



## James Robertson

DOB: June 1, 1974

### EXPERIENCE

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**9/2023-Present      CDGA Consultants, Cork, Ireland**  
**Consultant**

- Engineering and project management for the planning, design and technical implementation of construction, installation and testing of remote monitoring stations
- Establishment and management of technical contracts (equipment and services)
- Customer relations and support for international contracts and projects

**2013-07/2023      Comprehensive Nuclear-Test-Ban Treaty Organization (CTBTO), Vienna, Austria**  
**Consultant (03.2013-07.2013), Infrasound Engineering Officer (07.2013-7.2023)**

- Engineering and project management for the planning, design and technical implementation of the work of the CTBTO's International Monitoring System (IMS) - construction, installation and testing of remote nuclear-test monitoring stations (seismic and acoustic)
- Certification (verification of specifications) of IMS stations through system/equipment testing and data analysis (laboratory and field), including drafting of official technical reports detailing results
- Establishment and management of technical contracts (equipment and services)
- Drafting of procedures and tools to be used to analyze infrasound and seismic waveform data and to evaluate the performance of infrasound/seismic measurement systems, including instrument testing and calibration
- Preparation and presentation of scientific, engineering and technical material for capacity building and training programs, as well as for technical workshops
- Collaboration with CTBTO Member State officials and affiliated research institutes at a technical and station management level
- Drafting of technical documentation for official correspondence with CTBTO Member State officials

**2006-2013      Infrasound Laboratory, University of Hawaii at Manoa, Kailua-Kona, Hawaii, USA**  
**Field Systems Engineer**

- Field engineer for the University of Hawaii- operation and maintenance of nuclear-test verification stations (Hawaii, Republic of Palau and Diego Garcia/BIOT) used to enforce the non-proliferation of atomic weapons
- Design, construction, installation and maintenance of remote portable and permanent atmospheric/acoustic monitoring arrays (specifically infrasound) – including data monitoring and reporting
- Infrasound/acoustic measurement/test experience (microbarometers/microphones, digitizers, acoustic filters, low frequency signal sources) including data quality control/signal processing (Matlab)
- Field deployment experience includes RF communications, fiber optic data transmission, circuit repair, microphones, seismometers, system control computers/networking (Linux) and power systems (photovoltaic, DC and AC). Includes hydroacoustic array construction, deployment and maintenance off the coast of Kona, Hawaii.
- Logistical support for site maintenance, instrument deployment and inventory control (including documentation and procurement)
- Basic and applied research in acoustic source processes (such as volcanoes, surf, tsunamis, meteors and rockets), propagation, instrumentation, signal and array processing

**2005-2006      Northrop Grumman (Space Technology), San Diego, California, USA**  
**Calibration Engineer, RF**

- Calibration development, documentation and application for multi-channel transceivers. This includes interfacing with software (LabView), RF design and digital/VHDL engineers to achieve final calibration
- Creation of test setups and procedures for the characterization and calibration of tunable RF filters (preselectors). Includes data analysis and calibration algorithms (Matlab and Excel)
- Software (LabView) validation and documentation (Word/Excel/Visio)
- RF measurement/test experience (network analyzers, spectrum analyzers, signal generators, power meters, temperature chambers, LabView, etc.)

**1998-11/2004      Biospherical Instruments Inc., San Diego, California, USA**

***Calibration Engineer, Optics***

- Calibration, quality assurance and final product approval (test plan and procedure development) of all filter and scanning radiometers manufactured
- Radiometric test design, setup, documentation and implementation- including maintaining and creating calibration standards (NIST traceable)
- Extensive optical measurement/test experience (lamps, benches, filters, lenses, detectors, monochromators, spheres and plaques) including data acquisition and processing
- Strong understanding of optical properties and spectral analysis (extensive in the 230nm-880nm range)
- One-on-one technical and sales support (field and in-house) for all instrumentation needs (software/hardware). Including troubleshooting of optics, electronics and system control software
- Customer training on both software and hardware packages (mostly offsite), including extensive travel (domestic and international)
- Involved in instrument software development: testing(lab/field), configuration, documentation, drafting manuals, planning and some basic coding (Visual Basic)
- In-house IT administrative tasks (PC/Windows-based) - including network troubleshooting (hardware/software), workstation support (hardware/software), system backups and custom software applications

**1996-1998      Biospherical Instruments Inc., San Diego, California, USA**

***Field Engineer***

- Field engineer for the National Science Foundation's (NSF) Polar Programs UV Spectroradiometer Network- operation and network maintenance of scanning spectroradiometers at six austral and boreal sites
- Data processing, management and assessment for annual NSF publications made available for public use
- Logistical support for site maintenance, instrument deployment and inventory control (including documentation and procurement)

## EDUCATION

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- 1992 - 1996      University of California, Santa Barbara
- Bachelor of Science, Physics

## LANGUAGES

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English (Native), German (Professional Working Proficiency), Portuguese (Working Proficiency), Spanish (Elementary Working Proficiency)

## CERTIFICATIONS

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University of Hawaii Scientific Diver

## INTERESTS

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Surfing, Surf-travel, Recording/Playing Music, Left-handed vintage guitars

## Publications in Peer Reviewed Journals

Park, J., **Robertson, J.**,  
A Portable Infrasound Generator,  
*Journal of the Acoustical Society of America*, 125 (4), EL148-EL151, April 2009

Hiroyuki Matsumoto, Mario Zampolli, Georgios Haralabus, Jerry Stanley, **James Robertson**, and Nurcan Meral Özel, Hydroacoustic Signals Originating from Marine Volcanic Activity at Kadovar Island, Papua New Guinea, Recorded by the Comprehensive Nuclear-Test-Ban Treaty International Monitoring System, *Pure Appl. Geophys.* (2022). <https://doi.org/10.1007/s00024-022-03096-8>

Gerhard Meister, Peter Abel, Robert Barnes, John Cooper, Curtiss Davis, Giulietta Fargion, Robert Frouin, Michael Godin, Daniel Korwan, Robert Maffione, Charles McClain, Scott McLean, David Menzies, Antoine Poteau, **James Robertson** and Jennifer Sherman, Comparison of Spectral Radiance Calibrations at Oceanographic and Atmospheric Research Laboratories, *Metrologia* Vol. 40 Issue 1 Article 321 2003-02-01

K. Lantz, P.Disterhoft, E.A.Early, J.DeLuise, A.Thompson, J.Berndt, L.Harrison, P.Kiedron, J.Ehramjian, G.Bernhard, L.Cabasug, **J.Robertson**, W.Mou, T.Taylor, J.Slusser, D.Bigelow, B.Durham, G.Janson, D.Hayes, M.Beaubien, and A.Beaubien, The 1997 North American interagency intercomparison of ultraviolet spectroradiometers including narrowband filter radiometers, *J. Res. Natl. Inst. Stand. Technol.*, 107, 19-62, 2002

Ehramjian, J.C., C.R. Booth, L.W. Cabasug, **J.S. Robertson**, and T. Mestechkina, (1998). Antarctic UV Spectroradiometer Monitoring Program: Contrasts in UV Irradiance at the South Pole and Barrow, Alaska, *Climate Monitoring and Diagnostics Laboratory No. 24. Summary Report 1996-1997*, edited by D.J. Hofmann, J.T. Peterson, and R.M. Rosson, pp. 126-128, U.S. Department of Commerce, Boulder, CO

## Contributions in Books and Conference Proceedings

Díaz, S.B., C.R. Booth, G. Deferrari, C. Camilion, and **J. Robertson** (2002). Improving multichannel radiometer calibration and data quality. in: *Atmospheric Radiation Measurements and Applications in Climate*, edited by J. A. Shaw, Proc. SPIE Int. Soc. Opt. Eng., 4815, 90

J. H. Morrow, T. P. Comer, R. N. Lind, **J. Robertson**, C. R. Booth, Biospherical Instruments Inc. (2002), Submersible radiometer for measuring solar UV irradiance over a wide dynamic range, in: *Ultraviolet Ground- and Space-based Measurements, Models, and Effects II*, *Proceedings of SPIE* Vol. #4896, 18

## Selected Posters and Presentations at Conferences

Hiroyuki Matsumoto, Mario Zampolli, Georgios Haralabus, Jerry Stanley, **James Robertson**, and Nurcan Meral Özel, **Study of a high activity eruption sequence of Kadovar volcano, Papua New Guinea, using data recorded by the CTBT International Monitoring System**, European Geophysical Union, Vienna, Austria, 2020

Mario Calixto Ruiz, **James Robertson**, Julien Marty, Pablo Cruz and Christian Espin, **Explosive activity of Reventador volcano recorded by a combination of a permanent seismic-infrasound network and a portable infrasound array**, Poster presented at the 2019 Fall Meeting of the American Geophysical Union, San Francisco, December 2019

**James Robertson**, Maurice Charbit, **Developments in IMS infrasound array geometry tools**, Poster presented at the 2017 CTBTO Science and Technology Conference, Vienna, Austria

G. Bernhard, C.R. Booth, C. Lovengreen, J.C. Ehramjian, L. Cabasug, **J. Robertson**, and T. Mestechkina, **Recent results from the United States National Science Foundation's UV Monitoring Network for Polar Regions**, Poster presented at the 27th Annual Meeting of the American Society for Photobiology, Washington, D.C., July 10-15, 1999

C.R. Booth, L. Cabasug, T. Mestechkina, **J. Robertson**, G. Bernhard, and J.C. Ehramjian, **UV irradiance measurements in Antarctica: Changes seen in UV Environment at Palmer Station 1988-1998**, Poster presented at the 1998 Fall Meeting of the American Geophysical Union, San Francisco, December 6-10, 1998

C. R. Booth, S. B. Diaz, L. Cabasug, T. Mestechkina, **J. Robertson**, and J. C. Ehramjian, **UV irradiance measurements in Antarctica - results of 10 years of data collection**, European Conference on Atmospheric UV Radiation, Marina Congress Center Helsinki, Finland, 29.6. – 2.7.1998

## Published Reports

Booth, C.R., J.C. Ehramjian, T. Mestechkina, L.W. Cabasug, **J.S. Robertson**, and J. Tusson IV. (1998). NSF Polar Programs UV Spectroradiometer Network 1995-1997 Operations Report. United States National Science Foundation/Biospherical Instruments Inc., San Diego, CA

G. Meister, P. Abel, R. Barnes, J. Cooper, C. Davis, M. Godin, D. Goebel, G. Fargion, R. Frouin, D. Korwan, R. Maffione, C. McClain, S. McLean, D. Menzies, A. Poteau, **J. Robertson**, and J. Sherman, The First SIMBIOS Radiometric Intercomparison (SIMRIC-1), April-September 2001 (NASA Center for AeroSpace Information, Greenbelt, MD, 2002), Vol. NASA Technical Memorandum 2002-210006, p. 60

Meister, G., P. Abel, K. Carder, A. Chaplin, D. Clark, H. Cooper, C. Davis, D. English, **G. Fargion**, M. Feinholz, R. Frouin, F. Hoge, D. Korwan, G. Lazin, C. McClain, S. McLean, D. Menzies, A. Poteau, **J. Robertson**, J. Sherman, K. Voss, and J. Yungel, 2003: The Second SIMBIOS Radiometric Intercomparison (SIMRIC-2), March-November 2002, *NASA/TM 2003-01930*, NASA Goddard Space Flight Center, Greenbelt, Maryland, March 2003, 71 pp