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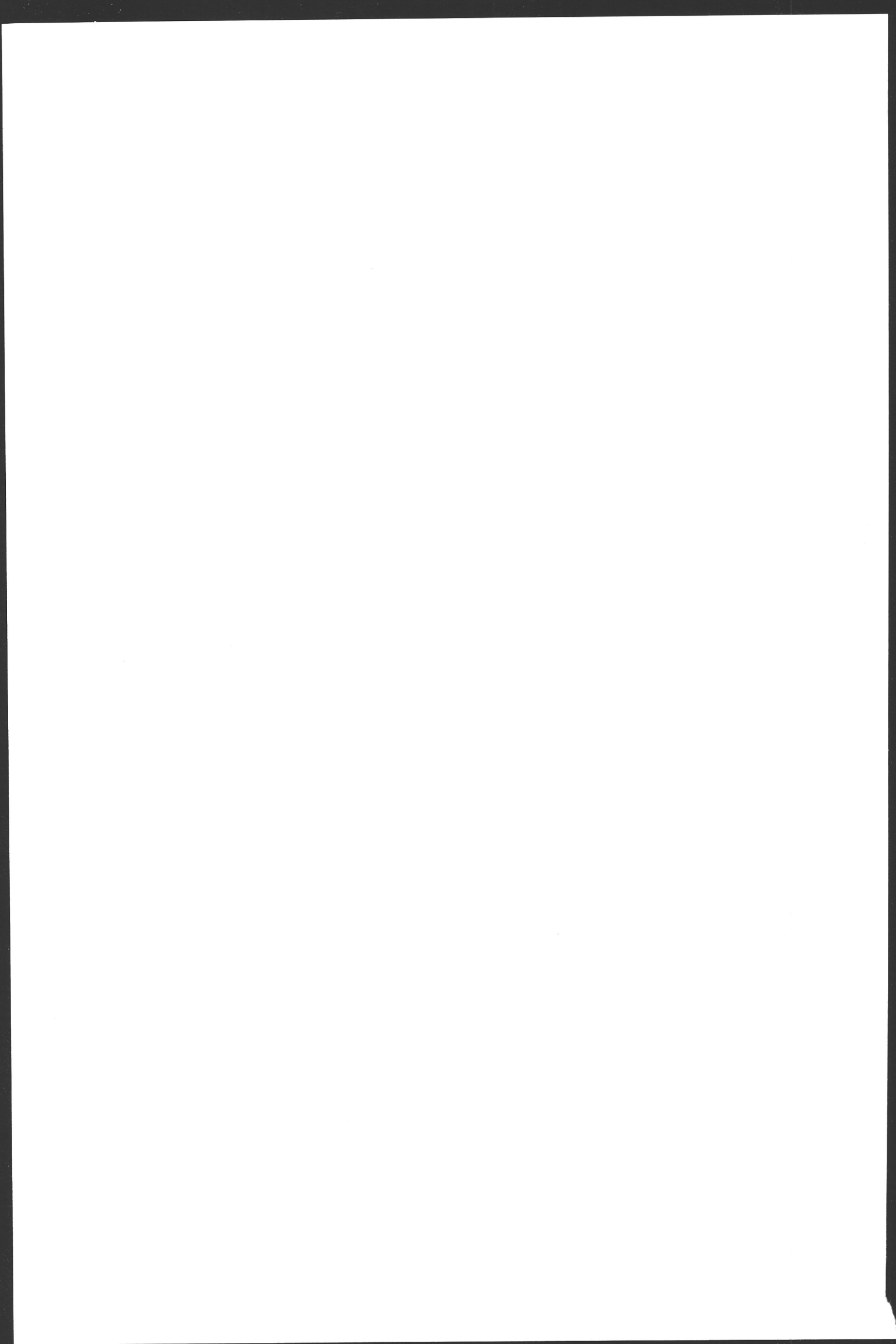
PANTA RHEI

this issue
THE DUBLIN STATEMENT
International Conference on Water
and the Environment (ICWE)
Development issues for the 21st century

Information Bulletin for 'Education in Hydrology and Water Management' and 'Training for Water Resources Technology' within the framework of the ERASMUS, COMETT and TEMPUS Programmes of the European Community (EC)

A QUARTERLY BULLETIN

N° 11 - MARCH - 1992



GLOSSARY

ACMOBI

ACademic MOBility information system (TECHWARE).

CALWARE

Computer-Aided-Learning in hydraulics, hydrology and WATER RESOURCES technology, strand Cb project (TECHWARE).

CEC

Commission of the European Community.

CEE

Central and Eastern Europe.

COMETT

COMMunity action for Education and Training for Technology, the European Community programme on cooperation between universities and industry regarding training in the field of technology (TFHR).

DG

Directorate-General, administrative unit of CEC (there are XXIII DGs).

EC

European Community (member states : B, D, DK, E, F, GR, I, IRL, L, NL, P, UK).

EP

European Parliament (EC).

EFTA

European Free Trade Association (member states : A, CH, FL, IS, N, S, SF).

ERASMUS

EuROPEAN Action Scheme for the Mobility of University Students (TFHR).

ETC

European Training Courses of TECHWARE.

FORCE

FORmation Continue en Europe - Continuing Vocational Training in Europe (TFHR).

HCM

Human Capital and Mobility, framework programme of DG XII.

ICP

Interuniversity Cooperation Programme (ERASMUS).

IP

Intensive Programme (ERASMUS).

IRDAC

Industrial Research and Development Advisory Committee of CEC.

ICWE

International Conference on Water and the Environment.

26-31 January 1992, Dublin (IRL)

JEP

Joint European Project (TEMPUS).

NGAA

National Grant Awarding Authority providing the grants for student mobility (ERASMUS).

PEP

Personnel Exchange Programme of TECHWARE.

RTB

Regional TECHWARE Bureau.

SAST

Strategic Analysis for Science and Technology (DG XII).

SME

Small- and medium sized enterprise.

SPES

Student and young graduate Placements for training in European industry of the water environment Sector (TECHWARE).

STRANDS (COMETT)

A : Action establishing UETPs.

B : Action for transnational exchanges (students, young graduates, personnel).

C : Joint Training Actions.

D : Complementary measures.

TECHWARE

TECHnology for WATER RESOURCES, sectoral UETP (COMETT, Strand A) and International Non-Profit-Making Association, with headquarters in Brussels (B).

TECHWARE- Italia and TECHWARE-UK are Regional TECHWARE Bureaus (RTB).

The symbol of TECHWARE is the **icosahedron**, associated with water in PLATO's philosophy.

TEMPUS

TransEuropean Mobility Scheme for University Studies, the EC-programme for education and training in CEE-countries (eligible : BG, CS, H, PL, RU, YU) (TFHR).

TFHR

Task Force Human Resources, Education, Training and Youth (CEC).

UETP

University Enterprise Training Partnership (COMETT, Strand A).

Hydrology

The logos of the waters, or the science that deals with the waters of the earth, their occurrence, circulation and distribution, their chemical and physical properties, and their interaction with their environment, including their relations to living beings.

Water management

Planned development, distribution and use of water resources, in accordance with predetermined objectives and with respect to both quantity and quality of the water resources.

Water resources technology

The development and application of (new) technologies to increase and improve the supply both in quantity and quality, interpreted in terms of availability of surface and underground waters.

EDITORIAL

Science, being the overall knowledge of the inner and outer world or universe, is universal by definition. Technology, being a product of the applied sciences, is therefore also universal. It is generally acknowledged that the principle of the universal nature of science (the "logos") has been established by the Greek philosophers of ca. 500 BC involving the spirit of curiosity, inquiry, non-dogmatic and systematic thinking and doubt.

Development of science and technology and hence of economy and human well being, is strongly linked to education and training at all levels. The access to knowledge and education is therefore among the human rights (Art. 13 of International Covenant on Economic, Social and Cultural Rights).

Nowadays universities worldwide - at the highest level of the learning process - are teaching the universal sciences and its applications, searching for knowledge and learning to be and to take the initiative along the above attitudes.

The European programmes on development of human resources - of which this information bulletin is a manifestation for the sector of the water sciences and technologies - find their strength in the above principle of universality. It would therefore be a mistake to confine these programmes within the limits of the present EC-EFTA- and CEE countries. The very origins of the philosophy of science are instigating us to make, at least, experiences and results available worldwide.

A more active way for EC would be to promote similar existing or new programmes for re-

gional cooperation and exchange in development. Such a policy should counteract effectively the brain drain. Examples of existing programmes are the "International Hydrological Programme - IHP" of UNESCO and its Education and Training subprogramme, the "Regional Cooperation Programme in Higher Education for Development in Asia and the Pacific", launched by UNESCO in 1983, and the Asian Association of Open Universities, the "Priority Africa" programme of the Association of African Universities; the "Regional Center for Higher Education in Latin America and the Caribbean (CRESALC)", the latter also involved in forging new links with industry and already cooperating with the Standing Committee of Rectors of European Universities (COLOMBUS-project). A major opportunity for the EC-programmes like ERASMUS, COMETT, TEMPUS, HUMAN CAPITAL and MOBILITY a.o. may well be a re-definition of their geographical coverage.

However, programmes are waste of time and money if they are not based on concrete projects. The world's water resources - for sure a major controversial and dangerous issue in many parts of the world - are subject to developments wherein education and training should play an essential and peaceful role. The DUBLIN STATEMENT and the ICWE Report stresses the importance of capacity building and human resources development programmes. Structured EC-aid for such international water-related projects is strongly suggested and PANTA RHEI is available to help in disseminating the information.

The Editor

**The host of TECHWARE, the Brussels Water Supply Agency
CIBE-Compagnie Intercommunale Bruxelloise des Eaux - BIWM-
Brusselse Intercommunale Water Maatschappij, has celebrated its
100th anniversary**

A festivity took place at the Brussels Palais des Beaux Arts on December 12, 1991. The Anniversary Book tells about the heroic beginning, when there was no legal support, the impressive achievements and the planning for the future. The Editorial Board of PANTA RHEI wishes CIBE/BIWM and its personnel a hearty "ad multos annos" following the excellent concepts of the past which remain a guarantee for the future.

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- Enclosures : PLEASE POST !
 - ERASMUS-ICP Poster
 - TECHWARE-SPES Leaflet
 - TECHWARE-ETC Leaflet

NEWS from ERASMUS

**ICP : Interuniversity Cooperation Programme
'Hydrology and Water Management'**
Coordinator : Prof. A. Van der Beken (see address Editor)

NEW ERASMUS-ICP POSTER

Hydrology and Water Management

Ask for additional copies and please post !

The poster picture represents the rape of Europa, the daughter of Agenor, king of Phoenicia. Zeus transformed himself into a bull and carried Europa away to Crete. It is a photography of the metope of Selinunte (VIth c.B.C.) on exhibition at the Archeological Museum of Palermo, Sicily.



The insert is an excerpt from the integral French translation of Ovid's *Metamorphoses* (43 B.C.-A.D.17) by Georges Lafaye, published by Association Guillaume Budé, Paris, 1931 and illustrated by P. Picasso.

The next plenary meeting of all "Hydrology and Water Management" ICP-partners will be held

on 31 August and 1 September 1992 in Firenze (I) at the occasion of the Bi-annual Italian Conference of Hydraulics and Hydraulic Constructions.

XXIII CONVEGNO DI IDRAULICA E COSTRUZIONI IDRAULICHE "L'IDRAULICA ITALIANA NEL CONFRONTO EUROPEO"

Palazzo degli Affari, Piazza Adua 1, Firenze
Contact : Prof. Giorgio FEDERICI
Dipartimento di Ingegneria Civile
Università di Firenze
via di S. Marta, I-50139 Firenze
tel : +39-55-4796432/4796309/4796212
fax : +39-55-404375 / telex : 580681

ERASMUS Bureau
70, rue Montoyer straat 70
B-1040 Brussels
tel +32-2-2330111/fax +32-2-2330150
telex 63528

NEW PUBLICATIONS

ERASMUS and LINGUA Action II DIRECTORY 1991/92

available at the price of 30 ECU from :
Luxembourg Office for Official Publications of
the European Communities
ISBN: 92-826-3534-1 Cat: CY-72-91-988-2A-C

ERASMUS Monographs No.13 EXPERIENCES OF ERASMUS STUDENTS

Select findings of the 1988/89 Survey
Ulrich Teichler
WERKSTATTBERICHTE - Band 32
Wissenschaftliches Zentrum für Berufs- und
Hochschulforschung der Gesamthochschule Kassel
Henschelstrasse 4, D-3500 Kassel
1991, ISBN 3-88122-656-7
Available from ERASMUS Bureau

The survey relies on 3212 ERASMUS grantstudents out of 11000 students who went to another EC-country in 1988/89 with the support of ERASMUS Contents : Aims and methods of the Survey, 11 participating Students, Academic and Administrative Support, Study and Experiences in the Host Country, Accomodation in the Host Country, Costs and Financing of the Study Period Abroad, Recognition and Academic Impacts, Improvement of Foreign Language Proficiency and cultural Impacts, Comprehensive Assessment by the Students, Determinants of Academic Progress Abroad and Recognition, Concluding Observations.

p 24 of the report : "... Obviously, improvement in assistance on part of the host universities was suggested in many cases. Most ERASMUS students appreciate a broad range of assistance and advice, including help to get to know the host country and its culture and regarding personal matters."

ERASMUS-COMETT-LINGUA-TEMPUS Educazione permanente e formazione universitaria Internazionale

Sofia Corradi
Publ. Franco Angeli, 1991 - L. 25.000
The book is available (18 ECU) at the European Bookshop, 244 Rue de la Loi, 1040 Brussels
tel +32-2-2310435
Written orders from abroad should be addresses to Libreria Licoso, Via Benedetto Fortini 120-10, Florence 50125, Italy
fax +39-55-641257 / tel +39-55-645415

ERASMUS ICP
"Hydrology and Water Management"

Name :

Address :

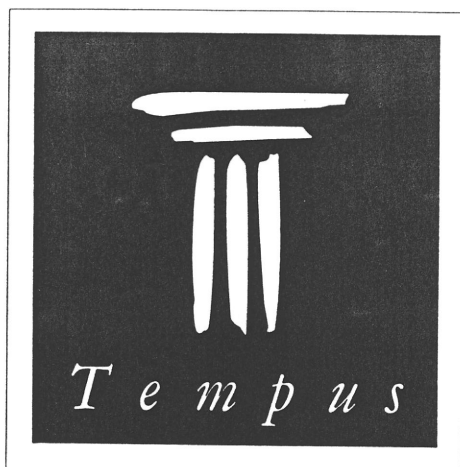
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requests a copy of the INFORMATION BROCHURE and the POSTER

Date : Signature :

Return to the Editor of PANTA RHEI



NEWS from TEMPUS

JEP : Joint European Project
 "Interuniversity Coordinating Forum for East-West Cooperation
 in the field of Environment, Water and Agricultural Soils (EWA-Ring)"

COORDINATOR OF EWA-RING :
 Prof. J. Bogardi, Department of Hydrology,
 Soil Physics and Hydraulics.
 Nieuwe Kanaal 11
 NL-6709 PA Wageningen
 tel : +31-83-7082778 / 7082293
 fax : +31-837084885 / telex : 45015

Scheme for cooperation and mobility in higher education between Central/Eastern Europe and the European Community

Deadline for submission of applications :
 30 June 1992 for individual staff members and
 for Complementary Measures.
 The Vademecum for Academic year 1992/93 is
 available from EC TEMPUS Office :
 Montoyerstraat 14, B-1040 Brussels
 tel +32-2-5040711/fax +32-2-5040700

TEMPUS Offices ELIGIBLE COUNTRIES

Bulgaria

TEMPUS Office
 National Science Fund
 Ministry of Science & Higher Education
 22, boulevard Georgy Dimitrov, BG - 1000 SOFIA
 Tel : +359/2/83.21.44, Fax : +359/2/722558

Czechoslovakia

• TEMPUS Office
 U Luzického seminari 13/90, CS-118 00 PRAGUE 1
 Tel : +42/2/538187, Fax : +42/2/539774
 • TEMPUS Office
 Asmolvova 52, CS-842 44 BRATISLAVA
 Tel : +42/7/726129, Fax : +42/7/726180

Hungary

TEMPUS Office
 Ajtosi Dürer sor 19-21, H-1146 BUDAPEST
 Tel : +36/1/1534991, Fax : +36/1/1534991

Poland

TEMPUS Office
 Ministry of National Education
 Al. I Armii Wojska Polskiego 25
 PL-00-918 WARSZAWA
 Tel : +48/22/292483, Fax : +48/22/292483

Romania

TEMPUS Office
 Ministère de l'Education et des Sciences
 30, rue Gén. H. Berthelot, R-70738 BUCHAREST 1

Yugoslavia

TEMPUS Office
 Federal Administration for International, Scientific,
 Educational, Cultural and Technical Cooperation
 Kosancicev venac, 29, YU-11000 BEOGRAD
 Tel : +38/11/634342, Fax : +38/11/629785

Also eligible :

Baltic States (Estonia, Latvia, Lithuania), Albania

Addresses of the TEMPUS National Contact Points in EC Member States

Belgium

• (French-speaking)
 Ministère de l'Education, de la Recherche et de la
 Formation - Enseignement Supérieur
 A l'attention de M. PHILIPPART,
 Administration de l'Etat
 Rue Royale 204, B-1010 BRUXELLES
 Tel : +32/2/2105562, Fax : +32/2/2105538

• (Dutch-speaking)
 Ministerie van de Vlaamse Gemeenschap
 Departement Onderwijs
 Dienst Internationale Betrekkingen (D.I.B.)
 R.A.C. Arcadengebouw 3° Verd, B-1010 BRUSSEL
 Tel : +32/2/2105419, Fax : +32/2/2105372

Germany

• Deutscher Akademischer Austauschdienst
 Kennedyallee 50-Postf. 200804, D-5300 BONN 2
 Tel : +49/228/882327, Fax : +49/228/882444
 • Arbeitsgemeinschaft Industrieller
 Forschungsvereinigungen (AIF) e.V.
 Bayenthalgürtel 23, D-5000 KÖLN 51
 Tel : +49/221/3768018, Fax : +49/221/3768027

Denmark

Rektorkollegiets Sekretariat,
 Frederiksholms Kanal 26, DK-1220 KØBENHAVN
 Tel : +45-33-925403, Fax : +45-33-925302

Spain

Ministerio de Educación y Ciencias
 Subdirección General de cooperación Internacional
 Paseo del Prado, 28, E-28014 MADRID
 Tel : +34-1-4200889, Fax : +34-1-4203325

France

• C.N.O.U.S. - Centre National des Oeuvres
 Universitaires et Scolaires
 6/8 rue Jean Calvin, F-75005 PARIS
 Tel : +33-1-47076170, Fax : +33-1-43374478
 • A.C.F.C.I. - Assemblée des Chambres Françaises
 de Commerce et d'Industrie
 45 avenue d'Iena, F-75016 PARIS
 Tel : +33-1-40693735, Fax : +33-1-47206128

Greece

Ministère de l'Education Nationale et des Cultes
 15, Rue Mitropoléos, GR-10185 ATHENES
 Tel : +30-1-3220950, Fax : +30-1-3225259

Ireland

Higher Education Authority
 Fitzwilliam Square 21, IRL-DUBLIN 2
 Tel : +353/1/612748, Fax : +353/1/610492

Italy

Ministerio dell'Università e della Ricerca Scientifica
 e Tecnologica - Ufficio Relazioni Internazionali
 Lungotevere Thaon de Revel 76, I-00196 ROMA
 Tel : +39/6/3969941, Fax : +39-6-3221584

Luxembourg

M. Koenig Siggy
 Service de Coordination et de Recherche de
 l'Innovation Pédagogique et Technologique (SCRIPT)
 Ministère de l'Education nationale
 29 rue Aldringen, L-2926 LUXEMBOURG
 Tel : +352-46802461, Fax : +352-46802573

The Netherlands

NUFFIC
 Badhuisweg 251, NL-2597 JR DEN HAAG or :
 P.O. Box 90734, NL-2509 LS DEN HAAG
 Tel : +31/70/3510660, Fax : +31/70/3510513

Portugal

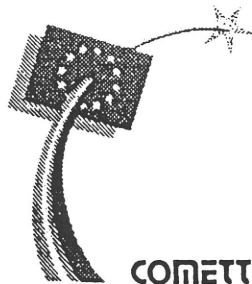
A.N.A.B. - Ministério da Educação
 Avenida 5 de Outubro 35-7, P-1000 LISBOA
 Tel : +351/1/573800/557393
 Fax : +351/1/542694

United Kingdom

Europe Unit
 Education & Science Division
 The British Council
 10 Spring Gardens, UK-LONDON SW1A2BN
 Tel : +44-71-389454, Fax : +44-71-8394948

UETP : University Enterprise Training Partnership TECHWARE - TECHNOLOGY for WATER RESOURCES

Coordinator : A. Van der Beken c/o CIBE-BIWM, Wolstraat 70, B-1000 Brussel



TECHWARE-Europa GROWS !

A second Regional TECHWARE Bureau starts

Following TECHWARE-Italia, active since October 1990, TECHWARE-UK held two preparatory meetings at HR-Wallingford on 20 November 1991 and 22 January 1992 and was approved by the Board of Management of TECHWARE at its meeting of February 21, 1992.

Prof. R. Sellin from the Department of Civil Engineering of the University of Bristol was elected chairman of TECHWARE-UK and Mr. J. Millns, HR

Wallingford will act as its secretary. HR Wallingford Ltd. is the host of TECHWARE-UK.

Overall Aim

To support the promotion and realisation of the cooperation between universities and enterprises with a view to education, practical and permanent training as well as the transfer of investigation results in all fields related to water and in line with the objectives of TECHWARE-Europe.

Activities

- To promote and develop closer national and European contacts between education, the Water Industry and the European Commission.
- To encourage and organise the exchange of students and staff between education and industry.
- To encourage the joint organisation of projects and courses between industry and education across the UK and Europe.
- To assist in disseminating information through seminars, conferences and other media on water related topics and to develop academic and technical information networks.
- To improve and facilitate the transfer of technology, particularly for small and medium sized enterprises in the water industry.
- To assist members to access European market and trade information and to improve their competitiveness.

The Regional TECHWARE Bureau as part of TECHWARE-Europe will assist its activities by :

- Encouraging more UK members from industry and education and to update existing member information.
- Proposing, encouraging and advising on projects from the United Kingdom.
- Liaising between the UK and other Regional TECHWARE Bureaux.
- Providing a UK resource, facility and support to the TECHWARE network.
- Disseminating information to UK members and non-members on TECHWARE projects and activities

T E C H W A R E
TECHNOLOGY FOR WATER RESOURCES



- Identifying training needs relevant to project applications within the UK Water Sector.
- Assisting in the administration and coordination of UK components of projects.

BOARD OF MANAGEMENT

21 FEBRUARY 1992, Wallingford UK

Main items of the minutes

- Preparation of the General Assembly, to be held in Lisboa (P), 29-30 May 1992.
- Financial Statement 1991, Budget 1992 and Budget Proposal 1993.
- Approval of the foundation of TECHWARE-UK and organisational rules among RTB's and TECHWARE-Europe.
- Approval of the tender submitted by TECHWARE: 22 February 1992 : Select list of experts and consultants for work relating to the utilization of the results of Community research and technological development (COMEX 1).
- Approval of the proposal to prepare an application for HUMAN CAPITAL and MOBILITY (new programme of CEC-DGXII), cfr. Editorial in PANTA RHEI No. 9, September 1991.

All TECHWARE members are kindly invited to the

4th meeting of the GENERAL ASSEMBLY

Lisboa (P), Friday-Saturday 29-30 May 1992

Our host is LNEC

Laboratoria Nacional de Engenharia Civil

HUMAN CAPITAL and MOBILITY (HCM)

HCM is the successor of the SCIENCE programme of CEC-DG XII within the third framework programme of the Community activities in the field of research and technological development (1990-1994). Interested partners are invited to contact Prof. A. Van der Beken as soon as possible to prepare high quality proposals for this programme.

Summary : HCM (budget 488 MECU), subdivided in four areas, will be launched with a first call for proposals (presumably in March 1992). The second call for proposals (September 1992) will be addressed to individual researchers for fellowships.

AREA 1 : Training (220 MECU Max 15% overhead)

AREA 2 : Networks (200 MECU, 50% for fellowships)

AREA 3 : Access to large-scale facilities (55MECU, 40% for fellowships)

AREA 4 : Euroconferences (13 MECU)

For further reading about research training Postgraduate Research Training today : Emerging structures for a changing Europe. Report of the Temporary International Consultative Committee on New Organisational Forms of Graduate Research Training. Publication of the Netherlands Ministry of Education and Science, October 1991, 116 pp. ISBN 90-346-2663-6

COMETT 1992 Call

for the period 1992-1993 and beyond

TECHWARE submitted an application for strands Ba, Bc, Ca and Cb on January 15, 1992.

It includes:

• for Strand Ba : 60 grants for 360 months of training of students and young graduates among all EC- and EFTA countries.

Period 1 July 1992 - 31 July 1994

• for Strand Bc : one 2-month personnel exchange between the Vrije Universiteit Brussel (B) and HR-Wallingford (UK).

Period 1 July 1992 - 31 July 1994

• for Strand Ca : 19 short courses in 23 locations on the following topics :

SP1 Water Environment

- 1.1 Real Time Control in Urban Drainage
- 1.2 River Pollution
- 1.3 Groundwater Pollution Management
- 1.4 Reuse of Freshwater Resources in Groundwater Systems
- 1.5 Flood Hazards in Mediterranean Countries

SP2 Water Engineering Applications

- 2.1 Drinking and Waste Water: Network analysis Optimization and Mains Rehabilitation
- 2.2 Irrigation Hydraulics
- 2.3 Coastal Defence
- 2.4 Flood Mitigation
- 2.5 Instrumentation and Measurement Techniques

SP3 Advanced Water Technologies

- 3.1 Advanced Solid Liquid Separation Technology in Waste Water Treatment & Sludge Handling
- 3.2 Advanced Treatment Technologies For Water Supply
- 3.3 Advanced Management of Drinking Water

Supply Systems : Water Quality and Treatment Processes

3.4 Advanced Waste Water Treatment and Technologies

SP4 CA and Modelling In Water Resources

- 4.1 Basics of Mathematical Groundwater Modelling
- 4.2 Groundwater Flowpaths and Pollutant Transport
- 4.3 Computational Modelling
- 4.4 Modern Approaches for Hydrological Modelling
- 4.5 Advances in Distributed Hydrology

and last but not least
• for Strand Cb : CALWARE - Computer-Aided-Learning for hydraulics, hydrology and WATER RESOURCES technology.

The objectives of this project are to develop, test and market multimedia materials for computer aided learning for use in industry and professional development. The project focuses upon training packages which will cover fluid mechanics, open channel flow, hydraulics of water distribution networks, irrigation water management and urban drainage.

The topic areas have been chosen following specific requests from industry, a major international market survey covering industry, government and training providers and the experience of project partners of training in the water industry.

12 Universities, 8 enterprises and 2 other organisations are involved in the project and cover Belgium, Denmark, Greece, Ireland, Italy, Netherlands, Spain, United Kingdom and Yugoslavia.

The project will aim to transfer existing training material of universities and other training providers to a multimedia computer aided learning technology, the development of which will be supported by multimedia specialists such as Genova Ricerche, Philips and the Belgian Radio and Television Broadcasting Corporation. Existing material will be mastered using analogue WORM discs for broadcast quality images with interactive text, graphics and animation on computer disc.

The training packages will be used as a part of in-career training and development programmes and as back up support to conventional courses. The material will be produced in a variety of languages and will be of use to developed and developing countries.

The packages will be marketed through Philips, a multinational publishing and training materials company and additionally promoted through UNESCO worldwide.

The project will take 3 years to complete but is expected to be a first phase in the development of an ongoing series of multimedia training packages for use in the water industry.

On supercomputers, COMETT and WATER RESOURCES

The COMETT Bulletin No. 12, November 1991 comments on supercomputers and presents examples of application : new aeroplanes, high-speed trains, space vehicles, short-range weather forecasting, automobiles, astronomy, earthquakes and computer-art. But the list ends with . . . "By using a

Cray computer scientists have even* simulated the movement of water in Lake Eric . . . to help determine where sewerage drains should be located and when pollution should be monitored." (* bold by editor) There are many more applications by supercomputers in water resources. Should TECHWARE not launch training courses on the use of supercomputers or parallel computers in water resources ? Several of our members from universities and research institutes are already involved and many more would like but miss the training and opportunity.

COST

European Co-operation in the field of Scientific and Technical research.

Proposal for a new COST-action (ref. COST/308/91)

Chemodynamics and water quality protection in natural porous media.

For further information, please contact your national COST-coordinator or TECHWARE.

For all further information

• TECHWARE-Europe

c/o CIBE-BIWM

Wolstraat 70, rue aux Laines

B-1000 Brussels, Belgium

tel +32-2-5188893 - NEW FAX +32-2-502673

Bank Accountnumber :

ASLK-CGER BANK, P.O. 1436-Brussels 1

B-1000 Brussels

telex 26860 - fax +32-2-2139117

For easy and quick money transfer, use code :

61189 SWIFT CGAK BE BB

• TECHWARE-Italia

c/o AMGA

Via SS. Giacomo e Filippo, 7

I-16122 Genova, Italy

tel +39-10-28581 - fax +39-10-2858284

• TECHWARE-UK

c/o HR Wallingford

Wallingford

UK-OX 10 8BA Oxfordshire, Great Britain

tel +44-491-35381 - fax +44-491-32233

TECHWARE

Membership Dues 1992

Decision of the General Assembly of Genova, 20 April 1991

- Individual Consultant 200 EC
- University, Research Institute (Lab or Dept.)
School/Non-commercial 220 EC
- Enterprise/Undertaking/Authority
(less than 200 employees)
COMETT Size codes S1-S2-S3 300 EC
- Professional and Scientific Association,
UETP'S, Federation of Enterprises 400 EC
- Enterprise/Undertaking/Authority
(more than 200 employees)
COMETT Size codes S4-S5-S6-S7 500 EC

FORTHCOMING TECHWARE ACTIVITIES

Strand Cb 1990 Joint training Action

"Advanced computer techniques for the design and renovation of server systems"

Short course "Advanced Information Technologies
Urban Drainage" for senior managers in the
urban drainage sector throughout Europe.
Topics covered: Modelling techniques, databases,
GIS, Automated tools, Sources of data.
Dates: 3-6 March 1992
Venue: HR-Wallingford
Organised by: Mr. G. Wooldridge
HR-Wallingford
OX10 8BA Oxfordshire
tel : +44-491-35381 / fax : +44-491-32233

EUROPEAN TRAINING COURSES

SP 1.2 : FLOOD HAZARDS IN MEDITERRANEAN COUNTRIES

Genova -Italy : March 16-12, 1992
Prediction and prevention from hydrological ex-
amples
Genova - Italy : March 23-27, 1992
Extreme events : monitoring and warnings
Contact : TECHWARE-Italia
Via AMGA, Via S.S. Giacomo e Filippo, 7
16122 GENOVA, Italy
tel : +39-1028581 / fax : +39-10-285284

SP 1.4 : GIS-WATER RESOURCES EVALUATION AND EXPLOITATION

Genova - Italy : March 2-6, 1992
Organised by TECHWARE-Italia in cooperation
with GENOVA RICERCHE CONSORTIUM..
The course presents a feasibility study for water
engineering, from the analysis to the project choices.
GIS capabilities in analysis and data handling are
a fundamental support..
Contact :
Genova Ricerche Consortium, Attention Mr. L. Olivieri
Via dell'Acciaio, 139
I-1652 GENOVA, Italy
tel : +39-10-6514000 / fax : +39-10-603801

SP 4 : WATER SUPPLY SYSTEMS State of the Art - Future Trends

Valencia - Spain : October 19-23, 1992
Contact :
Prof. E. Cabrera
Hydraulic and Environmental Engineering Dept.
Universidad Politecnica de Valencia
Apartado de Correos 22D12
E-46080 VALENCIA, Spain
tel : +34-346-3615051 (ext. 352)
fax : +34-346-3614800 / telex : 62080

SP 6.1 : COMPUTER APPLICATIONS IN IRRIGATION PLANNING AND DESIGN

Leuven - Belgium : September 7-12, 1992
Contact : Mrs. Greta Camps
Center for Irrigation Engineering
Katholieke Universiteit Leuven
Vital Decosterstraat 102,
B-3000 LEUVEN, Belgium
tel : +32-16-231381 / fax : +32-16-230607
telex : 27210 KULAND

SP 6.2 : MANAGEMENT OF IRRIGA- TION SYSTEMS

Athens - Greece : March 16-20, 1992

Objective

The objective of the short course is to train 20
scientists and engineers professionally involved in
irrigation water management. Participants expected
to have a degree in engineering, agronomy or other
related disciplines. Participants can be from any
European countries from the public or private
sectors.

Provisional Programme

Planning, Design and Management of Irrigation
Projects : An Introduction, Computer Aided Design
and Design for Management, ISAID : Integrated
System Assessment of Irrigation Design, Real Time
Control of Pressurized Irrigation Networks, Operati-
on of Large Open Channel Irrigation Networks, Au-
tomation and Control of Small Irrigation Projects,
Advanced Technologies in Irrigation Water Man-
agement, Environmental Institutional and Social
Aspects of Irrigation Water Management

Language : English
Aid for Greek translation

Coordinating Organization : ECOWARM
Project Coordinators :
Prof. G. Tsakiris and Prof. J. Feyen.

Contact :
Mr. O. Manoliades
Laboratory of Rural Technology
National Technical University of Athens
15773 ATHENS, Greece
tel /fax : +30-1-7774178

TECHWARE EUROPEAN TRAINING COURSE - SP 6.2 MANAGEMENT OF IRRIGATION SYSTEMS

Athens, Greece - 16-20 March 1992

Please, send me :

- more information about the course
- an application form

Name

Address

.....

Return to : Mr. O. Manoliades, Laboratory of Rural Technology
National Technical University of Athens, 15773, Athens - Greece

A summary of all courses is now available
and can be ordered free of charge from the
Secretariat

Please fill in and return :

TECHWARE EUROPEAN TRAINING COURSES 1991 - 1992

I request the summary of all course descriptions, free of
charge.

Name :

Address :

.....

Return to the Editor of PANTA RHEI

UN INTERNATIONAL CONFERENCE ON WATER AND THE ENVIRONMENT (ICWE)



Development issues for the 21st century

26-31 January 1992, Dublin, Ireland

THE DUBLIN STATEMENT

Scarcity and misuse of freshwater pose a serious and growing threat to sustainable development and protection of the environment. Human health and welfare, food security, industrial growth and the ecosystem on which they depend, all are at risk, unless water and land resources are managed more effectively in the present decade and beyond than they have been in the past.

The 338 government-designated experts from 113 countries who attended the International Conference on Water and the Environment (ICWE) in Dublin, Ireland on 26-31 January 1992 and endorsed this statement see the emerging global water resources picture as critical. The problems they highlight are neither speculative in nature nor calculated to affect our planet only in the distant future. They are here and they affect humanity now. The future survival of many millions of people demands immediate and effective action.

The ICWE participants call for fundamental new approaches to the development and management of freshwater resources, which can only be brought about through political commitment and involvement from the highest levels of government to the smallest communities. Commitment will need to be backed by substantial and immediate investments, public awareness campaigns, legislative and institutional changes, and capacity building programmes.

In commending this Dublin Statement to the world leaders assembled at the Earth Summit in Rio de Janeiro in June, the ICWE participants urge all governments to study carefully the specific activities and means of implementation recommended in the full Conference Report, and to translate those recommendations into urgent action programmes for WATER AND SUSTAINABLE DEVELOPMENT.

GUIDING PRINCIPLES

Principle No.1- Fresh water is a finite and vulnerable resource, essential to sustain life, development and the environment

Principle No.2- Water Development and Management should be based on a participatory approach, involving users, planners and policy-makers at all levels

Principle No.3- Women play a central part in the provision, management and safeguarding of water

Principle No.4- Water has a economic value in all its competing uses, and should be recognized as an economic good.

THE ACTION AGENDA

Alleviation of Poverty and Disease
 Protection against natural disasters
 Water Conservation and reuse
 Sustainable Urban Development
 Agricultural Production
 Protecting Aquatic Ecosystems
 Resolving Water Conflicts: The Peace Dimension

THE ENABLING ENVIRONMENT

The Knowledge Base

Capacity Building

All actions identified in the Dublin Report require well-trained and qualified technicians and professionals. Countries should identify, as a part of national development plans, training needs for water resources assessment and management and take steps internally and, if necessary with technical co-operation agencies, to provide the required training.

Governments must also assess their capacity to permit their water and other specialists to implement the full range of activities for integrated water resources management. This requires provision of an enabling environment in terms of institutional and legal arrangements, including those for water demand management.

Awareness raising is a vital part of a participatory approach to Water Resources Management. Information, education and communication support programmes must be an integral part of the development process.

FOLLOW-UP

Experience has shown that progress towards implementing the actions and achieving the goals of water programs requires follow-up mechanisms for periodic assessments at national and international levels

Scientific Assessment of EC Standards for Drinking Water Quality

G. Premazzi, G. Chiandani and G. Ziglio
 Research Centre, CEC. EUR 12427.
 s: Environment and quality of life
 els, Luxemburg, 1989, 197pp.
 92-826-0805-0
 16,25 ECU

Report aimed at comparing EC Directive with the national legislations in different Member States and WMO Guidelines.

Financed Training in the EEC Guide to selected opportunities

graduate Courses
 se description: The database and the Directory contain full descriptions of the courses as well as all necessary complementary information
 urther information please contact:
 mission of the European Communities
 torate-General-External Relations
 ion I-J3
 de la Loi 200, B-1049 Brussels, Belgium
 2351722 - Fax: 2360423
 21877 comeu I

Industry and Environment : A Guide to Sources of Information

The UN agency responsible for promoting industrial development, UNIDO has published a guide dealing with topics including:

- Industrial pollution issues
- Environment-related R&D
- Equipment suppliers
- Technical services
- Consulting companies
- Institutions

Verlag Dr. Grüb Nachf., Ölbergweg 8, D-7801 Bollschweil/Germany
 Tel. (FRG) 7633-70 25, Fax (FRG) 7633-8 21 29, Telex 7772 730 bros d.

Environment Strategy Europe 1991

including the Official Report on WICEM II (World Industry Conference on Environmental Management)
 Campden Publ. Ltd. London, 1991, 208 pp.
 ISBN 0-9517988-4

Maths & Stats

A quarterly newsletter published by the CTI (Computer in Teaching Initiative) Centre for Mathematics and Statistics, Birmingham B15 2TT-UK
 Fax : +44-21-4144865
 ISSN 0959-3950

R&D PROGRAMME IN THE FIELD OF ENVIRONMENT

1991 - 1994

Draft Work-Programme of CEC-DGXII

- Natural climate change
- Anthropogenic climate change
- Climate change impacts
- Stratospheric ozone
- Tropospheric physics and chemistry
- Biochemical cycles and ecosystem dynamics
- Assessment of environmental quality and monitoring
- Technologies for protecting and rehabilitating the environment
- Major industrial hazards
- Environmental protection and conservation of Europe's cultural heritage
- The human being, nature and society
- Environmental policy : conceptualization, implementation and monitoring
- Environment on the international scene : the transformation of international relations
- Natural risks
- Technological risks
- Desertification in the Mediterranean area

International Conference

Advances in Planning, Design and Management of Irrigation Systems as Related to Sustainable Land Use

Leuven (Belgium), 14 - 17 September 1992

Organized by:

Center for Irrigation Engineering
(CIE)

European Committee for Water Resources Management
(ECOWARM)



All correspondence is to be addressed to:

Conference Secretariat

Center for Irrigation Engineering

Vital Decosterstraat 102 3000 Leuven (Belgium)

Tel.: +32-16-23 13 81

Fax : +32-16-23 06 07

Telex: 27210 kuland

MARCH 1992

9 Genova (I)
Water distribution networks planning and maintenance

1 Rennes (F)
AUEF Bretagne
Université de Rennes
Short course
Analyse multicritère de la gestion de l'eau

10 2-5/3
Tampere (SF)
Tampere University of Finland
Short course
Pulp & Paper Industry Wastewaters

11a 2-6/3
Zürich (CH)
Institute of Hydromechanics and Water Resources Management
"13th International Course Groundwater pollution by mineral oils and organic solvents"

2 3-6/3
Wallingford (UK)
HR Wallingford ETC
Advanced IT in Urban Drainage

9-13/3
Rennes (F)
Course
SCOLAQUA Module 2 : Traitement des eaux

2 12/3
Wallingford (UK)
HR Wallingford Seminar
Recent developments in beach management

18 16-12/3
Padova (I)
TECHWARE SP1.2
Flood Hazards in Mediterranean Countries : Prediction and prevention from hydrogeological extremes

8 16-20/3
Athens (GR)
TECHWARE ETC SP6
Management of Irrigation systems

5 16-20/3
Delft (NL)
IGWMC/IHE Course
Stochastic and Geostatistical Analysis in Groundwater Modelling

34 16-20/3
Rennes (F)
Course
SCOLAQUA Module 6: Gestion multicritère de l'eau : méthodes et stratégies

13 Spring 92
(UK)
Sunderland Polytechnic
UETP-EEE Short course
Natural and Technological Control of Groundwaters from Waste Disposal Sites

18 23-27/3
Padova (I)
TECHWARE SP1.2
**Flood Hazards in Mediterranean Countries
Extreme events : monitoring and warnings**

2 24-26/3
Wallingford (UK)
River Engineering

8 Genova (I)
2-6/3
TECHWARE ETC SP1.4
GIS-Water resources evaluation and exploitation

11b 30/3-3/4
Zürich (CH)
ETH-Hönggerberg
Short course
Flow visualization and flow structures

2 30/3-3/4
Wallingford (UK)
Costal Surveying

APRIL 1992

2 9/4
Wallingford (UK)
HR Wallingford Seminar
Engineering aspects of mud transport

14 12-15/4
Wageningen (NL)
**Changes in Agriculture and Environment : a challenge for Higher Education
European conference on Higher Education in Agriculture**

3 13-15/4
Manchester (UK)
UCACE Conference
Continuing education for a new Europe

15 26/4-1/5
Weimar (D)
International Conference on Technology Education

16 28-30/4
Lisboa (P)
2nd European Forum for Continuing Engineering Education : "International Cooperation between Industry and Academy"

MAY 1992

18 Lisboa (P)
TECHWARE ETC SP1.2
Flood Hazards in Mediterranean countries

4 4-8/5
Charlottesville (USA)
**Hierarchical-multiobjective approach in water resources planning and management
Risk assessment and management**

5 7/5
Delft (NL)
IHE Delft
Short course - 6 weeks
SEMINAR
Seminar on Port Management

continued on page 12

CALENDAR

Note : In view of PANTA RHEI's objectives, this calendar includes only educational and training or related activities in the field of water and ERAS-MUS-ICP, TEMPUS-JEP and COMETT- meetings.

MAY 1992

continuation

2 7/5
Wallingford (UK)
HR Wallingford
Seminar
Groundwater and excavations

6 11-15/5
Paris (F)
Third european post-graduate ERASMUS workshop on water quality of urban runoff and effects upon receiving waters

7 11-16/5
Gent (B)
Interantional post-graduate course Soil Pollution and soil protection

18 25-29/5
Palermo (I)
Pollution of coastal areas, particularly dealing with the Mediterranean Sea

17 25-29/5
Budapest (H)
SEMINAR
Education in Computational hydraulics and hydrology
Hydrocomp '92

8 29-30/5
Lisboa (P)
4th Meeting General Assembly TECHWARE

JUNE 1992

8 Lyngby (DK)
TECHWARE ETC SP5.2
Radars and rainfall in urban hydrology : engineering aspects

8 Brussels (B)
TECHWARE ETC SP2.1
Basics of mathematical Groundwater modelling

13 2-5/6
Espoo (SF)
Helsinki University of Technology
5th World Conference on Continuing Engineering Education

13 6-7/6
St.Petersburg (Russia)
5th World Conference on Continuing Engineering Education

19 8/6-3/7
Reston, Virginia (USA)
International training course
Techniques of Hydrological Investigations for International Participants

20 10/6-5/8
Moscow (Russia)
Moscow State University
International Higher Hydrological Course on the Scientific Basis of Research and utilization of Ground-water Resources

2 9/6
Wallingford (UK)
HR Wallingford
Seminar
Applications, developments and trends in 3D coastal waters modelling

2 11/6
Wallingford (UK)
HR Wallingford
Seminar
Catchment management

27 14-16/6
Nova Scotia (Canada)
4th International conference on computer assisted learning

12 16-20/6
Paris (F)
The Ninth International Conference on Technology and Education

2 18/6
Glasgow (UK)
HR Wallingford
Seminar
Bridge hydraulics

5 23/6
Delft (NL)
IHE Delft
Short course - 6 weeks
Anaerobic Waste Water Treatment

5 23/6
Delft (NL)
IHE Delft
Short course - 8 weeks
Applied Ecology

5 23/6
Delft (NL)
IHE Delft
Short course - 8 weeks
Water Quality Management for Decisionmakers

5 23/6
Delft (NL)
IHE Delft
Short course - 8 weeks
Low-Cost Water supply and Sanitation

JULY 1992

33 19/7-8/8
Dundee (UK)
Dundee Summer School
Remote sensing and global climate change

32 22-24/7
London (UK)
College of Art
Computer-based course on practical techniques of interactive media design

AUGUST 1992

21 17/8-27/11
Wageningen (NL)
International Agricultural Centre
International Post-graduate Course on Land Drainage

22 31/8-1/9
Firenze (I)
Meeting
ERASMUS ICP-91-B-1138 Hydrology and Water Management

SEPTEMBER 1992

8 Lisboa (P)
TECHWARE ETC SP2.1
Basics of mathematical Groundwater modelling

18 Genova (I)
TECHWARE ETC SP3.3
Waste water treatment processes

2 Wallingford (UK)
TECHWARE ETC SP2.3
Groundwater flow-paths and pollutant transport

5 Delft (NL)
IHE Delft
Short course - 6 weeks
Senior Advanced Course on Appropriate Modernization and Management of Irrigation Systems

22 1/9
Brussels (B)
Interuniversity Post-graduate Programme in Hydrology
Diploma-course (9 months)
MSc. or MEng. course (18 months)

28 7-12/9
Leuven (B)
TECHWARE ETC SP6.1
Computer applications in irrigation planning and design

5 8/9
Delft (NL)
IHE Delft
Short course - 6 weeks
SEMINAR
Seminar on Coastal Zone Management

5 15/9
Delft (NL)
IHE Delft
Short course - 3 weeks
Senior Advanced Course on Lowland Development

2 15/9
Wallingford (UK)
HR Wallingford
Seminar
Dam spilways

2 17/9
Wallingford (UK)
HR Wallingford
Seminar
Design of detentions tanks

A D D R E S S E S

29 17-20/9
Birmingham (UK)
University of Birmingham
Technology in mathematics teaching

30 20-24/9
Portsmouth (UK)
1992 World Conference on engineering education

31 28/9-10/12/93
Lausanne, Neuchâtel (CH)
Ecole polytechnique federale de Lausanne
Universit  de Neuchâtel
Cycle postgrade interuniversitaire hydrologie et hydrogeologie

OCTOBER 1992

8 Genova (I)
TECHWARE ETC SP7
ACMOBI - Data Management using CDS/ISIS

5 Delft (NL)
IHE Delft
Short course - 1 week
Applied Modelling of Ground Water Pollution

5 Delft (NL)
Post-graduate Diploma courses (11 months) and MSc-courses (6-8 months)
Hydraulic Engineering Hydrology, Sanitary Engineering, Environmental Science & Technology Water Quality Management Advanced Environmental Sanitation

23 1/10
Gent (B)
State University of Ghent
Msc in 2 academic years
Internuniversity Post-graduate Training in Aquaculture

24 1/10
Gent (B)
Centre for Environmental Sanitation -RUG
Msc in 2 academic years
Internuniversity Post-graduate Training in Environmental Sanitation

25 1/10
Gent (B)
State University of Ghent
Msc in 2 academic years
Interdisciplinary Post-graduate Programme in Desert Science (Eremology)

2 14-15/10
Wallingford (UK)
HR Wallingford
Seminar
Harbour and approach channel sedimentation and navigation

8 19-23/10
Valencia (E)
TECHWARE ETC SP.4
Water Supply Systems State-of-Art Future Trends

NOVEMBER 1992

8 Lund (S)
TECHWARE ETC SP.5.3
Radars and rainfall in urban hydrology: fundamentals and interaction

5 Delft (NL)
IHE Delft
Short course - 1 week
Applied Modelling of Ground Water Chemistry

8 Delft (NL)
ITECHWARE ETC SP.2.3
Groundwater, flow-paths and pollutant transport

8 Delft (NL)
TECHWARE ETC SP.2.2
Regional hydrological systems analysis

26 3-15/11
Erice, Sicily (I)
International School of Water Resources Management - 13th Course
Coping with floods

2 11-12/11
Wallingford (UK)
HR Wallingford - Seminar
Environmental aspects of estuary and coastal water management

DECEMBER 1992

2 8/12
Wallingford (UK)
HR Wallingford
Seminar
Computers in irrigation

2 10/12
Wallingford (UK)
HR Wallingford - Seminar
Recent developments in sea wall design

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Lynn Palethorpe/Colette Hollies
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and Electronic & Manufacturing Engineering
Robert Vaughan
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Fax +282-202830
- 34 **Universit  de Rennes**
Service d'Education Permanente
4 rue Kl ber
F-35000 Rennes
Tel +33-99631377

in their loneliness, in their dream
of love or lack of it, the lost are
ever drifting to the water's edge.
in the immense drift of night the
whistling agony of the tormented
muffled by the lap-lap of even
the tiniest stream. The mind,
emptied of all but the lapping of
waves, grows tranquil. Rolling
with the waters, the spirit that was
carried folds its wings.
the waters of the earth ! Leveling,
sustaining, comforting. Baptismal
waters ! Next to light, the most
mysterious element of creation.
everything passes away in time.
the waters abide.

February-April, 1957
Big Sur, California

ref. : "The World of Sex" by
Henry Miller, Grove Press, Inc.
New York 1965, p. 124.

TECHWARE

TECHnology for WAtEr REsources



is a fast growing international non-profit making association for TECHnology
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We are looking for an excellent

Administrative Officer (M/F)

to assist the President, the Coordinator and the Secretary-General.
The AO will organise and coordinate the daily secretariat, administer the
meetings, the membership and projects, records and files and generally
liaise with members and regional bureaux.

A background - either by study or by experience - in general management
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asset. It is important to have strong interpersonal and language skills and
demonstrate commitment to European and international dimension of
TECHWARE.

Please reply with full CV, before May 18, 1992, to :

A. Van der Beken, UETP-Coordinator
TECHWARE c/o CIBE/BIWM
Rue aux Laines, 70, Wolstraat
B-1000 Brussels
Fax +32-2-5026735

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1 May 1992

Training at HR Wallingford

HR Wallingford is a high technology research,
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civil engineering hydraulics and management of the
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- **fellowships and research placements**
- **courses, seminars and conferences**
- **publications**
- **software and equipment sales and training**

To find out more, contact:

John Millns
Head of Training and Technology,
HR Wallingford Ltd, Wallingford,
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Tel. + 44 491 35381 Fax. + 44 491 26703



HR Wallingford

International Water Supply Association
Association Internationale des Distributions d'Eau

UNITING THE WORLD OF WATER
LE MONDE DE L'EAU S'UNIT



I W S A

A I D E

The "MAARTEN SCHALEKAMP AWARD"
is to be awarded in Budapest, October 1993
Le "PRIX MAARTEN SCHALEKAMP"
sera attribué à Budapest en octobre 1993

includes two prizes, intended to motivate young engineers and
scientists, both for scientific research and innovation oriented
work in water supply, one to be awarded to entrants
employed full-time in practice of water supply, the other to a
full-time student in a water-related field

comprend deux prix, visant à motiver de jeunes ingénieurs et
chercheurs, pour des travaux de recherche scientifique ou
d'innovation dans le domaine de la distribution d'eau; l'un sera
remis à un candidat engagé à plein temps dans un domaine lié à
la distribution d'eau, l'autre à un étudiant à plein temps engagé
dans des études se rapportant à la distribution d'eau.

Information :
International Water Supply Association (IWSA)
Association Internationale des Distributions d'Eau (AIDE)
1 Queen Anne's Gate
London, SW1H 9BT, Great Britain

ADVERTISING RATES

(in ECU)

Advertisements must be informative and related to the objectives of PANTA RHEI or the activities of partners. They are subject to cancellation at the discretion of the Editor.

Free of charge

- Student opportunities
- Courses, workshops, meetings (in calendar format)

At cost per line in a column in ECU
classified

- positions wanted 4
- positions available 6
- courses, workshops, meetings, conferences 8
- services, supply 10

At cost per page or part of it : display advertising

- full page 1000
- half page 500
- quarto page 250
- octavo page 125

Special placements or enclosures : give details and ask for rates

COPY DATE FOR THE NEXT ISSUE IS 1 May

PANTA RHEI is published on DIN A4 format

- TECHWARE members are entitled to receive a 50% discount or two insertions for the price of one.
- Invoices are expressed in ECU and must be paid with all banking costs charged to the payer.

Please note

You may receive more than one copy of this information bulletin due to :

- your membership in one of the partner-organizations
- your partnership in one of the water related ERASMUS, COMETT or TEMPUS projects.

Please pass extra bulletins on to your colleagues who may be interested in PANTA RHEI.

- Please add my name to your mailing list
- Change address as shown
- Please publish the enclosed training informations (calendar format, free of charge) in the next issue
- Please publish the enclosed information as classified and send me the invoice
- Please send me an Advertising Agreement

Name :

Affiliation :

Address :

.....

.....

.....

Tel : Fax :

Telex : E-mail :

PANTA RHEI

A quarterly information bulletin edited on behalf of the partners in the field of hydrology, water management and water resources technology. It is published with the financial support of the European Community within the framework of the ERASMUS, COMETT and TEMPUS programmes and distributed free of charge. The present distribution is 3,750 copies. Issues are published in September, December, March and June.

OBJECTIVES OF PANTA RHEI

An efficient and continuous way of communication among all ERASMUS, COMETT and TEMPUS partners, both active and prospective, and among students and training participants with interest in water related fields. Service to the

- ICP-Interuniversity Cooperation Programme "Hydrology and Water Management"
- JEP-Joint European Project : "Interuniversity Coordinating Forum for East-West Cooperation in the field of Environment, Water and Agricultural Soils (EWA-Ring)"
- UETP-University Enterprise Training Partnership : TECHWARE - TECHnology for WATER Resources.

Dissemination of activities or proposals of partners, in particular,

- transnational exchanges of students, young graduates and staff
- joint development of full curricula or specific training tools
- crash or intensive courses
- analysis of training needs

Information about other water related training activities.

Promotion of a European dimension in the field of water-related education and training.

"panta rhei"

all things are in constant flux.

It is an axiom of Heraclitus (c. 540 - c. 480 BC), Greek philosopher of Ephesus, quoted by Plato. Heraclitus is also known for illustrating the persistence of unity through change by the analogy of the river : "Upon those who step into the same river different and ever different waters flow down".

EDITOR

A. Van der Beken

IUPHY

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SPES

STUDENT AND YOUNG GRADUATES
PLACEMENTS FOR TRAINING IN
EUROPEAN INDUSTRY OF THE
SECTOR WATER ENVIRONMENT

WHAT ARE THE BENEFITS OF PLACEMENTS ?

(by courtesy of UK COMETT Liaison Office)

For the employer

- COMETT student placements are cheap and easy to manage, thanks to EC grants and the support network.
- COMETT students can contribute to productivity, a benefit to small and large companies alike.
- COMETT students can introduce new ideas into the workplace, and can tackle projects which otherwise might be difficult to resource.
- COMETT students offer a company opportunities to link with higher education and with Europe.
- COMETT student's language ability can put you in touch with new market opportunities.

For the student

- Placement in industry abroad enhances a student's degree course.
- A placement improves language skills, and offers experience of another culture.
- A placement improves future job prospects.
- A placement brings the satisfaction of contributing to the productivity of a firm.

For higher education

- More mature COMETT students are rewarding to teach.
- Staff arranging placement will make useful contact with European employers.
- Overseas interest will be aroused in an institution's Research and Development and its initial and continuing education courses.

For Europe

- COMETT fosters European awareness
- Student placements will encourage European mobility.
- A well-trained workforce will enable industry to compete better in world markets.

TECHWARE

TECHNOLOGY FOR WATER RESOURCES

INTERNATIONAL NON-PROFITMAKING ASSOCIATION
UETP • UNIVERSITY ENTERPRISE TRAINING PARTNERSHIP UNDER COMETT II
the European Community programme on cooperation between universities and industry regarding training in the field of technology

WHO CAN OFFER PLACEMENTS ?

All companies, enterprises, including public administration or services, professional or scientific associations, etc. . .

WHO CAN APPLY FOR A COMETT-PLACEMENT GRANT ?

- All registered students or young graduates of an institution for higher education in EC- and EFTA-member states.
- All nationalities if the above condition is fulfilled.

THE ROLE OF TECHWARE



- TECHWARE has the responsibility to award COMETT grants to eligible trainees for placements between 3 and 12 months.
- The selection for awarding the grants and the matching between offers and demands is straightforward and explained in the SPES-Vademecum.
- An agreement between TECHWARE and the grantee is signed as soon as the enterprise has accepted the trainee-candidate.
- The COMETT grant awarded by TECHWARE varies between 250 and 350 ECU per month and is supplementary to any other grant or contribution offered by the enterprise or other organisation.

Fill in the form below and send it to
TECHWARE c/o CIBE-BIWM Wolstraat 7 B-1000 Brussels
Fax : +32-2-502 6735

overview offers/demands for placements : see reverse side

TECHWARE/SPES

Student and young graduate Placements for training in European industry of the Sector water environment

- Allow for a period of about 6 months between this request and the start of your training •

Name :

Enterprise :

OR University :

Address :

Tel : Fax : Telex :

is interested in Training-Offer please send me full information about the trainee candidate Demand Code No.

Offer Code No. please send me the SPES Vademecum including application forms and prototype agreement Date :

Signed :

SPES

STUDENT AND YOUNG GRADUATES PLACEMENTS
FOR TRAINING IN EUROPEAN INDUSTRY OF
THE SECTOR WATER ENVIRONMENT

T E C H W A R E
TECHNOLOGY FOR WATER RESOURCES
INTERNATIONAL NON-PROFITMAKING ASSOCIATION
UETP • UNIVERSITY ENTERPRISE TRAINING PARTNERSHIP UNDER COMETT II
c/o CIBE-BIWM Wolstraat 7 B-1000 Brussels
Tel : +32-2-5188893 • Fax : +32-2-5026735

OFFERS & DEMANDS

OFFERS of placement by enterprises (07-02-92)					OTHER TOPICS ARE NEGOTIABLE
Code	Country	Duration	Period	Topic proposed	
PT91-01	UK	6 m.	n.s.	Reservoir operational control rules	
PT91-02	B	6 m.	a.s.a.p.	Hydraulic model of sediment transport in sewers.	
PT91-03	F	6 or more	n.s.	Databases.	
PT91-04	NL	3-12 m.	n.s.	Applications in water industry.	
PT91-05	UK	6 m.	n.s.	Flood forecasting.	
PT91-06	UK	6 m.	n.s.	Water resources modelling.	
PT91-07	A	n.s.	n.s.	Water supply planning.	
PT91-08	B	6-12 m.	n.s.	Management, economics, marketing.	
PT91-09	UK	6-12 m.	n.s.	Management, economics, marketing.	
PT91-10	I	6-12 m.	n.s.	Management, economics, marketing.	
PT91-11	UK	3-12 m.	a.s.a.p.	Irrigation.	
PT91-12	UK	3-12 m.	a.s.a.p.	Hydrodynamics.	
PT91-13	UK	3-12 m.	a.s.a.p.	Flow measurements.	
PT91-14	UK	3-12 m.	a.s.a.p.	Sediment mechanics.	
PT91-15	UK	3-12 m.	a.s.a.p.	Computational methods.	
PT91-16	UK	3-12 m.	a.s.a.p.	Urban drainage.	
PT91-17	UK	3-12 m.	a.s.a.p.	Coastal structures and processes.	
PT91-18	UK	3-12 m.	a.s.a.p.	Ports and harbours.	
PT91-19	UK	3-12 m.	a.s.a.p.	Dredging and spoil deposits.	
PT91-20	UK	3-12 m.	a.s.a.p.	Environmental assessment.	
PT91-21	UK	3-12 m.	a.s.a.p.	Modelling river basins.	
PT91-22	UK	3-12 m.	a.s.a.p.	Estuaries management.	
PT91-23	UK	3-12 m.	a.s.a.p.	Groundwater.	
PT92-01	UK	12 m.	1993	Coastal hydraulics.	
PO91-01	A	6 m.	n.s.	Biology/chemistry. Groundwater analysis, waste disposal sites.	
PO91-02	F	3-12 m.	n.s.	Mathematical modelling.	
PO91-03	F	6-10 m.	a.s.a.p.	Fluid mechanics and pumps.	
PO91-04	F	3 m.	n.s.	Marketing pipelines.	
PO91-05	I	9 m.	n.s.	Thermal and fluid dynamics.	
PO91-06	I	6-9 m.	n.s.	Environmental diagnostics.	
PO91-07	A	12 m.	a.s.a.p.	Chemical/biological water treatment.	
PO91-09	N	6 m.	a.s.a.p.	Environmental engineering.	
PO91-10	N	3 m.	a.s.a.p.	Environmental audits.	
PO91-11	N	6 m.	a.s.a.p.	Chemistry, metallurgy.	
PO91-12	SF	3-4 m.	05/92	Environmental R&D	
DEMANDS for placements by students (07-02-92)					OTHER TOPICS ARE NEGOTIABLE
Code	Home Country	Proposed Host Country	Duration	Period	Topic proposed
DT91-03	B	DK/IRL/UK/N/S	6 or 12 m.	n.s.	Water treatment, environmental sanitation.
DT91-04	UK	F/NL	12 m.	02/92-01/93	Design and implementation of water and environmental systems.
DT91-11	I	B/L/NL/D/a.o.	12 m.	02/92-01/93	Chemical engineering.
DT91-12	D	n.s.	3-12 m.	n.s.	Groundwater.
DT91-13	B	S	3 m.	07-09/92	Radar applications.
DT91-14	B	D/CH/A	3-12 m.	09/92-	Coastal hydraulics.
DT91-15	B	UK/D/F/L/NL/A	3 m.	10-12/92	Chemical environmental engineering.
DT91-16	UK	I/E/D	6-9 m.	09/92-	Civil engineering.
DT91-18	F	UK/IRL/S	12 m.	09/92-08/93	Environmental engineering.
DT91-19	E	UK	n.s.	n.s.	Waste water treatment.

ABBREVIATIONS
n.s. not specified
a.s.a.p. as soon as possible
m. month(s)

For more information about SPES : see reverse side



TECHWARE

GENERAL INFORMATION



TECHNOLOGY FOR WATER RESOURCES
INTERNATIONAL NON-PROFIT-MAKING ASSOCIATION
UETP - UNIVERSITY ENTERPRISE TRAINING PARTNERSHIP UNDER COMETT II
the European Community programme on cooperation between universities and industry regarding training in the field of technology

OBJECTIVES

The European Training Courses (ETCs) of TECHWARE are providing up-to-date training at advanced level for all professionals in the broad field of quantity and quality management of water. Special attention is given towards the needs of SMALL and MEDIUM SIZED ENTERPRISES.

TECHWARE's ETCs are unique:

- * sponsored by the European Community Programme COMETT II
- * always with a European dimension regarding staff, participants and locations
- * guarantee of the best transfer of experience and research results thanks to the pooling of expertise by TECHWARE
- * providing excellent opportunities to adapt systematically to the expected changes of the OPEN MARKET in 1993

FOLLOW-UP

TECHWARE is an international non-profit-making association, founded in 1990 by 35 European Universities and Enterprises, leaders in the water-related sectors. More than 100 partners in all European countries are member of TECHWARE.

TECHWARE was therefore selected by the European Community to develop a general strategy for cooperation and partnership. Analysis of training needs, evaluation and follow-up of its courses are essential to TECHWARE.

Why not joining and bringing your experience on a truly European level?

MORE

TECHWARE also develops long-term joint training projects and pilot projects, incorporating expert systems and distance learning technology (electronic classroom, satellite communication):

- * advanced computer techniques for the design and renovation of sewer systems
- * TRITON: training on the technology for environmental protection within water resources management (in cooperation with UETP ACTION LINK, Heraklion, GR)

TECHWARE runs other programmes:

- * SPES - Student and young graduate Placements for training in European industry of the water-environmental Sector.
- * ATP-Advanced Training Placements
- * PEP-Personnel Exchange Programme

If you want to know more, do not hesitate to contact:

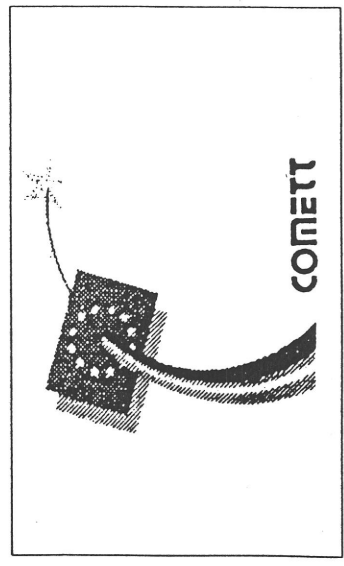
The Secretary-General of TECHWARE c/o CIBE/BIWM,
70 rue aux Laines/Wolstraat 70, 1000 Brussels, Belgium
tel +32-2-5188894 - NEW FAX +32-2-502 67 35
telex 61927 eauwat-b
for attention: TECHWARE

The Secretary - General of TECHWARE
c/o CIBE/BIWM,
70 rue aux Laines/Wolstraat 70,
B-1000 Brussels,
Belgium

ADVANCED TECHNOLOGIES FOR
WATER ENVIRONMENT MANAGEMENT,
WATER TREATMENT PROCESSES AND
COMPUTER APPLICATIONS

during 1992

within the framework of



TECHWARE EUROPEAN TRAINING COURSES

10/02/92

Subject and Title of Courses		Target Audience	Locations planned and expected date	Duration
A.T. = advanced technologies; C.A. = computer applications			town/country	month/year
SP1*	WATER ENVIRONMENT			
1.1	Monitoring and modelling groundwater contamination	generalists, manag. and trainers	GENOVA (I) 11/92	6
1.2	Flood hazards in Mediterranean countries	researchers and techn. manag.	GENOVA (I) 3/92 LISBOA (P) 05/92	6
1.3	Groundwater pollution management	researchers and managers	BARCELONA (E) 09/92	6
1.4	GIS-Water resources evaluation and exploitation	generalists and managers	GENOVA (I) 3/92	4
SP2	C.A. IN HYDROGEOLOGY			
2.1	Basics of mathematical groundwater modeling	generalists and trainers	WALLINGFORD(UK) 6/92 LISBOA (P)06/92	5
2.2	Regional hydrological systems analysis	researchers, managers, trainers	DELFT (NL) 09/92	6
2.3	Groundwater flowpaths and pollutant transport	researchers, techn. managers	WALLINGFORD (UK) 09/92 DELFT 11/92	6
SP3*	A.T. AND MANAGEMENT FOR DRINKING WATER AND WASTEWATER			
3.1	Management of drinking water supply	technical managers		
3.2	Treatment processes for drinking water	researchers and techn. manag.	DEN HAAG (NL) 11/92	6
3.3	Waste water treatment processes	techn. manag. and researchers	GENOVA (I) 9/92	6
SP4	C.A. APPLIED TO WATER DISTRIBUTION NETWORKS			
	State of the Art - Future trends	researchers and specialists	VALENCIA (E) 10/92	6
SP5	A.T. IN INSTRUMENTATION AND MEASUREMENTS IN WATER RESOURCES			
5.1/5.2	Radars and rainfall in urban hydrology: fundamentals, interactions	researchers and specialists	LUND (S) 11/92	4
5.3	Radars & rainfall in urban hydrology: engineering aspects	researchers and techn. manag.	DUBROVNIK (YU) or LYNGBY (DK) 06/92	4
5.4	Instrumentation and measurements in sewers	technical managers	DUNDEE (UK) 1992	5
5.5	Environmental monitoring: water quality	technical managers	SHEFFIELD (UK) 92	6
SP6	C.A. FOR IRRIGATION SYSTEMS			
6.1	C.A. in Irrigation development planning and design	techn. manag. and trainers	LEUVEN (B) 9/92	6
6.2	Irrigation system management with C.A.	techn. manag. and trainers	ATHENS (GR) 3/92	6
SP7	ACMOBI - Academic Mobility DATA MANAGEMENT USING CDS/ISIS	coordinators, managers, secretaries, librarians	GENOVA (I) 10/92	5

* organized by TECHWARE - ITALIA, Regional TECHWARE Bureau

PRE-REGISTRATION FORM

Name Mr. Ms.

First name

Function/responsibility

Organisation/Institution

Full address

Country

tel fax

telex Email

I wish to receive further information on the following course(s) (list course number code and preferred location - town/country):

.....

.....

Please send me more information about TECHWARE

I apply for TECHWARE membership

OPTIONAL

My training need is (give short description):

.....

.....

I would prefer NOT to attend a course in English but in (give language):

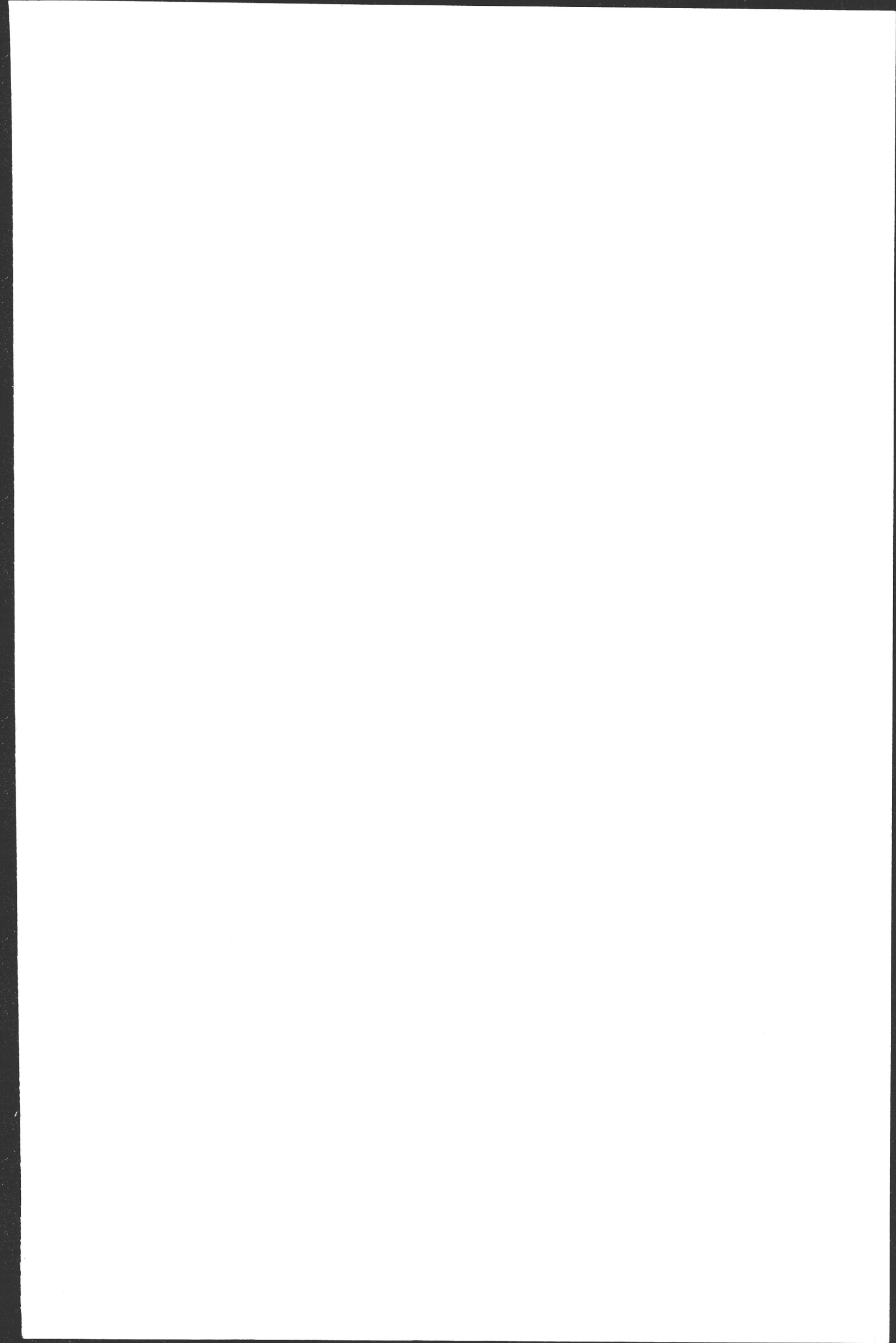
Date Signed

Please, return to the address on reverse side

Please send also information to:

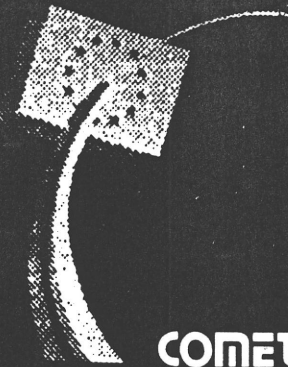
Name.....

Address.....

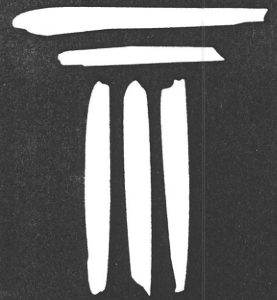




ERASMUS



COMETT



Tempus

Information Bulletin for 'Education in Hydrology and Water Management' and 'Training for Water Resources Technology' within the framework of the ERASMUS, COMETT and TEMPUS Programmes of the European Community (EC)

Informatie Bulletin voor 'Onderwijs in hydrologie en waterbeheer' en 'Opleiding voor technologie van de watervoorraden'

Bulletin d'Information pour l' 'Education en hydrologie et la gestion de l'eau' et la 'Formation pour la technologie des ressources en eau'

Informationsblad om 'Uddannelse og efteruddannelse i tekniske emner knyttet til vand'

Boletín Informativo sobre la 'Educación en el campo de la hidrología y la gestión del agua' y 'Entrenamiento en tecnología de los recursos hídricos'

Bollettino di Informazione per 'Educazione in idrologia e gestione delle acque' e 'Formazione alla tecnologia delle risorse idriche'

Biuletyn Informacyjny dot. 'Nauczania w zakresie hydrologii i gospodarki wodnej' oraz 'Szkolenia w zakresie technologii wykorzystania i ochrony zasobow wodnych'