

Charles L. Rino

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Education BSEE, University of California, Berkeley 1965.

MSEE, University of California, Berkeley 1966.

Ph. D., Information and Computer Science, University of California, San Diego, 1970

Areas of specialization

Electromagnetic Theory, Communications/Information Theory, Mathematics

Ph. D Thesis: “The Solution of Convolutional Integral Equations by Discrete Fourier Transforms”

Ph. D Advisor: Carl W. Helstrom

Honors

Honors at Entrance, U. C. Berkeley

Eta Kappa Nu, Tau Beta Pi

NASA Trainee: June 1967–September 1969

Experience

Consultant June 2009 to Present
RinoConsulting, Menlo Park, CA

- Signal processing, algorithm development, EM Propagation

Vice President of Research, Staff October 1987 to January 2009
Scientist, Senior Research Engineer
Vista Research, Inc., Sunnyvale, CA,

- Principal Investigator of numerous DOD projects sponsored by the Defense Advanced Research Projects Agency, the Naval Research Office, and the Army Research Office. The work involved theoretical studies, concept demonstration experiments, and advanced algorithm design spanning multi-channel digital signal processing, adaptive signal processing, Bayesian detection, tracking, fusion, and classification.
- Commercialization of ground penetrating radar, acoustic subsurface sensing, and real-time measurement of Hockey Puck for Fox Sports Productions, Inc. (Named on Patent No. 5,564,698).
- Participated in state-of-the art system development involving precision navigation, calibration, equalization, adaptive signal processing, and waveform design.
- Algorithm development for radar ground surveillance of walkers in heavy ground clutter.

Chief Scientist, October 1986 to October 1997
Radar and Propagation Effects Group of Mission Research Corp., Monterey, CA

- Analysis of communication system and SAR radars in highly disturbed environments.
- Principal investigator of Army Research Office directed study of scattering from rough surfaces

Assistant Lab Director, Program Manager, Research Engineer
SRI, International, 333 Ravenswood, Ave., Menlo Park, CA

June 1971 - October 1986

- Major participant in Chatanika Auroral-Zone 5 MW L-band Incoherent Scatter Radar Project. Development of data analysis techniques for plasma velocity estimation, design of high-resolution multipulse correlator, scientific of Auroral-zone and Polar-Cap phenomena, particularly Joule heating of the neutral atmosphere.
- Major participant in dedicated radio-beacon satellite program that included three successful launches (Wideband, Hilat, and Polar Bear). Theoretical analysis, experiment planning, and direction of scientific studies. Analysis tools are still used for interpreting satellite scintillation data.
- Principal investigator of ongoing propagation studies for Defense Nuclear Agency. Developed predictive models for communications in severe propagation environments.
- Principal investigator for National Telecommunications and Information Agency model development for multiple scattering effects in discrete random media.
- Scientific director for U. S. Army wideband channel probe to measure scattering effects in forested environments.

Associations IEEE Life Member

American Geophysical Society

Honors IEEE Fellow 1998 (*Wave propagation and ionosphere physics*)

Publications Over 50 publications in refereed journals

- Radio Propagation in continuous random media (scintillation) –24
- Ionospheric Physics–18
- Rough Surface Scattering–10
- Analysis methods–6

Book *The Theory of Scintillation with Applications in Remote Sensing*

John Wiley & Sons, IEEE Press, 2011