-of-mouth. Invite your colleagues to join the Club in 2010.

Then, invite them to next year's banquet and symposium.

Enjoy the dinner  
and  
awards banquet!

# 2009

## NOTES & ACKNOWLEDGEMENTS

**Thanks to all of the people that helped produce this event, and particularly:**

- Debra Baker, *Fellow & director*, for co-producing this event.
- Mercy Contreras, *Fellow, president emeritus & Centennial co-chair* – for handling numerous aspects.
- Karen Clark, *Fellow & executive secretary* – for handling registration and some document preparation.
- V.G. Duvall, *Fellow* – for miscellaneous assistance during the event.
- Bruce McIntyre, *Fellow & vice president* – for miscellaneous assistance before and during the event.
- Rich Reichler, *Fellow*, for co-producing this event.

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### Audio/video recording

Each year from 2002 through 2008, AC Video Services (“ACVS”) (Andy Conte, *Fellow*) [<http://www.takeonenetwork.com/acvideo/>] [(800) 710-8804 and (973) 661-1976] has made an audio/video recording of this event since this provides a nice historical record and enlarges the audience. These yearly recordings are available for purchase (currently in the form of DVDs) from ACVS.

**The PowerPoint presentations** and/or papers presented at this event might also be published by the RCA and be available via its Web site, its journal (The Proceedings of the Radio Club of America), etc.

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**Continuing Professional Education Credits** might be available for people attending this event.

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### Opportunities and request for future help.

Please contact Rich Reichler (RJRWireles@aol.com) to provide information about any possible sponsors, speakers, helpers, or ideas for a future RCA Technical Symposium.

In support of its charitable, educational, and scientific missions, RCA has set up this event. The RCA welcomes contributions of financial and human resources to help its education/scholarship funds and other programs.



**Radio Club of America**

*For the radio/wireless industry, the RCA (established 1909) brings radio people together, provides educational materials, grants scholarships, promotes scientific advancement, preserves history, and recognizes excellence. People wanting to join RCA, contribute to its education/scholarship funds, etc., may contact RCA: (303) 948-4921, <http://www.RadioClubOfAmerica.org>, [info@RadioClubOfAmerica.org](mailto:info@RadioClubOfAmerica.org).*

# 2006-2008

## PAST SYMPOSIUM TOPICS

### Highlights of recent past RCA Technical Symposiums:

These events showcase the diverse technologies and many talented individuals that exist in the radio industry. Here are some of the topics and presenters that have been part of recent RCA Technical Symposiums.

#### 2008:

“See How Antennas Work” presented by Dale P. Clement.

“Future Evolution of Cellular Telecommunications” presented by Kenneth C. Budka.

“Wireless Telecommunications Requirements of Critical Infrastructure Providers” presented by Mark Madden and M. Kelly McNair.

#### 2007:

Presentation by Dana Dulabone about advanced wireless technologies for personal communications systems.

Presentation by John Chapin about software defined radio.

#### 2006:

Presentation by Hugo Gaggioni about high definition television (“HDTV”) broadcast technology.

Presentation by Leonard R. Kahn about the state of the art of new AM broadcast technology.



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