

KARL C. HENDERSON

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PROFESSIONAL PREPARATION:

Hampden-Sydney College,	Liberal Arts,	BA 1958
University of Virginia,	Electrical Engineering,	BEE 1964
University of Virginia,	Electrical Engineering,	MEE 1966
University of Virginia,	Electrical Engineering,	PhD 1977

APPOINTMENTS:

Oceanographic Instrument Engineer, Mote Marine Laboratory, 2006 to Present
President, Electronic Systems and Services, 1994 to 2005
Adjunct Associate Professor, Electrical Engineering Dept. University of Virginia, 2000
Visiting Professor, Electrical Engineering, University of Virginia, 1994
Research Specialist, Research Center, Babcock & Wilcox, 1977 to 1993
Faculty Research Associate, Research Labs for Engineering Sciences, UVA, 1969 to 1977
Adjunct Faculty, Electrical Engineering, University of Hartford, 1968
Research Engineer, United Technologies Research Center, 1966 to 1969
Commissioned Officer, U. S. Coast Guard, 1958 to 1961

PUBLICATIONS

1. Henderson, K., McVey, E., and Moore, J., Control Section Design of a Multicomponent Microforce Measurement System. IEEE Trans. Instrumentation and Measurement 1968, IM-17 No. 2.
2. Henderson, K., McVey, E., A Method for Increasing the Resolution of Discrete Optical Sensors. IEEE Trans. Industrial Electronics and Control Instrumentation 1974, IECI-21 No. 2.
3. Zapata, R., Humphris, R., and Henderson, K., Experimental Feasibility Study of the Application of Magnetic Suspension Techniques to Large-Scale Aerodynamic Test Facilities 1974, AIAA 8th Aerodynamic Testing Conference, Silver Spring, MD July 1974.
4. Hails, A. C. Boyes, A. Boyes, R.D. Currier, K. Henderson, A. Kotlewski and G.J. Kirkpatrick., 2009. The Optical Phytoplankton Discriminator. In: Proceedings of the OCEANS 2009 MTS/IEEE BILOXI Conference. ISBN CD-ROM: 978-0-933957-38-1.

PATENTS

1. MacLauchlan, Daniel T. and Henderson, Karl C., DIODE EXPANDER FOR ELECTROMAGNETIC ACOUSTIC TRANSDUCER ELECTRONICS. Patent Number 5,449,958, Sep. 12, 1995.
2. MacLauchlan, Daniel T., Henderson, Karl C., and Flora, John H., REMOTE PREAMPLIFIER AND IMPEDANCE MATCHING CIRCUIT FOR ELECTROMAGNETIC ACOUSTIC TRANSDUCER, Patent Number 5,511,424, April 30, 1996.

3. MacLauchlan, Daniel T. and Henderson, Karl C., GROUND FAULT PROTECTION FOR EMAT TRANSISTOR SWITCHED MAGNET PULSERS, Patent Number 5,526,213, June 11, 1996.

SYNERGISTIC ACTIVITIES:

- Designed and deployed instruments and systems in nuclear and fossil power plants. This entailed the design of circuitry to process low-level signals in hostile environments. The environments were hostile in terms of temperature, humidity, radiation, and high levels of electromagnetic interference (EMI). Examples include the control system of an underwater robot to disassemble and compact nuclear fuel assemblies and the control and data acquisition system to map the distribution of the neutron flux in a graphite core nuclear reactor.
- Designed Nondestructive Examination systems and circuits for power plants and automobile manufacturing applications. These systems were deployed in plants with power sources and machinery that produced very high levels of EMI such as steel rolling mills and laser welding shops fabricating automobile body panels.
- Experienced in all phases of electronic design from the component level through system level.
- Co-chairman, Digital Control Techniques and Applications Session, ISA/81 St. Louis Conference.

COLLABORATORS

G. Kirkpatrick, Mote Marine Laboratory
A. Hails, Mote Marine Laboratory

ADVISORS

McVey, Eugene S., Professor of Electrical Engineering, School of Engineering and Applied Sciences (Retired), University of Virginia, Charlottesville, VA.