Editorial

Research articles on gametes and early embryos are spread throughout the scientific literature, appearing in journals as diverse as applied biophysics and comparative morphology. The techniques used, rather than the scientific problem posed, often dictate the authors choice of journal. The rapid expansion in this field over the last 10 years has created the need for a new journal on early development to serve as a source of reference for scientists in this area.

Zygote will provide a multidisciplinary forum for high quality reports on all aspects of early developmental biology. Original work, at the molecular and cellular levels, on both animals and plants will be considered with the aim of identifying unifying concepts in developmental biology. Extensive reviews, together with News and Views commentaries will discuss topical and controversial advances in the field.

The central theme will be the programming of developmental information during gametogenesis, through its modification at fertilization to the integration of the maternal and embryonic genomes. Specific subjects covered will include gametogenesis, fertilization, sperm-egg interaction, activation of gametes, polarity in oocytes and zygotes, cell cycle control, cell-cell interactions, and the generation of early cell lineages.

The molecules involved in meiotic and mitotic regulation, activation and induction are coming to light. The key to understand how the basic architecture of the early embryo is established, however, is in the spatial and temporal regulation of these molecules. A multidisciplinary approach integrating cellular physiology, cell and molecular biology, in these large relatively undifferentiated cells, is essential.

Biotechnology, whether veterinary, acquaculture, plant sciences or human IVF has recognised the need to culture and mature gametes *in vitro*. New techniques for isolating and culturing angiosperm gametes may revolutionize agriculture, as transgenics have in the veterinary sciences. The integration of information from a wide variety of organisms is in the interests not only of pure science, but also in the application of science to solving current problems for humanity.

It is an honour to launch this journal from the Stazione Zoologica in Naples, founded by Anton Dohrn at the turn of the last century to promote biological research at an international level. Embryologists such as Hertwig, Fol, Boveri, Morgan, and more recently, Runnström and Monroy not only defined the field of early development, but also created an ideal collocation for its investigation. I would like to thank the President of the Stazione Zoologica, Professor Gaetano Salvatore, the Director, Dr Lucio Cariello and the staff of the Stazione Zoologica for their support of this project.

Brian Dale
Editor-in-Chief

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