

# VÉRONIQUE ROBIGOU

## **Academic Preparation**

M.S., Geology, University of California Los Angeles, California, **1984**

B.S., Geology, Université des Sciences Paul Sabatier, Toulouse, France, **1981**

## **Awards and Honors**

University of Washington Service Award, **2003**

College of Ocean and Fishery Sciences Service Award, University of Washington, **1999**

Marine Education Award, National Marine Educators Association, **1998**

Outside the Classroom Marine Educator of the Year, Northwest Aquatic and Marine Educators, **1998**

Teaching Assistant of the Year, University of California, Los Angeles, Department of Earth and Space Sciences, **1983**

Research Assistantship, White Mountain Research Center, California, **1982-1983**

Study Abroad Merit Fellowship, Ministère des Affaires Étrangères, France, **1975-1976**

## **Professional Experience**

*School of Oceanography, University of Washington, Seattle, Washington 98195-7940*

Research Scientist-Engineer 4, **2003-2008**

Research Scientist-Oceanographer III, **1992-2002**

*National Center for Science Literacy, Education and Technology, American Museum of Natural History, New York*

Consultant and scientific advisor, Science educational projects, **1998-2002**

*Southampton Oceanographic Centre, Mid-Ocean Ridge Processes*

Consultant, Sonar and submersible imagery interpretation, **1996**

*Applied Physics Laboratory (UW) and BDM Corporation, Washington, DC*

Geologist on diving cruises (Jul.90, Jul-Sept. 91, Apr. 92), **1990-1992**

*School of Oceanography, University of Washington, Seattle, Washington 98195-7940*

Research Scientist, Oceanographer II, **1987-1992**

*COMINCO-France, Paris, France*

Geologist, **1986-1987**

*White Mountain Research Center, Bishop, California*

Research assistant, **1982**

*SNEA-P, Société Nationale Elf Aquitaine-Production, Division of Mines, Pau, France*

Research Analyst, **1978**

## **Sea-going Research Experience – 1988-2006**

- Interdisciplinary studies of submarine volcanoes and hydrothermal systems, marine geology and high-precision seafloor mapping, interaction between the geology of sulfide edifices and macro-faunal communities through time.
- Participation in 21 submersible expeditions to hydrothermal sites on the Juan de Fuca Ridge, N.E. Pacific Ocean, and the Sea of Cortez, Mexico, 1988-2005 - Chief scientist on 2 research expeditions, and principal investigator on 13 education expeditions.
- Creation, design and implementation of award-winning regional and national outreach and education programs focused on interdisciplinary, deep-sea research and technology.

### **Submersibles and remotely operated vehicles experience**

- Experienced observer and diver - 24 dives on DSV ALVIN, U.S. Navy DSV TURTLE, and U.S. Navy DSV SEACLIFF
- Experienced watch leader for Remotely-Operated Vehicle systems. US Jason-Medea and Jason ROV, Canadian ROPOS deep-sea vehicle platform.

### **Teaching Experience**

- Communicating Ocean Sciences, OCE592 - Undergraduate and graduate students, Spring 2007 and 2008
- Research and Exploration: Volcanoes, Exploration and Life - REVEL Project Workshops, OCE429 - K-12 Science Teachers. Summer 1996 to 2005
- Marine Exchange Language Program Immersion, Bilingual English-French Introduction to Marine Sciences - International undergraduate students, 1999 to 2001

### **Professional Activities**

#### Professional Societies:

American Geophysical Union  
American Women Geoscientists  
Geological Society of America  
National Marine Educators Association  
National Science Teachers Association  
The Oceanography Society

#### Committees and Panels

- 2008-2011** • **Advisory Committee Member**, UW OACIS, NSF-funded GK-12 Program.
- 2007-2008** • **Governance Working Group Leader**, NSF-funded Center for Ocean Science Education Excellence, National COSEE Network.
- 2006-2008** • **COSEE Network Council Member**
- 2006** • **Review Panel Member** for NSF- Division of Graduate Education
- **Committee Member**, University of Washington P-20 Math and Science Institute
- 2005** • **Panel Member** University of Washington, Career Week
- 2003-2004** • **Advisory Board Member**, "Teachers Experiencing Antarctica and the Arctic" (TEA) NSF-funded program
- 2002-2003** • **Advisory Committee Member**, Education and Outreach, RIDGE 2000 program
- 2002** • **Working Group Member**, Feasibility of Jason Project in the Northwest, Seattle Aquarium Society.
- **Review Panel Member** for NSF- Directorate of Geosciences, Division of Ocean Sciences, Centers for Ocean Sciences Education Excellence (COSEE)
- **Review Panel Member** for NSF- Directorate for Education and Human Resources, Teacher Enhancement Program
- **Panel Member**, ASLO Workshop, "Strategies for developing an effective outreach program", Victoria, BC
- **Panel Member**, NOAA Outreach, Ocean and Atmosphere Research Workshop, Seattle, WA

- 2000** • **Steering Committee Member**, COSEE - Center for Ocean Science Education Excellence, National Science Foundation
- 1999** • **Review Panel Member** for NSF- Directorate for Education and Human Resources, Teacher Enhancement Program

Educational Involvement - Synergistic Activities

- 2006-2008** • **Director**, Center for Ocean Science Education Excellence, COSEE-Ocean Learning Communities
- **Co-Convener and Co-Chair**, Teacher Professional Development Programs Promoting Authentic Scientific Research in the Classroom (3 sessions), 2006 AGU Fall Meeting, December 11, 2006
- **Director**, REVEL Project, Research and Education: Volcanoes, Exploration and Life
- **Presenter**, GIFT workshop "The Ocean: Some Things Every Student Should Know", 2006 Oceans Meeting, Honolulu, February.
- **Regional Coordinator**, Washington State Ocean Sciences Bowl
- 2005** • **Co-Convener, Co-Chair and Presenter**, Teacher Professional Development Programs Promoting Authentic Scientific Research in the Classroom (3 sessions), 2005 AGU Fall Meeting, December 6, 2005
- **Live Web and TV Broadcasts Hostess**, UW-TV, "VISIONS 2005 expedition: Underwater Volcanoes of the Northeast Pacific, Sept. 28 and 29, 2005.  
<http://www.researchchannel.org/visions05/>
- **Director**, REVEL Project, Research and Education: Volcanoes, Exploration and Life.
- **Co-Editor**, Current, the Journal of Marine Education, Special Issue "Deep Hydrothermal Vents"
- **Regional Coordinator**, Washington State Ocean Sciences Bowl
- 2004** • **Director**, REVEL Project, Research and Education: Volcanoes, Exploration and Life
- **Scientific Advisor**, RIDGE 2000, SEAS "Student Experiment At Sea" curriculum and program
- **Scientific Advisor**, AMNH, Ocean Systems on-line Course
- 2003** • **Director**, REVEL Project, Research and Education: Volcanoes, Exploration and Life
- **Leader and Presenter**, Teacher Education workshop "In-depth Exploration of the Juan de Fuca Plate, Northeast Pacific Ocean, with the REVEL Project", GSA 2003, Seattle, November
- **Co-Director**, Marine Exchange Language Scholarship Program, U.S-European Community Universities Consortium
- 2002** • **Director**, REVEL Project, Research and Education: Volcanoes, Exploration and Life.
- **Co-Organizer and Presenter**, GIFT workshop "Explorations in Poseidon's Crucible: Volcanic, Tectonic, Hydrothermal, and Biological Processes of Mid-Ocean Ridges", AGU Fall 2002, San Francisco, December

- **Co-Director**, Marine Exchange Language Scholarship Program, U.S-European Community Universities Consortium
  - **Lecturer**, Bridge Course, multilingual marine sciences summer course, Eckerd College, St Petersburg, Florida, August.
  - **Co-Leader, Presenter and Facilitator** for the NSF-funded “Exploring the Deep with Teachers” Workshop, Mystic, CT, July
- 2000-2002**
- **Scientific Advisor**, Instructional Web Material Development, National Center for Science Literacy, Education and Technology, American Museum of Natural History, New-York. [http://www.amnh.org/education/resources/special\\_collections.php](http://www.amnh.org/education/resources/special_collections.php)
  - **Member**, Marine Exchange Language Program, International curriculum development consortium Eckerd College, FL, University of Washington, WA, University of Hawaii at Hilo, HI, Université de Liège, Belgium, Université de la Rochelle, France and Universidad de Las Palmas de Gran Canaria, Spain. Science and Language Advisor, Student Counselor and Lecturer.
  - **Scientific Advisor**, “DEEP SEA The Ride”, a Virtual show produced by SimEx-Iwerks for aquaria and museums.
- 2001**
- **Member**, Sea Grant Education and Human Resources Theme Team, National Sea Grant.
- 1999-2000**
- **Scientific Advisor**, “Volcans” CD-ROM, Anne-Marie Perez producer, Toulouse, France.
- 1999**
- **Speaker**, Délégation des Alliances Françaises USA, Distinguished Speakers Lecture Series, Missoula, Montana; Denver, Colorado; Pasadena and Los Angeles, California; Birmingham, Michigan.
- 1998-2000**
- **Member**, “Learning Community”, National Center for Science Literacy, Education and Technology, American Museum of Natural History, New-York.
  - **Scientific Advisor**, Deep-Sea Vents Instructional Materials Development Group, National Center for Science Literacy, Education and Technology, American Museum of Natural History, New-York.
- 1998-1999**
- **Scientific Advisor**, Susan K. Lewis producer, WGBH Boston, Public Broadcasting, NOVA program “Volcanoes of the Deep”
- 1997-2001**
- **Co-Director**, REVEL Project, Research and Education: Volcanoes, Exploration and Life.
- 1997-2002**
- **Internet Instructor**, REVEL Project, design, construction and maintenance of web site <http://www.ocean.washington.edu/outreach/revel> and lecturer for middle and high school science teachers.
- 1996**
- **Co-Founder and Facilitator** of REVEL Project, a science teacher educational and outreach program.
- 1995**
- **Advisory Board Member** for the Master3s Network Program (Seattle Pacific University), an educational program linking science teachers and scientists in the Puget Sound area.
- 1994-1998**
- **Scientific Advisor and Design Collaborator** for the book “Sea-Fari Deep” by Nancy Woodman, 1999, National Geographic Society.
- 1994-1998**
- **Curriculum Development** with 12th grade science teachers, Snohomish High School, Washington.

- 1994-1996** • **Volunteer Member and Science Partner** for science teachers in the Master3s Network Program (Mathematics and Science Teaching Excellence through Resources, Renewal, Research and Services), Seattle Pacific University.
- 1993-1994** • **Co-Chief Scientist and Argonaut Mentor** on Jason Project IV cruise, Guaymas Basin, Sea of Cortez, Mexico.
- 1989-2003** • **Lecturer and Science Partner** for grade, middle and high schools, colleges and marine sciences education institutes. (10 presentations per year on average. Ex: In 1998, 27 presentations to groups ranging from 3rd graders to retired citizens both in the US and France).

### **Collaborators**

A. Anderson, SoundView Evaluation and Research, Seattle, WA  
 P. Bell, J. Delaney, D. Kelley, R. Keil, R. McDuff, L. Maxon, F. Stahr, M. Stoermer, C. Tzou, W. Wilcock, and M. Windschitl, University of Washington, Seattle, WA  
 L. Goehring, RIDGE 2000, Penn State University, PA  
 C. Strang, Laurence Hall of Science, Berkeley, CA  
 P. Keener-Chavis, NOAA, Ocean Exploration, Washington, DC  
 S. Franks and C. Peach, Scripps Institution, San Diego, CA  
 D. Sullivan, MATE Center, Monterey Peninsula College, Monterey, CA  
 S. Croft, National Optical Astronomy Observatories, AZ  
 K. Ellins, Institute for Geophysics, University of Texas, Austin, TX  
 S. Haynes, Consortium for Ocean Research and Education, Washington, DC  
 H. Helling, Ocean Institute, Dana Point, CA  
 M. Nichols-Pecceu, at Southern Methodist University, Dallas, TX  
 K. Sider, Seattle Aquarium, Seattle, WA  
 G. Scowcroft, Graduate School of Oceanography, University of Rhode Island, RI  
 C. Walker, National Optical Astronomy Observatories, AZ

### **Students and K-12 Teachers Mentoring**

#### **Students**

Thirty five undergraduate students from France, Belgium, Spain, and US, Marine Exchange Language Program Scholars 2000 through 2006  
 Michele Sacha, UW, 2003-2004, College of Arts and Sciences  
 Ted White, UW, 2002, School of Oceanography  
 Kaitlin Hope, UW, 1999, NASA Summer Fellow, Department of Zoology  
 Jennifer Muller, UW, 1997-2000, School of Oceanography  
 16 graduate students, OCE 592, Communicating Ocean Sciences course, Spring 2007 and 2008, School of Oceanography, School of Aquatic and Fishery Sciences.  
 Tansy Clay, UW, 2005-2008, School of Oceanography

#### **Science Master Teachers**

Diane Nielsen, Teacher, 1999-2000, Mercer Island High School, Seattle, Washington  
 Midge Yergen, Teacher, 1998-2005, West Valley Middle School, Yakima, Washington  
 Tom Lee, Teacher, 2000-2005, Columbia Adventists Academy, Battle Ground, Washington  
 Kathleen Heidenreich, 1996-2005, Chinook Middle School, Lacey, Washington  
 Ruth Cruz, 1999-2005, Tolt Middle School, Carnation, Washington

Kathie Robertson, 1998-2005, Stanwood Middle School, Camano Island, Washington  
Sandra Ivey, 1998-2004, Bangor Area Senior High School, Bangor, Pennsylvania  
David Randle, 2004-2005, Beacon School, New-York City, New York  
Seventy three elementary to high school science teachers from California, Georgia, Idaho, Massachusetts, Minnesota, New York, New Jersey, Oregon, Pennsylvania, Washington, Wisconsin, and Canada between 1996 – 2006

## PUBLICATIONS

Goehring, L., **V. Robigou** and K. Ellins, **2012**, Bringing Mid-Ocean Ridge Discoveries to Audiences Far and Wide – Emerging Trends for the Next Generations, *Oceanography*, Vol. 25, No.1, 286-298.

Kinsley, G. and **V. Robigou**, **2007**, COSEE partnerships: Building Lighthouses for Ocean Literacy, *Current, The Journal of Marine Education*, Vol. 23, No.1, 24-25.

Kuzek, K.M, L. Goehring and **V. Robigou**, **2007**, From the trenches of ocean ridge outreach: New landscapes and opportunities, *Oceanography*, Vol. 20, No. 1, 142-151.

Goehring, L., **V. Robigou**, P. Keener-Chavis, **2005**, Enhancing Deep-Sea Science Education: Exploring Ways to Answer the “Call” to Action, *Current, The Journal of Marine Education*, Vol. 21, No. 3, 15-19.

Robigou, V. and K. Heidenreich, **2003**, REVELing in seafloor exploration, *Current: The Journal of Marine Education*, Vol. 18, No. 4, 13-17.

Robigou, V., **2001**, Ocean Sciences in 9th to 12th Grade Education, *Current: The Journal of Marine Education*, vol. 17, No. 2, 33-35.

Delaney, J.R., D.S. Kelley, E.A. Mathez, D.R. Yoerger, J.A. Baross, M. Schrenck, M.K. Tivey, J. Kaye and V. Robigou, **2001**, Edifice Rex sulfide recovery project: Analysis of a sulfide-microbial habitat from a submarine hydrothermal system, *EOS, Transactions, American Geophysical Union*, Vol. 82, No.6, Feb. 6, 67-73.

McManus, D.A., S.H. Walker, B. Cuker, P. Goodnight, S. Humphris, P. Keener-Chavis, D. Reed, V. Robigou and J.R. Schubel, **2000**, Center for Ocean Sciences Education Excellence (COSEE): The report of a workshop sponsored by the National Science Foundation in cooperation with the University of Southern Mississippi, *Institute of Marine Sciences*, pp. 69.

Blondel, P., Parson, L.M. and Robigou, V., **1998**, TexAn: textural analysis of sidescan sonar imagery and generic seafloor characterisation, In: *Oceans '98, Proceedings IEEE Conference 28 Sep - 1 Oct 1998*, Vol. 1, Piscataway NJ, IEEE, 419-423.

- Sarrazin, J., V. Robigou, K. Juniper and J.R. Delaney, **1997**, Biological and geological dynamics over four years on a high temperature sulfide structure at the Juan de Fuca Ridge hydrothermal observatory, Marine Ecology Progress Series, vol. 153, 5-24.
- Delaney, J.R., D.S. Kelley, M.D. Lilley, D.A. Butterfield, R.E. McDuff, J.A. Baross, J.W. Deming, H.P. Johnson and V. Robigou, **1997**, The Endeavour Hydrothermal System I: Cellular circulation above an active cracking front yields large sulfide structures, "fresh" vent water, and hyperthermophilic archae, RIDGE Events, vol. 8, No. 2, 11-19.
- Robigou V. and J.R. Delaney, **1997**, REVEL, Research and Education: Volcanoes, Exploration and Life, RIDGE Events, vol. 8, No. 1, Jan. 97, 5-7.
- Blondel, Ph., Parson, L.M. and Robigou, V., **1997**, Automatic seafloor characterisation using sidescan sonar imagery, BRIDGE Annual Progress Meeting, SOC, 6-7 January 1997.
- Robigou V. and R.D. Ballard, **1994**, Deep-sea research takes a new approach, EOS, Transactions, American Geophysical Union, vol. 75, No.8, Feb.22, 1994, p.81.
- Blondel P., J.C. Sempéré. and V. Robigou, **1993**, Textural analysis and structure-tracking for geological mapping: Applications to sonar images from Endeavour Segment, Juan de Fuca Ridge, IEEE Oceans '93 Proceedings, III, 208-213.
- Robigou V., J.R. Delaney and D. Stakes, **1993**, The High-Rise Hydrothermal Field: Endeavour Segment, Juan de Fuca Ridge, Geophysical Research Letters, v. 20, p. 1887-1890.
- Delaney J.R., V. Robigou, R.E. McDuff and M.K. Tivey, **1992**, Geology of a vigorous hydrothermal system on the Endeavour Segment, Juan de Fuca Ridge, Journal of Geophysical Research, v.97, p. 19,663-19,682.
- Robigou V., **1986**, Metamorphism in the Cambrian Campito Formation, White-Inyo Mountains, California, in: Natural History of the White-Inyo Range, Eastern California and Western Nevada and high altitude physiology: University of California, White Mountain Research Station Symposium, Vol.1, Aug 23-25, 1985, 27-36.

## **ABSTRACTS**

### **Presentations and Invited Lectures-Posters-Workshops at Professional Research and Education Societies Regional, National and International Meetings (1989 - 2006)**

Average of +/- 12 presentations per year. Complete list is available upon request.

### **Representative example for 2004**

Nassif, T.H., R. McDuff, **V. Robigou** and F. Stahr, **2004**, Distribution of Particulates in Hydrothermal Plumes of the Endeavour Axial Valley: Preliminary Results from the Sea Breeze Project, *Eos Trans. AGU*, Vol. 85, No. 47, Fall Meet. Suppl., Abstract B13A-0185.

**Robigou, V., 2004**, The REVEL Project: An Oceanographic Research Immersion Professional Development Program, *Eos Trans. AGU*, Vol. 85, No. 47, Fall Meet. Suppl., Abstract ED14A-06.

Nowell, A., and **V. Robigou, 2004**, The Marine Language Exchange Program: and international approach to Ocean Sciences, *Eos Trans. AGU*, Vol. 85, No. 47, Fall Meet. Suppl., Abstract ED31C-0750.

**Robigou, V., 2004**, Scientists involved in K-12 education, *Eos Trans. AGU*, Vol. 85, No. 47, Fall Meet. Suppl., Abstract OS21D-04.

Delaney, J.R., **V. Robigou**, Stoermer, M. Penrose, N., **2004**, A new architecture for the interface between society and Earth-Ocean Sciences, *Eos Trans. AGU*, Vol. 85, No. 47, Fall Meet. Suppl., Abstract OS22A-01.

Yergen, M., B. Steffens, **V. Robigou**, K. Heidenreich, T. Lee, L. Colvin and L. Brooks, **2004**, Bring Inquiry in Your Science Classroom with Deep-Ocean Technology and Research: The REVEL Project, NSTA Western Convention, Seattle, Washington.

**Robigou, V., L. Goehring and K. Kelsey, 2004**, Explore and Investigate the Deep Sea in Your Classroom Through the Web, NSTA Western Convention, Seattle, Washington.

Nielsen, D.C. and V. Robigou, **2004**, Integrating research and education through seagoing research experiences for teachers – The REVEL Project, Making connections in marine sciences research and guided inquiry: Undergraduate, Pre-College and Teacher Programs, ASLO 2004, St Petersburg, Florida.

**Barnes, C. and V. Robigou, 2004**, Interacting with the Oceans for Research and Education, “Neptune and Venus Observatories”, BCNet Conference, Vancouver, BC, Canada.

**Robigou, V., 2004**, *Invited*, Learning by Interacting with the Oceans, BCNet Conference, Vancouver, BC, Canada.

**Robigou, V. and R.I. Odom, 2004**, Innovative Educational Opportunities in Marine Sciences at the University of Washington, Poster, AAAS conference, Seattle



