



13th International Polychaete Conference (IPC13) Editorial

BRUNO PERNET¹, LESLIE HARRIS², KIRK FITZHUGH³, LARRY LOVELL⁴ & CHRISTINE WHITCRAFT⁵

¹ bruno.pernet@csulb.edu, <https://orcid.org/0000-0002-6200-5654>

² <https://orcid.org/0000-0002-5792-543X>

³ <https://orcid.org/0000-0002-1366-2260>

⁴ <https://orcid.org/0000-0002-6781-4450>

⁵ <https://orcid.org/0000-0002-7596-5881>

In 1989, Donald Reish hosted the 3rd International Polychaete Conference (IPC3) in Long Beach, on the campus of California State University Long Beach. In 2015 he asked one of us (Bruno Pernet) if it might be possible to bring IPC13 back to Long Beach, thirty years later. Bruno assembled a planning committee consisting of himself and Christine Whitcraft (CSU Long Beach), Kirk Fitzhugh and Leslie Harris (Natural History Museum of Los Angeles County), and Larry Lovell (Dancing Coyote Environmental). The committee's proposal was accepted at the International Polychaetology Association (IPA) general meeting in Wales in 2016, and the planning committee morphed into an organizational committee!

IPC13 was held from 4-9 August 2019 on board the RMS Queen Mary, permanently moored just south of downtown Long Beach. Approximately 125 registered participants attended, including 26 students and 12 accompanying partners and children, from 23 countries. There were 53 scientific talks in 13 themed sessions, and 74 poster presentations on a diversity of topics in annelid biology. A selection of scenes from the conference are shown in Figure 1.

The conference opened on Monday 5 August in the Queen Mary's Grand Salon with welcome addresses from IPA President Daniel Dauer and Organizing Committee Chair Bruno Pernet. And then the scientific talks began! The two morning Systematics & Evolution sessions included beautifully illustrated talks on a diversity of annelid taxa, including terebelliforms, chaetopterids, histriobdellids, and sabellids. Afternoon talks were organized in two Ecology sessions, and included work on topics including burrowing, defense, aggregative settlement in serpulids, and epitoky. The first day of the conference ended with moving tributes to Donald Reish by Steve Bay and Jim Reish. Don had sadly passed away in July 2018, just a year before the conference he set in motion. After these tributes, attendees climbed to the ship's top level for a wine and cheese social on the Verandah Deck. After a lively social, participants congregated for the group photo (Fig. 2) before dispersing for dinner.

Tuesday morning's Morphology sessions included fascinating talks on nephridial systems in interstitial annelids, the evolution of annelid nervous systems, the dwarf males of dinophilids, the amazing branched syllid *Ramisyllis multicaudata*, and the peculiar annelid *Sternaspis scutata*. The afternoon consisted of two more Systematics & Evolution sessions, whose highlights included a beautifully illustrated report on new Polynoidae from seeps, vents, and whalefalls, in tribute to the contributions of Marian Pettibone. In the late afternoon, Leslie Harris presented a fascinating history of the Allan Hancock Foundation, to prepare attendees for the mid-conference tour.

Wednesday's tour took many attendees to Exposition Park in Los Angeles, where they visited the California Science Center, the Natural History Museum of Los Angeles County (where they toured the collections, of course!), and the steps of the Allan Hancock Building, where Olga Hartman trained so many annelid workers, including Kristian Fauchald and Donald Reish.

Thursday morning started with a session on Development & Regeneration, with talks on larval development and developmental plasticity in spionids, the development of the prototroch in larvae of *Platynereis dumerilii*, and what we expect is a first for the IPC: a report of the use of genome editing (using CRISPR/CAS9 mutagenesis) to study the functional biology of an annelid larva, that of *Capitella teleta*. This was followed by a session on Physiology, which included excellent talks by students on responses to hypoxia in amphinomids,

aquaporins in an estuarine nereidid, genomic insights into chemosynthetic symbiosis in a siboglinid, and the kinematics of swimming in *Tomopteris*. There was only one afternoon session, on Diversity & Biogeography, including several talks on the detection and distribution of non-indigenous annelids. That afternoon session ended with a special lecture by an underwater videographer, Nannette Van Antwerp, highlighting amazing footage of annelids she had filmed from a variety of locations. Finally, James Blake presented remembrances of Drs. Frederick Grassle and Eugene Ruff, and Elena Kupriyanova presented a remembrance of Dr. Alexander Rzhavsky, all of whom had passed away since IPC12. The rest of the afternoon was spent in a lively poster session.



FIGURE 1. Scenes from the 13th International Polychaete Conference. **A.** Patrick Beckers models the conference t-shirt. **B.** Group photo of delegates present at both IPC3 (Long Beach, 1989) and IPC13 thirty years later. **C.** Remembrance of Donald Reish by Steve Bay. **D.** Lecture on the history of the Allan Hancock Foundation by Leslie Harris. **E.** A typical evening scene in the Queen Mary's Observation Bar. **F.** Kate Mortimer presents a poster. **G.** Ranny Ribeiro takes questions after her talk on syllid regeneration. **H.** Kirk Fitzhugh leading the mid-conference tour in Exposition Park. **I.** Jenna Moore communes with Captain Allan Hancock's head. **J.** Touring the polychaete collections at the Natural History Museum of Los Angeles County. **K.** Photographs with Fauchald and Hartman outside of the Allan Hancock Foundation Building. **L.** Nicolas Lavesque presents a pair of posters. **M.** Carol Simon presents a successful bid for IPC14 in South Africa in 2022. **N.** Christine Whitcraft and Ken Halanych present Best Student Presentation winners with certificates and prizes. **O.** Dancing to Stone Soul in the Queen's Salon. Photo credits: Bruno Pernet (A, E, N, O); Andy Mackie (B-D, F-H, J-M); I; Christina Piotrowski (I).

The scientific talks ended on the morning of Friday 9 August with two more Diversity & Biogeography sessions, with talks on annelids from the Falkland Islands and abyssal habitats in eastern Australia, and reports

on a large DNA barcoding and population genetics study of annelids in Nordic waters. The IPC Advisory Council met over lunch, nominating new officers for the IPA. In the early afternoon IPA President Dauer led the IPA Business Meeting, at which there were two main orders of business: first, Carol Simon's compelling and successful bid to host IPC14 at Stellenbosch University in South Africa in July of 2022, and second, the election of Carol Simon and Anja Schulze as the next President and Vice-President, respectively, of the IPA.

The last event of the conference was the Banquet, held Friday evening in the beautiful Queen's Salon. Before dinner was served, Christine Whitcraft and Ken Halanych announced the winners of the Best Student Presentation awards. The Best Student Poster Award went to Guillermo Ponz-Segrelles, and Honorable Mentions in that division to Natsumi Hookabe and Mary Colleen Hannon. And the Best Student Oral Presentation Award was awarded to Jenna Moore, with Honorable Mentions to Serena Mucciolo and Rannyele Ribeiro. After that celebratory news, an excellent dinner was served, and then an impressively high percentage of attendees hit the dance floor to the music of a lively local soul band, Stone Soul.

We thank all of the individuals and organizations that supported the conference; the meeting would not have been possible without their generosity. Contributions from the American Microscopical Society and the Southern California Association of Marine Invertebrate Taxonomists allowed us to waive registration fees for 11 students attending from around the globe. *The Biological Bulletin* and an anonymous donor supported substantial cash awards for Best Student Presentation winners. Support from USC Sea Grant allowed us to make the conference proceedings online open access. We are also grateful for the support of California State University Long Beach, the Natural History Museum of Los Angeles County, the Orange County Sanitation District, Wood Environment & Infrastructure, and numerous individual donors. Thank you all! We also thank Greg Rouse and Sara Lindsay for taking on the major task of editing these proceedings.



FIGURE 2. Delegates of the 13th International Polychaete Conference on the stern deck of the RMS Queen Mary. Photo: Richard Todd Photography.

We aimed to make this an IPC that Donald Reish would have been proud of, and we hope we achieved that goal. We thank all attendees for helping to make it such a fine conference, and hope to see you all in South Africa in 2022!

The IPC13 Organizing Committee (Bruno Pernet, Leslie Harris, Kirk Fitzhugh, Larry Lovell, and Christine Whitcraft).