# Robert A. Petitt Jr.

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## Education

M.S.E.E., Polytechnic University, Brooklyn, NY, 1989

B. S., Physics, State University of New York at Albany, Albany, NY, 1982

## Employment

**Senior Engineer**, Woods Hole Oceanographic Institution, 7/11 - present

* Engineering and management services for projects including ocean sensors, vehicles and buoy-based systems

**Research Engineer**, Woods Hole Oceanographic Institution, 1995 - 2011

* Participating in design of Coastal and Global Scale Nodes (CGSN) of the Ocean Observatories Initiative (OOI)
* Designing new generation of CTD sensors for gliders and AUVs
* Participated in design and construction of cabled tsunami warning station
* Participated in the design of new observatories and vehicles
* Participated in design studies for future seafloor observatories
* Managed and participated in the design of H2O junction box electronics

**Ocean Engineer II**, Woods Hole Oceanographic Institution, 1992 - 1995

* Designed and developed electronics for instruments to measure low frequency electromagnetic fields, tilt and pressure
* Helped coordinate and participated in seagoing deployment and recovery operations
* Set up laboratory for maintaining and developing EM instruments

**Ocean Engineer I**, Woods Hole Oceanographic Institution, 1990 - 1992

* Developed, constructed and calibrated microwave radar systems for the measurement of sea surface backscatter
* Deployed and operated systems at sea
* Contributed to data acquisition, hardware development and data analysis

**RF Engineer**, Merrimac Industries Inc., W. Caldwell, NJ, 1985 - 1989

* Designed and developed RF and Microwave components

**Junior Engineer**, Labred Electronics Corp., Bohemia, NY, 1984 - 1985

* Developed and tested RF receiver subsystems

**Engineering Assistant**, Electronic Designers Inc., Hauppauge, NY, 1982 - 1983

* Constructed and tested digital systems

## Papers in refereed journals and books

Petitt Jr., R.A., D.W. Harris, F.B. Wooding, J. Bailey, J. Jolly, E. Hobart, A.D. Chave, F.K. Duennebier, R. Butler, A. Bowen, D.R. Yoerger, The Hawaii-2 Observatory, *IEEE Journal of Oceanic Engineering*, v 27, n 2, pp. 245-253, April 2002.

Austin, T.C., J.B. Edson, W.R. McGillis, M. Purcell, R.A. Petitt Jr., M.K. McElroy, C.W. Grant, J. Ware, S.K. Hurst, A network-based telemetry architecture developed for the Martha's Vineyard Coastal Observatory,*IEEE Journal of Oceanic Engineering*, v 27, n 2, pp. 228-234, April 2002.

## Publications

Jamieson, E. K., R. A. Petitt, Jr., J. Zhu, Power Systems for the Coastal and Global Scale Nodes of the Ocean Observatories Initiative, *Oceans Conference Record (IEEE),* 2012.

Petitt, Jr., R. A., R. W. Schmitt, N. Brown, R. Millard, R. Singer, A New Conductivity-Temperature-Depth Device for High Resolution Oceanographic Measurements, *Oceans Conference Record (IEEE)*, 2005.

Petitt, Jr., R.A., A. Bowen, R. Elder, J. Howland, M. Naiman, Power System for the New Jason ROV, *Oceans Conference Record (IEEE)*, 2004.

Chave, A.D, F.K. Duennebier, R. Butler, R.A. Petitt, F.B. Wooding, D. Harris, J.W. Bailey, E. Hobart, J. Jolly, A.D. Bowen and D.R. Yoerger, H2O: The Hawaii-2 Observatory, *Developments in Marine Technology, Vol. 12*, 2002.

Mellinger, E., T. Aabo, A. Bowen, C. Katz, R.A. Petitt Jr., High voltage testing of an ROV electro-optical tether cable, *Oceans Conference Record (IEEE)*, v 2, pp. 1145-1150, 2001.

Austin, T.C., J. Edson, W. McGillis, C. von Alt, M. Purcell, R.A. Petitt, M. McElroy, J. Ware, R. Stokey, Martha's vineyard coastal observatory: a long term facility for monitoring air-sea processes,*Oceans Conference Record (IEEE)*, v 3, pp. 1937-1941, 2000.

Butler, R, A.D. Chave, F.K. Duennebier, D.R. Yoerger, R.A. Petitt, D. Harris, F.B. Wooding, A.D. Bowen, J. Bailey, J. Jolly, E. Hobart, J.A. Hildebrand, A.H. Dodeman, Observatory pioneers opportunities for remote instrumentation in ocean studies, *Earth in Space*, vol.12, no.8, pp.3-6, April 2000.

Butler, R, Chave, A D, Duennebier, F K, Yoerger, D R, Petitt, R, Harris, D, Wooding, F B, Bowen, A D, Bailey, J, Jolly, J, Hobart, E, Hildebrand, J A, Dodeman, A, Hawaii-2 Observatory pioneers opportunities for remote instrumentation in ocean studies, *Eos, Transactions, American Geophysical Union*, vol.81, no.15, pp.157, 162-163, April 2000.

Chave, A.D., R.A. Petitt, Jr., F.B. Wooding, A.D. Bowen, J.W. Bailey, E. Hobart, W.E. Witzell, Jr.,D.R. Yoerger, F.K. Duennebier, D. Harris, J. Jolly, J. Bosel, and R. Butler, H2O: The Hawaii-2 Observatory, *Proc. Long Term Monitoring of the Mid-Atlantic Ridge (MOMAR) Workshop*, Lisbon, Portugal, 28-31 October 1998. (abstract)

Petitt, R.A., Jr., L.E. Freitag, KE.. Prada, J.W Bailey, D. Harris, and A.D. Chave, Junction box electronics for the Hawaii-2 Observatory, *Proc. Int. Workshop on Scientific Use of Submarine Cables*, Okinawa, Japan, 25-28, Feb. 1997. (extended abstract).

Chave, A.D., R. Butler, R.A. Petitt, D. Yoerger, F.B. Wooding, A. Bowen, L. Freitag, J. Catipovic, F.K. Duennebier, D. Harris, A.H. Dodeman, and S.T. Brewer, H2O: The Hawaii-2 Observatory, *Proc. International* *Workshop on Scientific Use of Submarine Cables*, Okinawa, Japan, 25-28, Feb. 1997. (extended abstract).

Chave, A.D., R.A. Petitt, J.A. Hildebrand, F.N. Spiess, and A.W. Green, Toward a permanent seafloor geomagnetic observatory, *Proc. International Workshop on Scientific Use of Submarine Cables,* Okinawa, Japan, 25-28, Feb. 1997. (extended abstract).

Petitt, R.A., Jr., A.D. Chave, D.R. Yoerger, J. Catipovic, R. Butler, and F. Duennebier, H2O: The Hawaii-2 Observatory, *Proc. ILP Workshop on Dynamics of Lithospheric Convergence,* Miyagi, Japan, 20-21, September 1995. (abstract)

Petitt R.A., A.D. Chave, J.H. Filloux, H.H. Moeller, Electromagnetic-field Instrument for the Continental Shelf, *Sea Technology, 35 (9):* 10-13 Sept, 1994.

Plant, W.J., E.A. Terray, R.A. Petitt, Jr., and W.C. Keller, The dependence of microwave backscatter from the sea on illuminated area: Correlation times and lengths, *J. Geophys. Res., 99*, 9705-9723, 1994.

Plant, W.J., W.C. Keller, E.A. Terray, and R.A. Petitt, Jr., Microwave backscatter from the sea: Modulation of received power and Doppler bandwidth by long waves, *J. Geophys. Res., 99*, 9751-9766, 1994.

Filloux, J.H., A.D. Chave, P. Tarits, R.A. Petitt, Jr., J. Bailey, H.H. Moeller, A. Debreule, G. Petiau, and L. Banteaux, Southeast Appalachians experiment: offshore component, *Proc. 12th Workshop on Electromagnetic Induction,* Brest, France, 7-14, August 1994. (abstract)

Chave, A.D., C.L. Van Dover, J.A. Tyson, J.W. Bailey, R.A. Petitt, Jr., J.H. Filloux, and H.H. Moeller, Ambient light measurements from the Snakepit area, *EOS*, 74, 100, 1993. (1993 fall AGU meeting abstract)

Petitt, R.A., Jr., J.H. Filloux, A.D. Chave, and H.H. Moeller, Instrumentation to Measure Electromagnetic Fields on Continental Shelves, *Oceans 93 Proceedings, vol. I*, 164-168, 1993.

Petitt, R.A., Jr., J.H. Filloux, and A.D. Chave, Technology for the measurement of low frequency electric fields, *Oceans 92 Proceedings, vol. 1*, 642-647, 1992.

## Papers presented at meetings and invited lectures

Chave, A.D., F.K. Duennebier, R. Butler, R.A. Petitt, Jr., F.B. Wooding, A.D. Bowen, D. Harris, and D.R. Yoerger, H2O: The Hawaii-2 Observatory, *EOS*, 79, 1998. (invited paper, 1998 fall AGU meeting abstract)