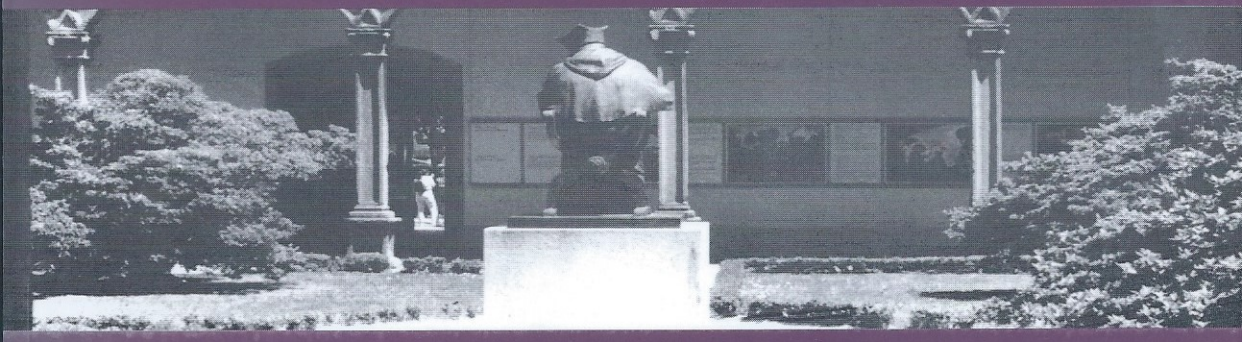
C U R S O S E C O N G R E S O S

III Conference of European Researchers in Didactic of Biology (ERIDOB)

PROCEEDINGS
Santiago de Compostela, Spain
September 27th -October 1st, 2000



EDITED BY
Isabel García-Rodeja Gayoso
Joaquín Díaz de Bustamante
Ute Harms
María Pilar Jiménez Aleixandre

UNIVERSIDADE DE SANTIAGO DE COMPOSTELA
publicacións

III Conference of European Researchers in Didactic of Biology (ERIDOB)

Organized by

Dpto. de Didáctica das Ciencias Experimentais
Universidade de Santiago de Compostela

Supported by

Xunta de Galicia
Consellería da Presidencia
Secretaría Xeral de Investigación e Desenvolvemento

Vicerrectorado de Investigación
Universidade de Santiago de Compostela

Facultade de Ciencias da Educación
Universidade de Santiago de Compostela

Scientific Commitee

Dr. Horst Bayrhuber. IPN-Univ. of Kiel, Germany
Dr. Fred Brinkman. IDO Vrije. Univ. of Amsterdam, The Netherlands
Dr. Ute Harms, Univ. of München, Germany
Dr. María Pilar Jiménez Aleixandre, Univ. of Santiago de Compostela, Spain
Dr. Jenny Lewis, Univ. of Leeds, United Kingdom
Dr. Laurence Simonneaux. ENFA. Univ. of Toulouse, France

This volume includes a selection of the contributions presented in the III Conference of European Researchers in Didactic of Biology (ERIDOB), held in Santiago de Compostela from September 27th through October 1st, 2000. ERIDOB intends to provide a forum for reflection and exchange among researchers in didactic of Biology in the european context. It was born in Kiel, Germany, in November 1996, where the first conference took place, and continued in the second conference held in Göteborg, Sweden, in 1998. The need for such a forum, providing the opportunity of builiding networks, common projects and, in summary, a community of scholars involved in research of Biology learning and Biology teaching, is a commonplace about Biology educators.

Proceedings of the

III Conference of European Researchers in Didactic of Biology

CURSOS E CONGRESOS
DA UNIVERSIDADE DE SANTIAGO DE COMPOSTELA
Nº. 130

Proceedings of the

III Conference of European Researchers in Didactic of Biology (ERIDOB)

September 27th -October 1st 2000
Santiago de Compostela (Spain)

Edited by
ISABEL GARCÍA-RODEJA GAYOSO
JOAQUÍN DÍAZ DE BUSTAMANTE
UTE HARMS
MARÍA PILAR JIMÉNEZ ALEIXANDRE

2001
UNIVERSIDADE DE SANTIAGO DE COMPOSTELA

CONFERENCE OF EUROPEAN RESEARCHERS IN DIDACTIC OF BIOLOGY (ERIDOB)

(3rd. 2000. Santiago de Compostela)

Proceedings of the III Conference of European Researchers in Didactic of Biology (ERIDOB): September 27th-October 1st (2000), Santiago de Compostela (Spain) / Edited by Isabel García-Rodeja Gayoso... [et al.] – Santiago de Compostela : Universidade, Servicio de Publicacións e Intercambio Científico, 2001. – 403 p. ; il. ; 24 cm. – (Cursos e Congresos da Universidade de Santiago de Compostela ; 130). D. L. C- 2522/2001. – ISBN 84-8121-964-9

1. Bioloxía-Estudio e ensino-Congresos. I. García-Rodeja Gayoso, Isabel, ed. lit. II. Universidade de Santiago de Compostela. Servicio de Publicacións e Intercambio Científico, ed. III. Serie

573/578 : 37.02 (061)

© Universidade de Santiago de Compostela, 2001

Deseño de cuberta
Alejandro Vidal
Edita
Servicio de Publicacións e Intercambio Científico
Campus universitario sur
15782 Santiago de Compostela
www.usc.es/spubl
Imprime
Imprenta Universitaria
Pavillón de Servicios
Campus universitario sur
ISBN 84-8121-964-9
Dep. Legal C-2522/2001

INDEX

PREFACE

This volume includes a selection of the contributions presented in the III Conference of European Researchers in Didactic of Biology (ERIDOB), held in Santiago de Compostela from September 27th through October 1st, 2000. The conference was organised by the Department of Didáctica das Ciencias Experimentais of the University of Santiago.

ERIDOB intends to provide a forum for reflection and exchange among researchers in didactic of biology in the European context. It was born in Kiel, Germany, in November 1996, where the first conference took place and continued in the second conference held in Göteborg, Sweden, in 1998. The need for such a forum, providing the opportunity of building networks, common projects and, in summary, a community of scholars involved in research on biology learning and biology teaching, is a commonplace about biology educators. Clearly, although there are many concerns and research issues shared with other science education colleagues, there are particular topics and problems which deserve a place devoted to them. All sciences have experienced great changes in the last decades of the XX century, but perhaps biology research has experienced the most dramatic ones; the question of how these changes reach the school, and the public, is of great interest. The connections among science and society are surfacing, for instance in papers related to teaching biotechnology and genetics.

The contributions are grouped in four sections, devoted to learning biology, teaching biology, reasoning and environmental education, although many papers deal with several strands at a time. Learning biology includes nine contributions, three of them (Bandiera & di Macco, Bayrhuber & Schletter and Camino et al) about broad cross-topic issues, four (Baalmann & Kattmann, Hammelev, Knippels et al, and Wallin et al) about different aspects of learning genetics and / or evolution and two (Muñoz & Puigcerver and Reiss & Tunniclife) on understanding about biological systems. Some of these topics are connected with the second section, Teaching biology, which includes seven contributions, three of them about models (Boulter & Buckley, Gándara et al and Selles et al), three about teaching ecology and biodiversity in different contexts (Hammann & Bayrhuber, Helldén and

Magro et al) and one (Prechtl et al) about computer-based environments. The second section, Reasoning, is an emerging strand in educational research and includes seven contributions, three of them about students' argumentation (Díaz & Jiménez, Höβle & Bayrhuber and Simonneaux), two about classroom discourse (Pereiro & Jiménez and Sóñora et al), one about instructional strategies (Colucci et al) and one about written discourse (Tamayo & Sanmartí). The fourth section, Environmental Education, could be broader, taking into account that several contributions in the previous sections deal also with it; it includes four contributions, which report about gender differences in environmental knowledge (Bögeholz), connections among environmental and health education (Brinkman), comparison between turkish abd german teachers (Erten et al) and environmental behaviour (Lude).

All of the contributions represent research coming from seven European countries as well as from across the Atlantic (Brasil). Santiago de Compostela is proud to provide the environment for the exchange and contribute with its ancient role as a meeting point for different European cultures and thinking.

The conference was possible, first because of the scholars participating in it, but we want to thank also the scientific committee which selected the papers and suggested ways to improve them, to Adela Vázquez and Christine Francis who worked alongside the editors in the organisation, and to the sponsors, Xunta de Galicia–Secretaría Xeral de Investigación, Universidade de Santiago de Compostela–Vicerrectorado de Investigación and the Faculty of Education of the USC.

Santiago de Compostela, september 2001

I. García-Rodeja, J. Díaz, U. Harms and M. P. Jiménez

Outros títulos da colección

Comunicar no século XXI
Edición a cargo de Xosé López García,
Xosé Soengas Pérez

Literatura modernista y tiempo del 98
Edición a cargo de Javier Serrano Alonso *et al.*

Pensar la vida cotidiana
Edición a cargo de Carlos Baliñas,
Marcelino Agís

Europa: mito e razón
Edición a cargo de José Luis Barreiro Barreiro,
Luís Garcia Soto

Formal Theories and Empirical Theories/
Teorías formales y teorías empíricas
Edición a cargo de José L. Falguera,
Concha Martínez, José M. Sagüillo

CURSOS E CONGRESOS

Nº 130

XUNTA DE GALICIA

CONSELLERÍA DA PRESIDENCIA
SECRETARÍA XERAL DE INVESTIGACIÓN
E DESENVOLVEMENTO