The training courses, mainly postgraduate, cited in this section include many designed primarily for geoscientists from developing countries.

■ Signifies the first or amended announcement in *Episodes*.

■ UNIVERSITY OF BALLARAT COURSES IN ECONOMIC GEOLOGY (Ballarat, Australia)

A range of short intensive courses, detailed below, aimed at practising geoscientists in mineral exploration.

Details from Associate Professor W R H Ramsey, School of Mining, Geology and Metallurgy, University of Ballarat, PO Box 663, Ballarat, Victoria 3353, Australia. Phone 053 279 261; fax: 053 279 144; e-mail: set@fs3.ballarat.edu.au

EPIGENETIC MAGMA-RELATED MINERALISATION IN THE SOUTH-WEST PACIFIC. (2–4 October 1996) Covers gold and copper in epithermal and porphyry style deposits concentrating on physico-chemical processes in relation to geological controls.

WESTERN LACHLAN GRANITE (10–11 October 1996) Granite mineralogy, emplacement and associated ore mineralisation.

TECTONIC ENVIRONMENTS OF GOLD AND BASE METAL DEPOSITS THROUGH TIME (17–19 February 1997) Ore genesis will be linked to tectonic environment through time.

■ IMPERIAL COLLEGE COURSES IN MINERALS AND PETROLEUM (London UK)

A range of courses, outlined below, in mineral and petroleum resource appraisal, development and management

Details from Sally Verkaik, Continuing Education Centre, Imperial College, Room 558 Sheffield Building, Exhibition Road, London SW7 2AZ UK. Phone: +44 (0)171 594 6882/1; fax: +44 (0)171 594 6883; e-mail: cpd@ic.ac.uk

MINERAL DEPOSIT EVALUATION (London, UK) Two 5-day short courses for individuals who hold technical and financial appointments in mineral resource organisations responsible for mineral exploration and mine pre-production development.

TECHNICAL, FINANCIAL AND LEGAL APPRAISAL OF MINING PROJECTS (20–22 November 1996) A 3-day short course for fund and asset managers, analysts and bankers involved in mineral appraisal, financing and development.

PETROLEUM ENGINEERING—AN INTEGRATED APPROACH (May 1997) A two-week modular programme introducing scientists and engineers to the wide range of disciplines involved in the appraisal, development and management of hydrocarbon resources.

RESERVOIR SIMULATION: ESSENTIAL TECHNOLOGY FOR RESERVOIR MANAGEMENT (15–19 July 1996) A 5-day short course designed specially for geoscientists, who are or will be working in multi-disciplinary teams and who wish to improve their reservoir engineering and simulation skills.

■ GEOSCIENCE SHORT COURSES AND WORKSHOPS

(various locations in Canada). Courses covering most aspects of geoscience, mostly 2–3 days, some longer, up to 2 weeks.

Details from Geological Survey of Canada,

Training Courses, 601 Booth Street, Ottawa, Ontario K1A 0S2, Canada.

■ WATER RESOURCES ENGINEERING

(Leuven and Brussels, Belgium). One-year diploma course and two-year MSc degree course in water resources engineering, the latter with options in hydrology, irrigation and water quality management under IUPWARE: Interuniversity Programme in Water Resources Engineering. Fellowships available: enquire at Belgian embassies. Language: English. IUPWARE organises also annually a Summer School (July–September) on micro-computer applications for water resources management.

Details of Diploma Course from IUPWARE - Institute for Land and Water Management (KUL), Vital Descosterstraat 102, 3000 Leuven, Belgium.

Details of MSc Course from IUPWARE - Laboratory of Hydrology, VUB, Dienst Hydrologie, Pleinlaan 2, 1050 Brussels, Belgium.

Details of Summer School from IUPWARE - Institute for Land and Water Management (KUL), Vital Decosterstraat 102, 3000 Leuven, Belgium. Web site: <http://www.vub.ac.be/ond/hydr/pantar/home page.htm>

HYDROLOGY (Hungary, and elsewhere). Six-month, postgraduate, diploma course on advanced, theoretical and practical hydrological methods in water-resource management. Part of UNESCO International Hydrological Programme.

Details from Dr G Kienitz, VITUKI Water Resources Research Centre, H-1453 Budapest, Pf 27, Hungary. Fax 361 215 3043.

■ **GEOLOGICAL DATA PROCESSING AND MINE MANAGEMENT** (Sydney and World Wide) A range of postgraduate short courses and international special customised training programs that could be credited toward Masters and Graduate Diploma degrees and Certificates.

Details from Dr Mike Katz, Director, Key Centre for Mines, University of New South Wales, Sydney NSW 2052, Australia Phone: 61 2 385 5006; fax: 61 2 313 7269; e-mail: M.Katz@unsw.edu.au

■ PETROLEUM EXPLORATION AND RELATED SUBJECTS.

(Rueil-Malmaison, France). A range of short seminars and longer courses in geology, geochemistry, and logging geophysics for engineers, managers and technicians in the petroleum and related industries. Languages: French and English

Details from École Nationale Supérieure du Pétrole et des Moteurs, Centre d'Exploration Pétrolière, ENSPM-Formation Industrie, 232, avenue Napoléon Bonaparte, 92500 Rueil-Malmaison France. Fax +33 (1) 47 52 70 79.

■ PETROLEUM EXPLORATION GEOLOGY.

(Lincoln, UK). A series of short (up to 5 days) courses for geologists and geophysicists involved with exploration and development programmes that have moved into mature phases. Courses cover seismic interpretation, structural geology and basin modelling.

Details from Badley Earth Science Ltd, North Beck House, North Beck Lane, Hundleby, Spilsby, Lincolnshire PE23 5NB, UK. Phone: +44 1790 753472; fax: +44 1790 753892.

PROFESSIONAL DEVELOPMENT

SEMINARS IN MINERAL ENGINEERING AND MINERAL ECONOMICS. Conducted by the Department of Mining and Metallurgical Engineering, McGill University. Language: English.

Details from Norma Procyshyn, Coordinator of Professional Development Seminars, Department of Mining and Metallurgical Engineering, McGill University, 3480 University Street, Montreal, Quebec H3A 2A7, Canada. Phone: (514) 398-4383; telex: 05-268510; fax: (514) 398-8379.

■ **RECENT DEVELOPMENTS IN QUANTITATIVE AND SEQUENCE STRATIGRAPHY.** Short courses (the next, of 5 days, in Copenhagen, Denmark in September 1997) organised by the Committee for Quantitative Stratigraphy which is part of the IUGS's International Commission on Stratigraphy.

Details from Dr F P Agterberg, Geological Survey of Canada, 601 Booth St., Ottawa K1A 0E8, Canada. Phone: (1) 613 9962374; fax: (1) 613 9963726; e-mail: agterberg@gsc.emr.ca

SEPM CONTINUING EDUCATION

COURSES (various locations USA). Short 1 or 2 day courses in advanced aspects of sedimentary geology, petroleum geology and hydrogeology for practising geoscientists wishing to keep abreast of new developments and techniques.

Details from SEPM Continuing Education Department, PO Box 4756, Tulsa, OK 74159-0756, USA.

■ SHORT COURSES IN PETROLEUM

GEOLOGY AND RELATED DISCIPLINES. Conducted by IHRDC in London or Aberdeen, UK. Language: English. A series of short courses between three and five days on seismic interpretation, reservoir modelling and reservoir management. Next round of courses in Autumn 1996.

Details from IHRDC / Amsterdam, Brouwersgracht 288, 1013 HG Amsterdam, The Netherlands. Phone 31 20 6380110; fax: 31 20 6385298; e-mail: 101762.1027@compuserve.com

■ RESERVE ESTIMATES IN THE REAL

WORLD. Three-day course conducted periodically under the auspices of the Society of Economic Geologists for all associated with ore reserve estimation from exploration to development. Next course 10–12 September 1996, Staffordshire University, UK.

Details from Mrs E A Reeves, School of Sciences, Staffordshire University, College Road, Stoke-on-Trent ST4 2DE, UK. Phone: +44 (0)1782 294859; fax: +44 (0)1782 745506; e-mail: d.e.roberts@staffs.ac.uk

■ TWAS FELLOWSHIPS AND RESEARCH

GRANTS. A series of grants for developing-country geoscientists of proven ability to work and study for periods of 1–12 months at centres of excellence in the South, and to purchase equipment and laboratory supplies for research projects specified by them.

Details from Executive Director, TWAS Secretariat, Third World Academy of Sciences (TWAS), c/o International Centre for Theoretical Physics (ICTP), PO Box 586, 34100 Trieste, Italy. Phone: +39 40 2240-327; fax: +39 40 224559; e-mail: twas@ictp.trieste.it; www home page: <http://www.ictp.trieste.it/~twas/TWAS.html>

■ **WEDC** (Water, Engineering and Development

Centre). Concerned with water and urban infrastructure. Courses offered range in duration from 3 weeks to 12 months, deal with a wide variety of water, engineering, developmental, environmental, and management topics, and lead to certificates, diplomas, or MSc degrees.

Details from Kathy Brown, WEDC, Loughborough University, Leicestershire LE11 3TU, UK. Phone: +(44) 1509 222885; fax: +(44) 1509 211079 email: WEDC@lboro.ac.uk

■ **COMPUTER ASSISTED TRAINING IN MINERAL RESOURCES DEVELOPMENT** (Fontainebleau, France), 4 weeks (annually). Next course 1st–30th April 1997. Languages: French and English. Closing date for applications 1 March 1997.

Details from: Professor L. Zanone, Ecole des Mines de Paris, 35, rue Saint Honoré E9, 77305 Fontainebleau Cedex, France, Fax: (1) 64 69 47 11; e-mail: sauzay@cges.ensmp.fr.

■ **BGS COURSES IN EARTH SCIENCE** (UK and worldwide as specified by client) Language: English. A wide range of short-duration (up to 10 days) practically orientated, postgraduate, training courses to assist national and international personnel to resolve problems involving earth sciences.

Details from Dr Ian E Penn, Coordinator, Training, Research and Development, British Geological Survey, Keyworth, Nottingham NG12 5GG, England. Tel: +44 (0)115-9363187; Fax: +44 (0)115-9363150.

■ **ENVIRONMENTAL AND SAFETY CONCERNS IN MINING ACTIVITIES** (Alès, France), October to June (annually). Language, French.

Details from Dr Gérard Verraes, Ecole nationale supérieure des techniques industrielles et des Mines d'Alès, 6, avenue de Clavières, 30319 Alès Cedex, France. Telefax: 33 66 78 50 34; phone: 33 66 78 51 96; e-mail: gverraes@ensm-ales.fr

■ **ITC COURSES IN EARTH SCIENCES, PHOTOGRAMMETRY, AND REMOTE SENSING.** Conducted in The Netherlands by ITC (International Institute for Aerospace Survey and Earth Sciences). Language English. **Details from** ITC, PO Box 6, 7500 AA, Enschede, The Netherlands. Phone: +31 (0)53 48 74 444; fax: +31 (0)53 48 74 400; telex: 44 525 ITC NL

INTRODUCTION TO DIGITAL IMAGE PROCESSING July (annually) 4 months.

EXPLORATION GEOPHYSICS August (annually) 9 months for postgraduate course, 21 months for MSc course.

APPLIED GEOMORPHOLOGY AND ENGINEERING GEOLOGY. September (annually) 10 months for the postgraduate course, 21 months for MSc course.

MINERAL EXPLORATION August (annually) 9 months for postgraduate course, 18 months for MSc course.

ENGINEERING GEOLOGY August (annually) 11 months for postgraduate course, 22 months for MSc course.

GEOLOGICAL SURVEY September (annually) 11 months for postgraduate course, 20 months for MSc course.

REMOTE SENSING APPLICATIONS FOR EARTH SCIENCES November (annually) 2 months.

GEOINFORMATION SYSTEMS FOR CADASTRAL, URBAN AND RURAL APPLICATIONS. 12 months for professional Master degree course, 18 months for ~MSc course.

Other organisations that offer specific training courses in a variety of earth-science-related fields:

■ **GDTA** (Groupement pour le Développement de la Télédétection Aérospatiale), 18 avenue. Edouard-Belin, 31055 Toulouse Cedex, France. Phone: (33) 61 27 42 88; fax: (33) 61 28 14 98; e-mail: patricia@venus.cnes.gdta.fr

■ **ESRIN** (European Space Agency) Via Galileo Galilei, 00044 Frascati, Rome.

■ **GSA** (Geological Society of America) Continuing Education Coordinator, 3300 Penrose Place, PO Box 9140, Boulder CO 80301, USA.

■ **IGAC** (Instituto Geográfico 'Agustín Codazzi'), Apartado Aéreo 53754 y 6721, Bogotá 2, Colombia. Fax: (571) 3680950.

■ **IISEE** (International Institute of Seismology and Earthquake Engineering), Building Research Institute, Ministry of Construction, 1 Tatehara, Tsukuba, 305, Japan. Phone: +81 298-64 6677, +81 298-64 2151 (switchboard) ext 450; fax: +81 298-64 6777 (Attn Ken Sudo) Four courses are available:

- 11-month course for young seismologists and earthquake engineers;
- Two-month course (biennially) for advanced experts;
- Individual course for advanced experts to a maximum of one year; and
- 45-day course in global earthquake observation.

UNESCO (United Nations Educational Scientific and Cultural Organization), 7 place de Fontenoy, 75700 Paris, France.

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