

# **InterRidge**

**Coordinator Report 1998**

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## InterRidge Membership

Italy and Canada joined InterRidge as Associate Members in 1998, and SOPAC has joined as a Corresponding member. At the end of 1998 there are 23 countries associated with InterRidge: 6 principal members (France, Germany, Japan, Spain, UK and USA), 4 associate members (Canada, Italy, Portugal and Norway) and 13 corresponding members (Australia, Brazil, Denmark, Iceland, India, Korea, Mexico, New Zealand, Russia, South Africa, Sweden, Switzerland and SOPAC).

Spain will not be continuing as a Principal Country in 1999, however they are interested in the possibility of joining up with Portugal to share a Principal membership.

## InterRidge 1998 Steering Committee

- |                         |                                |                       |                                |
|-------------------------|--------------------------------|-----------------------|--------------------------------|
| 1. Mathilde Cannat      | (France; Chair, 1997)          | 12. Peter M. Herzig   | (Germany, 1996)                |
| 2. Philippe Blondel     | (UK, <i>ad hoc</i> , 1997)     | 14. S. Kim Juniper    | (Canada, NC, 1998)             |
| 3. Enrico Bonatti       | (Italy, NC, 1998)              | 15. Catherine Mével   | (France, <i>ad hoc</i> , 1997) |
| 4. Miquel Canals        | (Spain, NC, 1995)              | 16. Miguel A. Miranda | (Portugal, NC, 1996)           |
| 5. Alan Chave           | (USA, <i>ad hoc</i> , 1997)    | 17. Lauren Mullineaux | (USA, <i>ad hoc</i> , 1995)    |
| 6. David C. Christie    | (USA, 1997)                    | 18. Lindsay M. Parson | (UK, <i>ad hoc</i> , 1995)     |
| 7. Juan José Dañobeitia | (Spain, NC, 1995)              | 19. Roland Rihm       | (Germany, NC, 1995)            |
| 8. Christopher G. Fox   | (USA, <i>ad hoc</i> , 1998)    | 20. Roger Searle      | (UK, 1994)                     |
| 9. Jean Francheteau     | (France, NC, 1991)             | 21. Eirik Sundvor     | (Norway, NC, 1996)             |
| 10. Hiromi Fujimoto     | (Japan, 1997)                  | 22. Tetsuro Urabe     | (Japan, 1994)                  |
| 11. Françoise Gaill     | (France, <i>ad hoc</i> , 1998) | 23. Karen L. Von Damm | (USA, NC, 1995)                |
| 12. Chris R. German     | (UK, 1997)                     |                       |                                |

Jean Francheteau, Roland Rihm, Roger Searle, and Tetsuro Urabe will be rotating off the Steering Committee in 1999.

## InterRidge National Correspondents

### *Principal Members:*

1. France - Dorsales - Jean Francheteau/Catherine Mével
2. Germany - DeRidge - Roland Rihm/Colin Devey
3. Japan - InterRidge Japan - Nobuhiro Isezaki
4. Spain - Miquel Canals, Juan José Dañobeitia
5. UK - BRIDGE - Roger C. Searle
6. USA - RIDGE - Karen L. Von Damm/David C. Christie

### *Associate Members:*

1. Canada - CanRidge - S. Kim Juniper, Kathryn M. Gillis
2. Italy - Enrico Bonatti, Paola Tartarotti
3. Norway - Eirik Sundvor
4. Portugal - J. Miguel A. Miranda

### *Corresponding Members:*

1. Australia - Trevor J. Falloon
2. Brazil - Suzanna Sichel
3. Denmark - John R. Hopper
4. Iceland - Karl Grönvold
5. India - D. Gopala Rao
6. Korea - Sang-Mook Lee
7. Mexico - J. Eduardo Aguayo-Camargo
8. Russia - Alexander V. Sobolev, Sergei Maschenkov
9. South Africa - Anton le Roex
10. Sweden - Nils G. Holm
11. Switzerland - Gretchen Früh-Green
12. SOPAC - Russell Howorth

This year several of the national programs have rotated leadership. Catherine Mével has replaced Jean Francheteau as the head of Dorsales (May, 1998), Colin Devey has replaced Roland Rihm as the head of De-Ridge (1 Oct. 1998), and David C. Christie has replaced Karen L. Von Damm as the head of Ridge (1 Sept. 1998).

## InterRidge contacts with other programs

### *ILP (International Lithosphere Project)*

ILP has funded a new project, the Hydrogeology of the Oceanic Lithosphere, which is headed by Harry Elderfield and Earl Davis. They are convening a workshop which will be held in Santa Cruz the weekend following AGU. Harry Elderfield has been asked to be the liaison between InterRidge and ILP.

### *SOPAC (South Pacific Geosciences Applied Commission)*

SOPAC has joined InterRidge as a corresponding member. Their program manager, Russell Howorth is the correspondent.

### *SCOR (Scientific Committee on Oceanic Research)*

The SCOR 99 WG met in January and worked on writing a review paper for Reviews of Geophysics. The color brochure will be extracted from the final version of the paper.

*ODP (Ocean Drilling Program)*

At last year's meeting it was decided to invite the SCICOM representative of this year's host country to this year's steering committee meeting. While Spain does not have a representative on SCICOM, Maria Carmen Comas, the Spanish representative in ESCO (ESF Science Committee for ODP), was invited but did not respond. However there is a strong link between InterRidge and the JOIDES Long-Term Observatory PPG. Keir Becker, the co-chair of the PPG, has requested input from InterRidge about working together on this issue. This subject would be discussed further at the steering committee meeting, as well as at the MOMAR workshop in October.

**InterRidge Projects**

The three InterRidge themes: Global Studies, Meso-Scale Studies and Active Processes are subdivided into nine InterRidge projects. The current chair, membership and summary of 1998 activities are given below.

**Global Studies:**

- **SWIR (Southwest Indian Ridge):** Catherine Mével (France), Chair
 

Miquel Canals (Spain)	Charlie Langmuir (USA)	Jonathan Snow (Germany)
Chris German (UK)	Anton le Roex (South Africa)	Kensaku Tamaki (Japan)
Nancy Grindlay (USA)	Chris MacLeod (UK)	<sup>B</sup> Cindy Lee Van Dover (USA)

Since the 1997 Steering Committee Meeting there have been four cruises to the SWIR: The FUJI Cruise (Mével, Tamaki) in Oct. 1997 carried out a TOBI survey and OBS deployments near the Melville FZ, a cruise aboard the James Clark Ross used ROPOS to examine the geology of the lower crust with deep-towed magnetics and rock drills, and two ODP legs (176 and 179) did more drilling near Hole 735B. There will be two JAMSTEC dive cruises this fall, one near the triple junction and one near the Atlantis II FZ.

There will be a special session at this year's Fall AGU meeting on slow-spreading ridges, focusing on recent field results from the SWIR and the Arctic Ridges.

A compilation of all SWIR cruises from 1992 onwards is now available on the web through the new InterRidge cruise database.

- **Arctic Oceans:** Roland Rihm (Germany), Chair
 

Bernard J. Coakley (USA)	Karl Gronvold (Iceland)	Neil C. Mitchell (UK)
Kathleen Crane (USA)	H. Ruth Jackson (Canada)	Hans Albert Roeser (Germany)
Olivier Dauteuil (France)	Wilfried Jokat (Germany)	Hideki Shimamura (Japan)
Colin W. Devey (Germany)	Yngve Kristoffersen (Norway)	<sup>B</sup> Cindy Lee Van Dover (USA)
Vladimir Glebowsky (Russia)	Peter J. Michael (USA)	

The Arctic Ridges working group has been organizing a workshop on Mapping and Sampling the Arctic Ridges which will be held at BGR, in Hannover Germany October 16-17, 1998. It will be convened by H. Roeser, W. Jokat and P. Michael. The objectives of the workshop are to bring participants up to date on work since the 1994 workshop, and to devise a program plan for future work. 46 participants from 9 countries (Canada, Italy, Japan, France, Germany, Russia, Turkey, Norway and USA) are expected to attend the workshop.

There will be a special session at this year's Fall AGU meeting on slow-spreading ridges, focusing on recent field results from the Arctic and the SWIR Ridges.

A compilation of all Arctic cruises from 1992 onwards is now available on the web through the new InterRidge cruise database.

Roland Rihm is unable to continue chairing the Arctic working group and his replacement needs to be discussed at the 1998 Steering Committee meeting.

- **Global Digital Database:** Philippe Blondel (UK), Chair
 

Christine Deplus (France)	Kazuo Kobayashi (Japan)	Ron McNab (Canada)
Jose Diaz (Spain)	William Ryan (USA)	Wilhelm Weinrebe (Germany)
Martin Jakobsson (Sweden)	Marco Ligi (Italy)	

Since the 1997 Steering Committee Meeting many people have been contacted in different countries about collaborating on this project, although that have not all been officially invited to the working group. There is Arctic bathymetry available from both Sweden and the Arctic Bathymetry working group (R. McNab, chair) of the International Arctic Science Committee (IASC). The Dorsales program put out a call in June for proposals to synthesize existing data. A report is in progress which will summarize the kind of ridge-related data and distribution mechanisms in each country contacted.

- **Global Partitioning of Hydrothermal Fluxes:** Chris German (UK)  
 Y. John Chen (USA) Sang-Mook Lee (Korea) Kevin G. Speer (France)  
 Javier E. Escartín (Spain) Joël Radford Knoery (France) Carol A. Stein (USA)  
 Toshitaka Gao Gamo (Japan) Daniel S. Scheirer (USA) Verena Tunnicliffe (Canada)  
 Peter Halbach (Germany) Steve D. Scott (Canada) <sup>B</sup>Cindy Lee Van Dover (USA)

After discussions at last year's steering committee meeting and at an open forum held at last year's Fall AGU meeting it was decided to develop a new InterRidge Working Group dedicated to developing and coordinating international studies of the partitioning of hydrothermal venting around the world's mid-ocean ridge-crests from very slow to very fast spreading rates. A call for expressions of interest was sent out in late December to the entire InterRidge mailing list and the working group was established in part from the submissions received. The first meeting of the working group will take place at this year's Fall AGU meeting. The meeting will establish, identify, and prioritize preliminary areas of interests, and discuss the possibility of organizing an InterRidge Workshop in the future.

#### Meso-Scale Studies:

- **4-D Architecture of the Oceanic Lithosphere:** Lindsay M. Parson (UK), Chair  
 Simon Allerton (UK) Pascal Gente (France) Jian Lin (USA)  
 Donna K. Blackman (USA) Kathryn M. Gillis (Canada) Nobukazu Seama (Japan)  
 Mathilde Cannat (France) Eulália Grácia (Spain) Martin C. Sinha (UK)  
 Jérôme Dymont (France) Peter B. Kelemen (USA) Maya Tolstoy (USA)

A special session on "Magma focusing and the Segmentation of Mid-Ocean Ridges at all spreading rates" was organized at last fall's AGU meeting and was followed by an open discussion of current InterRidge-related ODP drilling proposals. In the early spring, ODP created the "Architecture of the Oceanic Lithosphere" PPG (program planning group) charged with devising a feasible drilling plan for the next few years, based on the outcome of the joint ODP-IAEVEC-InterRidge workshop held in Woods Hole in the spring of 1996. This PPG includes 2 members of the InterRidge 4D WG (Cannat and Keleman). It held its first meeting in May 1998 and its recommendations have been relayed to proponents and to other members of the IR WG. Existing proposals address or have the potential to address many objectives identified in the Woods Hole report. However, there is a need for proposals on the issue of ridge crest processes (magmatic, hydrothermal and tectonic).

The issue of whether "corrugated surfaces" in slow spread lithosphere represent low angle normal faults continues to be a matter of debate. Sampling cruises have been funded and might take place next year. A joint Geological Society of London/Geological Society of America/InterRidge meeting *Nature and Tectonic Significance of Fault Zone Weakening* (March, 2000) will address this issue and help develop the link with the study of extensional terranes in continents.

Lindsay Parson is unable to continue chairing this working group and his replacement needs to be discussed at the 1998 Steering Committee meeting.

- **Back-Arc Basin Database:** Chairs: Hiromi Fujimoto and Jean-Marie Auzende  
 Philippe Bouchet (France) Eulália Grácia (Spain) Steve D. Scott (Canada)  
 Jean-Luc Charlou (France) Peter M. Herzig (Germany) Robert J. Stern (USA)  
 Katsunori Fujikura (Japan) Roy A. Livermore (UK) Brian Taylor (USA)

Since the 1997 Steering Committee Meeting the membership of this working group has been established. The objectives of this working group are: (1) to compile all the cruises carried out in the BABs for the last 10 years, (2) to compile the publications resulting from these cruises, (3) to emphasize the major input of the BAB studies on the knowledge of oceanic accretion, (4) to compare the different styles of spreading in BABs and the associated processes (5) to coordinate the planned future actions in BABs (cruises, joint projects, workshops, etc.). This work has been started. Several sections of a BAB summary volume have been received, and a preliminary compilation of Back-Arc Basin cruises is now available on the web through the new InterRidge cruise database.

#### Active Processes:

- **Biological Studies at the Ridge Crest:** Lauren Mullineaux (USA), Chair  
 Paul R. Dando (UK) Charles R. Fisher (USA) Douglas C. Nelson (USA)  
 John R. Delaney (USA) Hans Fricke (Germany) Suguru Ohta (Japan)  
 Danjél Desbruyères (France) Françoise Gaill (France) Anna-Louise Reysenbach (USA)  
 David R. Dixon (UK) Jun Hashimoto (Japan) Karl O. Stetter (Germany)  
 Sergei S. Drachev (Germany) S. Kim Juniper (Canada) Verena Tunnicliffe (Canada)  
 Aline Fiala-Médioni (France) Richard A. Lutz (USA)

The *First International Symposium on Deep-Sea Hydrothermal Vent Biology* was held last October in Madeira, Portugal. Over 100 biologists attended this symposium which was rated a great success. A contributions volume from the Symposium will be published early this winter by *Cahiers de Biologie Marine*, but the volume is being edited through the InterRidge Office.

At the Symposium there was an evening discussion on the exchange of biological samples. The motivation for this workshop was the ongoing effort of InterRidge to facilitate open exchange of preserved and frozen samples from mid-ocean ridge hydrothermal vent sites to foster collaborative research. A major from this discussion was that InterRidge should make available to the global community a list of biological specimens and samples, including information on where the samples were collected, where they are currently stored and who is responsible for them. A database has been set up on the web to contain this information. However, so far only data from one cruise has been sent in, although scientists with recent biology cruises were specifically contacted and asked to contribute. A second major recommendation arising from the discussion was that InterRidge should continue to support the biobox concept.

L. Mullineaux, D. Desbruyères and K. Juniper wrote an article on the importance of having biological sanctuaries at hydrothermal vent sites and it has been submitted to EOS in addition to having been published in *InterRidge News* 7.1. This article recommends that InterRidge should establish a website where seagoing researchers would have a single source of information on regions where ongoing research is being conducted, and the community will have a forum for holding proposed sanctuaries up for scrutiny. This site has been established on the InterRidge webpage and to date there have two submissions (both L. Mullineaux) of sanctuaries on the northern EPR.

- **Undersea Cables:** Alan Chave (USA), Chair
 

John R. Delaney (USA)	Adam Schultz (UK)	Pascal Tarits (France)
Hiroyasu Momma (Japan)	Debra S. Stakes (USA)	H. Villinger (Germany)
M. Kinoshita (Japan)		

Members of this working group are working together with *Event Detection and Response and Observatories* on organizing the MOMAR Workshop which will be held Oct. 28-31 in Lisbon, Portugal. The workshop will focus primarily on the practical aspects of setting up long-term monitoring of the MAR south of the Azores. It is hosted at the University of Lisbon and has received support from the RIDGE program and from the European Community. Workshop participants will draft a program plan which will serve as a guide in writing proposals. 75 participants from 10 countries (Canada, Italy, Japan, France, Germany, Portugal, Russia, Switzerland, UK and USA) are expected to attend the workshop.

- **Event Detection and Response and Observatories:** Chair: Chris Fox

Constitution of a working group for this project has been postponed awaiting the outcome of the MOMAR workshop in October (see *Undersea Cables* write up above), as it is expected to set the frame for most InterRidge activity on this theme for the next few years. Chris Fox is a member of the MOMAR organizing committee and has contributed a synthesis paper on the issue for *IR News* 7.1. The possible membership for an Event Detection and Response & Observatories working group should be discussed at the 1998 Steering Committee meeting. The role of this project and its relation with the Cable working group and how they can best work together in ensuring the success of initiatives coming out of the MOMAR workshop should also be discussed.

### InterRidge WWW Pages

In October, 1997 a counter was installed on the InterRidge web page (<http://www.lgs.jussieu.fr/~intridge>), and the statistics for monthly usage are shown in Figure 1. Over the past year there has been a steady increase in the number of visitors to the InterRidge web pages, from a little more than 100 a month in Fall 1997 to an average of 200 a month at present. The lull in December 1997 was due to the failure of the hard drive for the InterRidge WWW server which took some time to replace.

Many new forms have been added to the web page over the last year; in addition to the mailing list sign-up form, forms now exist to submit cruise information, submit sanctuary information, request InterRidge documents, and to register for workshops. There are now web pages for all the InterRidge Projects and all associated countries (except Denmark). Since the last Steering Committee meeting everyone involved with InterRidge: steering committee members, national correspondents and project members have been added to the electronic directory, which now has more than 300 people listed on it. New additions to the web site are a page that lists all the electronic broadcasts, a page devoted to the *InterRidge News* which has format instructions, deadline information and a Table of Contents of all back issues, and a page listing new additions to the web site.

Databases have now been installed on the web site to replace the electronic directory and cruise schedules which were in flat text form and tables respectively, and were cumbersome to load and read. Because of the search capabilities of the databases, it would be redundant to have a separate directory for ridge-crest biologists, and there are now no longer the two separate directories. All of the Mid-Ocean Ridges cruises which InterRidge has compiled since 1992 are now accessible in database format. In addition a global map and an arctic map are now linked to the database, which will pull up all the cruises in a region by a click on that spot.

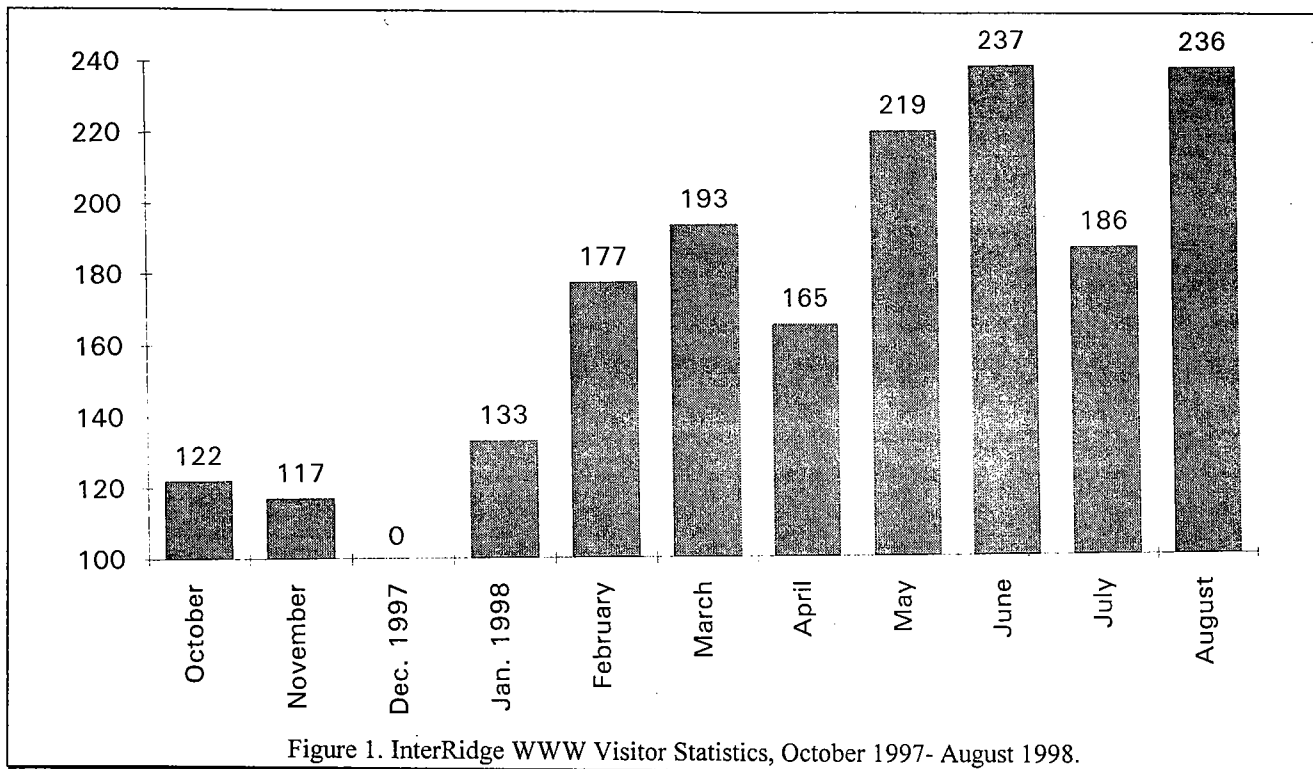


Figure 1. InterRidge WWW Visitor Statistics, October 1997- August 1998.

At the First International Symposium on Hydrothermal Vent Biology last October, there was a request for InterRidge to establish a web page to publicize Hydrothermal Sanctuaries, as well as to establish a database of existing biological samples. Both of these pages have been established. However, they both suffer from a lack of input. Requests were sent out to those who are known to have proposed sanctuaries to submit the relevant information, but to-date there have been only two submissions to the Sanctuaries page (by L. Mullineaux). L. Mullineaux submitted the inventory of the biology samples collected during her May cruise, but there have been no other submissions to the biological samples database.

### InterRidge Publications 1998

#### *Contributions from the First International Symposium on Deep-Sea Hydrothermal Vent Biology*

The InterRidge Office received 44 papers for the Contributions Volume from the First International Symposium on Deep-Sea Hydrothermal Vent Biology which will be published in *Cahiers de Biologie Marine*, 39(3). The papers were divided up among the D. Dixon, S. C. Cary and M. Bischoff for the scientific review. After revisions papers were sent to the InterRidge Office for final editing of English and format before being sent on to the journal. So far almost half of the papers have been sent to the journal, while the rest are still in the revision phase. A December publication date is expected.

InterRidge Program Plan Addendum 1998, pp. 6, Sept. 1998.

InterRidge Program Plan Addendum 1997, pp. 6, Aug. 1998.

Contributions from the First International Symposium on Deep-Sea Hydrothermal Vent Biology  
*Cahiers de Biologie Marine*, 39(3).

*InterRidge News*, vol. 7, no. 2, pp. ??, Oct. 1998.

*InterRidge News*, vol. 7, no. 1, pp. 72, May 1998.

### InterRidge Meetings and Workshops 1998

#### *Workshop: Mapping and Sampling the Arctic Ridges*

The objectives of the workshop are to bring participants up to date that have taken place in the Arctic ridge system since the Kiel InterRidge Workshop in 1994, and to devise a program plan for future multidisciplinary studies of this slow spreading ridge system and to reinforce international cooperation. The workshop will include discussions of scientific priorities, the use of "alternate" platforms and the development of innovative sampling tools for use in ice-covered regions.

The Arctic Ridge system includes the Kolbeinsey, Mohns, Knipovitch, and Gakkel Ridges. The major conclusion of the 1994 workshop in Kiel was that the northernmost and least studied portion of this system (Gakkel Ridge), should have the highest priority, at least in terms of geophysical and geochemical studies. Critical issues in these disciplines are how exceptionally slow spreading rates have influenced melt production in the mantle, melt migration through the lithosphere, crustal genesis and tectonism. Very little is known of biological communities at ridge vents north of Iceland. One critical issue is therefore to determine whether the vent faunas of Arctic ridges have evolved independently from the rest of the

