

1.0 OPENING

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1.1 Opening Remarks and Administrative Arrangements

Hall, Burkill, Urban

1.1.1 Memorials for Scientists Involved With SCOR

Burkill

Five ocean scientists who were involved in SCOR activities in some way passed away since last year's SCOR meeting. We will observe a moment of silence to remember the following people:

Eberhard Fahrbach—Eberhard Fahrbach was a leader in the development of the SCAR-SCOR Southern Ocean Observing System project.

Obituary for Dr. Eberhard Fahrbach (from [Alfred Wegener Institute](#))

We mourn the loss of our colleague and friend Dr. Eberhard Fahrbach, who died on 21st April 2013 at the age of 65 following a severe illness. Eberhard was a dedicated scientist. He enthusiastically championed the observation of the polar oceans, which he considered one of the foundations for understanding the Earth system. Through his scientific work he significantly advanced the international recognition of the Alfred Wegener Institute, Helmholtz Center for Polar and Marine Research (AWI). We lose an amicable, honest and highly competent scientist who has helped shape the AWI for many years.

After graduating with degrees in physics in Heidelberg and oceanography in Kiel and Paris, Eberhard Fahrbach did his thesis on ocean circulation in the upwelling regions off Western Africa and Peru. He held postdoctoral positions at the University of Miami (Florida, USA) and at the Oregon State University (Corvallis, USA). In 1984, he returned to Kiel to study the circulation of the North Atlantic.

In 1986, Eberhard Fahrbach joined the AWI, and began investigation on circulation and water mass transformation in polar regions. He initiated long-term observations in both polar oceans, which provide a baseline for estimating the role of polar oceans in the climate system. He was head of the research Section “Observational Oceanography” and participated in 33 scientific cruises, 14 of which he served as chief scientist on the research ice breaker *Polarstern*. He was very aware of the central role of research vessels for marine research and thus offered his invaluable expertise to boards like the Senate Committee for oceanography of the National science research foundation. Since 2004, he was scientific coordinator of research cruises of RV *Polarstern*. As for all his many other tasks, he carried out this difficult task with his usual sense of duty, and with great diplomacy and fairness. Through his engagement in numerous international committees, such as the scientific steering group of the International Polar Year (2007-2008), he helped shape modern marine research. In 2007, he received the Georg Wüst Award for his merits in marine science. Even more important than marine science were the people with whom he worked – on board during expeditions, in the AWI and in the international committees. Marine scientists all over the world have lost a dear, honest and highly valued friend. Our thoughts are with his family and we join them in mourning the loss of such a wonderful person.

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Carlo Heip—Carlo Heip was a Nominated Member from Belgium.

In Memoriam, Carlo Heip (from NIOZ: http://www.nioz.nl/press-release-reader/carlo-heip_en)

Professor Carlo Heip died in his sleep on Friday 15 February. Carlo Heip was professor at the universities of Ghent and Groningen and he was director at NIOO-CEME (Centre for Estuarine and Marine Ecology) in Yerseke and later at NIOZ (Royal Netherlands Institute for Sea Research).

Carlo Heip (1945) studied Biology at Ghent University, where he started a research group for marine biology after he graduated. In 1987, he was appointed director of the Delta Institute in Yerseke, which was incorporated into the Netherlands Institute for Ecology (NIOO) as the Centre for Estuarine and Marine Ecology (CEME) in 1992 and has been a division of NIOZ since 2012. In 2006, Carlo Heip was appointed general director at NIOZ on Texel. He retired in 2011. After that, he stayed on as an advisor at NIOZ and he became the general editor of the *Journal of Sea Research*.

His first research project involved population dynamics, ecology and the ecotoxicology of benthic life. Later, his focus shifted to the link between biodiversity and the functioning of ecosystems.

Carlo Heip has over 150 articles to his name and he has edited several books. He was a source of inspiration for many national and international initiatives in the field of marine research. He played an important part in European research into land-ocean interaction, and into ecological processes in estuaries in particular. He was responsible for numerous EU projects. The most important of these EU projects was MARBEF (Marine Biodiversity and Ecosystem Functioning), in which taxonomists and ecologists worked together on a European scale to come up with scientific grounds for the protection of marine biodiversity. This project has made a significant contribution to worldwide initiatives to better describe and understand the variety of organisms in the sea.

Carlo Heip was an eminent scientist and a committed intellectual who as a researcher contributed to the better preservation of the marine environment. He was a director and organiser with vision and leadership. We will remember him as a warm and dedicated person.

Tore Vorren—Tore Vorren was a Nominated Member from Norway at the time of his death.

Professor Tore Vorren has passed away (translated from

http://en.uit.no/ansatte/organisasjon/nyhetsartikkel?p_document_id=342012&p_dimension_id=88131&p_menu=28723&p_lang=2)

It was with great sadness University of Tromsø received the message that Professor Tore O. Vorren passed away. Vorren was a professor at the Institute of Geology and formerly Dean at University of Tromsø. Sunday 16th June he died after a prolonged illness. He was 69 years old. The message about Tore's death was received with great sorrow by his colleagues. Tore was employed at the University of Tromsø for over 40 years, since 1979 as a professor of marine geology.

He was a driving force in national and international research and education in the high north. He combined research of international excellence with a strong commitment to science policy. As a professor of marine geology, he has produced results that have attracted international attention and developed new knowledge which today has become textbook material. He has held a number of science policy related positions both at the University of Tromsø, nationally and internationally. His work has also been of great geopolitical and industrial policy significance. Tore has also been Head of the then Department of Biology and Geology and Department of Geology, Dean of the Faculty of Science and Technology, Vice Rector of the University of Tromsø, member of the University Board and Chairman of the Board at the University Centre in Svalbard (UNIS).

In 2005 Tore was awarded the Fram Committee Nansen Award for excellence in polar research. In 2011 he received the Brøgger prize, an honorary award from the Norwegian Geological Society. In its motivation, the jury stated that "Tore Vorren has for decades been a leading researcher in marine geology and has combined research in international excellence with a strong commitment to research policy."

C.S. Wong (from Canadian Ocean Science Newsletter:

<http://www.cmos.ca/scor/COSN/COSN15Jun2013.pdf>)

Dr. Chi-Shing Wong, known by most of his associates as CS, and widely recognized as one of Canada's leading ocean geochemists, passed away on 6 June 2013.

He came to Canada's west coast in the early 1970s and set up an atmosphere-ocean CO₂ facility, initially within Environment Canada but soon transferred to Fisheries and Oceans where he remained until he retired in 2009. CS had an exceptional capability to recognize an important science problem, to engage with the international community working on it, and to find the funding to support a meaningful contribution to that problem by Canada. In those early years, when few of us worried about time series, CS recognized the opportunity afforded by the west-coast weather-ships to initiate the first atmospheric CO₂ time series at an oceanic station (Station

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Papa). Perhaps this would be no surprise to those who knew him well, given that two of his heroes were Roger Revelle and Charles Keeling. This atmospheric time series was accompanied by an ocean chemistry time series, the value of which has grown exponentially with time.

While maintaining the carbon-cycle work in the NE Pacific Ocean, CS recognized the emerging revolution in ocean trace-metal geochemistry toward the end of the 1970s. With impeccable foresight, he included a cutting-edge clean room as part of design of the chemistry wing in the new Institute of Ocean Science at Patricia Bay, and immediately initiated elemental research using mesocosm enclosures moored in Saanich Inlet – bag work, as it was frequently termed. This enclosure work, led by Tim Parsons, presented the opportunity of researching metal cycles as they affected – or were affected by – biological cycles. CS recognized clearly the extraordinary opportunity presented by this setting, not only to research the cycles of metals in constrained ocean systems, but also to attract a community of leading international scientists from, for example, Japan, Germany, Britain, and the USA. From this basis, CS brought about a NATO Advanced Research Institute in 1981 out of which came a turning-point book – “Trace Metals in Sea Water.” His chosen co-editors formed a cadre of who’s who in ocean geochemistry, including Ed Goldberg, Ed Boyle, Ken Bruland and JD Burton. If one pages through the papers included in that NATO book, one will find virtually the entire community who produced the first real understanding of elemental cycling in world oceans.

In the early 1980s another quiet revolution was occurring consequent to the development of sequential sediment trap technology, which presented some of the first glimpses of rapid connectivity between upper ocean and abyss mediated by particle flux. Again, CS recognized the value of collecting a time series at Station Papa and, against all fiscal odds, managed to maintain that observatory from 1982 to 2006. Establishing this observatory was prescient, given the changes now occurring in the ocean’s CO₂ system, and it well illustrates CS’s astute geochemical eye and remarkable tenacity. CS authored or co-authored well over 100 papers spanning several oceans and far more topics than highlighted here. He received numerous awards including Fellowship of the Royal Society of Canada (FRSC, 1999), but perhaps his favourite would have been the AAAS Newcomb Cleveland Prize for the most outstanding paper in *Science* (Quay, Tilbrook and Wong, 1991). This particular paper could not have been written without the time series on carbon isotopes collected by CS at Station P. Looking back on all these accomplishments, I think it fair to say that CS has firmly established himself as an icon in Canadian ocean science.

A memorial award endowment has been initiated at the University of Victoria for deserving undergraduate students in the field of Earth and Ocean Sciences where donations may be made to The Dr. C.S. Wong Memorial Award in Earth and Ocean Sciences (<https://extrweb.uvic.ca/page.aspx?pid=468>).

Mingyuan Zhu—Mingyuan Zhu served as the Secretary of the China-Beijing SCOR Committee for many years and was a frequent participant at annual SCOR meetings. Mingyuan was also a member of SCOR WG 137 on Patterns of Phytoplankton Dynamics in Coastal Ecosystems: Comparative Analysis of Time Series Observation.

Prof. Mingyuan ZHU (1943-2013)
(From First Institute of Oceanography)

In the evening of Oct 11, 2013, Prof. Mingyuan Zhu suddenly hit by heart stroke and passed away in Nanaimo during the PICES 2013 Annual Meeting, in his age of seventy years. Prof. Mingyuan Zhu was born in Shanghai on August 11th, 1943. He graduated from the Department of Marine Biology, Shandong College of Oceanography (current Ocean University of China) in 1965. After twelve years of teaching at the Second High School of Penglai, he joined our institute, the First Institute of Oceanography (FIO) of SOA as researcher in 1978, and then he became a professor since 1992, and later on became the director of the Department of Marine Biology of FIO and also served as the deputy director of the SOA Key Lab for Marine Ecological Science and Engineering.

Prof. Mingyuan Zhu devoted his all life to marine science research and education. He was a model of marine scientists with many deliverables that won him national and international awards and respects. He concentrated on mentoring young scientists and promoting international cooperation, and he is one of the pioneers in international cooperation in China. His research covered marine plankton, eutrophication, chemical communication, aquaculture ecophysiology, ecosystem dynamics and large marine ecosystem management. He has over 100 publications and was instrumental to develop the research in China for marine chlorophyll and primary productivity, chemo-communication of marine organisms and polar ecology.

Prof. Mingyuan Zhu was very active in international cooperation. He got involved in PICES since 1995 and became the member of the Biological Oceanography Committee since 1998, and a member of Harmful Algal Blooms Section since the Section was set up and in 2013 he became a AICE member. He has served as secretary general of Chinese Committee of SCOR since 2004. He also served as Vice-Chairman of IOC-FAO Intergovernmental Panel on Harmful Algal Blooms, Vice-chairman of Chinese Committee of SCOR-IOC Working Group on Harmful Algal Blooms. He was Head of the Regional Working Group (RWG) on Investment and Vice Head of the Regional Working Group on Ecosystem, a senior scientist of UNDP/GEF Yellow Sea Large Marine Ecosystem program. He was also the Vice Director of the Chinese Emeritus Marine Scientists' Society, Expert of the Chinese Ocean Mineral Resources R&D Association (COMRA), and Standing Member of the Shandong Society of Limnology and Oceanography. God will bless for Prof. Mingyuan Zhu.

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1.2 Approval of the Agenda (see Tab 0)

Burkill

The agenda can be rearranged at the meeting to accommodate the schedules of presenters and to add items to it.

1.3 Report of the SCOR President

Burkill

The SCOR President will present a report at the meeting that describes his activities on behalf of SCOR since the 2012 SCOR General Meeting in Halifax.

1.4 Report of SCOR Executive Director

Urban

This has been another busy year for the SCOR Secretariat and SCOR-supported groups continue their good work.

Finances—Despite continuing global financial difficulties, SCOR’s finances are healthy. Most 2013 dues from national SCOR committees have been received on schedule, so it is likely that dues income will meet budget. Income from dues is important for funding the central administration of SCOR, namely the costs of the Secretariat and the annual SCOR meetings. Dues also fund some costs of working groups and other SCOR activities that are not funded from grants. SCOR depends on grant funding for large-scale research projects, ocean carbon activities, and some working groups. So far, the “sequestration” by U.S. government agencies has not affected SCOR, but this could be an issue in the future.

National Members—The number of countries involved in SCOR has remained stable this year. I was able to meet with the French, U.K., and U.S. SCOR Committees this year.

Publications—The SCOR Web site is the major vehicle for providing up-to-date information about SCOR to the international ocean science community and I make changes to the site several times each week, as I receive new information. The site is checked for “dead links” monthly. SCOR activities yielded many publications in the primary literature and other venues this year, as noted in Tab 8. Because SCOR’s reputation is significantly affected by the quality of documents resulting from SCOR activities, I spend a significant amount of my time writing, reviewing and/or editing publications. The most recent issue of the SCOR Newsletter was formatted by a graphic artist who we have worked with for several years. We plan to continue to ask her to work on the Newsletter, as she greatly improved its look and her work is priced reasonably.

Meetings—Between the 2012 and 2013 SCOR annual meetings, five SCOR working groups met (WGs 137, 138, 139, 140, and 141). The Scientific Steering Committees of GEOHAB, GEOTRACES, GLOBEC, IMBER, SOLAS, and SOOS also met.

Outreach to Scientists From Developing Nations and Capacity-Building Activities—SCOR continues to invest funding and effort in expanding our capacity-building activities. In addition to the continuation of the travel grant program, SCOR appoints up to three SCOR Visiting Scholars each year. We convened a meeting in Namibia in early November 2012 to discuss SCOR's outreach in southern Africa, as well as the possibilities for regional cooperation in graduate education in ocean sciences. In early August, I participated in a meeting sponsored by the IMBER project and funded by the Asia-Pacific Network for Global Change Science (APN), to discuss ideas to improve IMBER capacity building worldwide, as well as to improve capacity building in the Asia-Pacific region, which resulted in a report to APN and an article in the journal *Marine Pollution Bulletin* (see below).

Service to International Ocean Research Projects—SCOR helps individual research projects in many different ways, including providing funds from the U.S. National Science Foundation, the U.S. National Aeronautics and Space Administration, and other sources, providing travel support for developing country scientists and scientists from countries with economies in transition to special events of the projects, providing IPO-type support until an IPO can be funded, providing access to the Conference Manager software for management of open science meetings, and leasing the GoToMeeting system for the projects.

Support of Project Offices—SCOR currently provides partial support for three project offices, as subawards to one of SCOR's grants from NSF:

- **International Ocean Carbon Coordination Project (IOCCP)**—This office is located in Sopot, Poland, at the Institute of Oceanology of the Polish Academy of Sciences. SCOR pays the salary and benefits for the project director, Maciej Telszewski. IOC helps support the cost of the office and provides activity funding for IOCCP, and the host institution provides in-kind support.
- **GEOTRACES Data Assembly Centre**—This office is located at the British Oceanographic Data Centre. SCOR pays for some salary support and other expenses related to the office, for Edward Mawji, the GEOTRACES data manager. The office receives occasional support from other countries whose scientists are involved in GEOTRACES.
- **GEOTRACES International Project Office**—This office is located in Toulouse, France at the Laboratoire d'Etudes en Géophysique et Océanographie Spatiales, SCOR support pays for about half of the office cost, including some salary support for the GEOTRACES Executive Officer, Elena Masferrer-Dodas. SCOR funds are supplemented by funds from other countries whose scientists are involved in GEOTRACES.

Partnerships With Other Organizations—Maintaining existing partnerships and developing new ones depends on SCOR having the ability to commit funding to joint activities and to send representatives to partners' meetings. We have strong partnerships with IGBP, IOC, PICES, POGO, and SCAR. This year, Peter Burkill and I represented SCOR at the IOC General Assembly in June.

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Staffing—Lora Carter, our Financial Assistant, resigned in February and Elizabeth Gross has filled in on work previously done by Lora, as well as many other financial activities. In the longer term, we are investigating hiring an accountant for about one day per week to take care of reimbursements, balancing bank statements, taking care of some other financial duties.

SCOR Secretariat—The SCOR Secretariat is scheduled to move to a different office at the University of Delaware, probably in January 2014. The new office will be located in Robinson Hall, which is the home of the College of Earth, Ocean and Environment on the university's Newark campus. The move will make it possible for SCOR staff to interact more regularly with college faculty and staff.

I continue to manage all SCOR Secretariat activities and oversee the finances of SCOR activities, serve as a partial Executive Officer for one project (GEOHAB), pursue new funding for SCOR activities, represent SCOR at various meetings, help edit various publication, and work on the SCOR Web site and Newsletter. I co-authored four publications this year, related to the Data Publication project, the Southern Ocean Observing System project, and capacity building:

[Urban, E., A. Leadbetter, G. Moncoiffe, P. Pissierssens, L. Raymond, and L. Pikula. 2012. Pilot Projects for Publishing and Citing Ocean Data. *Eos* 93:425-426.](#)

Meredith, M.P., O. Schofield, L. Newman, E. Urban, M. Sparrow. 2013. The vision for a Southern Ocean Observing System. *Current Opinion in Environmental Sustainability* 5(3-4):306-313 <http://dx.doi.org/10.1016/j.cosust.2013.03.002>

[Urban, E.R. Jr., and R. Boscolo. 2013. Using scientific meetings to enhance the development of early career scientists. *Oceanography* 26\(2\):164–170, <http://dx.doi.org/10.5670/oceanog.2013.16>.](#)

[Morrison, R.J., J. Zhang, E.R. Urban Jr., J. Hall, V. Ittekkot, B. Avril, L. Hu, G.H. Hong, S. Kidwai, C.B. Lange, V. Lobanov, J. Machiwa, M.L. San Diego-McGlone, T. Oguz, F.G. Plumley, T. Yeemin, W. Zhu, and F. Zuo. 2013. Developing human capital for successful implementation of international marine scientific research projects. *Marine Pollution Bulletin*](#)

1.5 Appointment of an *ad hoc* Finance Committee

Burkill

The Executive Committee appointed the 2013 Ad Hoc SCOR Finance Committee before the meeting, so the committee members can receive and review SCOR financial information in advance. Participation on the Finance Committee is limited to Nominated Members who are attending the meeting, but who are not members of the SCOR Executive Committee. This ensures that a group independent from the Executive Committee and SCOR Secretariat staff can make recommendations to the Executive Committee about SCOR finances. This year's Finance

Committee includes Colin Devey (Germany), Karen Heywood (UK), and Motoyoshi Ikeda (Japan).

1.6 2014 Elections for SCOR Officers

Fennel

The election process for new SCOR officers will take place between the 2013 Executive Committee meeting and the 2014 General Meeting. It will be necessary to approve a Nominating Committee at the meeting.

PROCEDURES FOR THE NOMINATION AND ELECTION OF SCOR OFFICERS

1. A call for nominations must be issued more than 6 months before the General Meeting (**15 March 2014**). Nominations should include a suggestion of the position for which the candidate is being proposed, and a brief curriculum vitae.
2. A Nominating Committee of three SCOR members will be appointed by the Executive Committee meeting prior to each General Meeting at which an election will take place. The Nominating Committee will normally include the Past-President as its Chairperson.
3. Nominations will not be accepted later than 4 months before the General Meeting (**15 May 2014**) except as provided for in clause 4.
4. Between 3 and 4 months before the General Meeting (**15 May-15 June 2014**), the Nominating Committee, after scrutinizing the nominations received, may seek additional nominations for specific positions through direct consultations with national committees and/or affiliated organizations. This process may be needed in order to maintain the appropriate disciplinary and geographic balance on the Executive Committee.
5. The Nominating Committee will prepare a final slate of candidates, one per position, and will confirm that the members of this slate are willing to serve.
6. Three months before the General Meeting (**15 June 2014**) the Nominating Committee will announce its proposed slate and send it, along with all nominations received, to all voting members of SCOR as defined in Clause 21 of the SCOR Constitution (Nominated Members and Representative Members of Affiliated Organizations). Nominations received as a result of action taken under clause 4 will be identified.
7. Clause 21 of the SCOR Constitution states that when elections are held “only one Nominated Member from each Committee for Oceanic Research shall have a vote. One Representative Member from each Affiliated Organization may also vote.”
8. No further nominations be allowed.

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9. If notice is given not less than 2 weeks before the start of the General Meeting (**1 Sept. 2014**) by any 3 national committees requesting that a formal vote take place, it will be held on the last day of the General Meeting.

10. If no vote is requested the slate proposed by the Nominating Committee will be declared elected at the end of the General Meeting (**17 Sept. 2014**).