

Chemistry

Conference organisation

- COLASU meeting organized by the Cultural Heritage and Sciences group, 18-19 November, 2004, ITN, Sacavém, Portugal (Co-ordinators: M. I. Dias, M. I. Prudêncio).
- Workshop on “Consequences of River Discharge Modifications on Coastal Zone and Continental Shelf (CRIDA)”, Organised by Environmental Analytical Chemistry group, 9 September 2004, ITN, Sacavém, Portugal (Co-Ordinator: M.F. ARAÚJO).
- COST B12 meeting, organized by the Inorganic and Radiopharmaceutical Chemistry group, May 2004, ITN, Sacavém, Portugal (Co-Ordinator: I. SANTOS).
- Workshop on Molecular Materials, organized by the Solid State group, 27 February 2004, ITN, Sacavém, Portugal (Coordinator: M. ALMEIDA).

Course organisation

- Master Course on Biomedical Inorganic Chemistry: Diagnostic and Therapeutical Applications (D. R. n° 123 of 26/05/04, II série) (Organizer: I. SANTOS (ITN)), 30 participants.
- Training Course on Radiopharmaceuticals: Physicians of the Instituto Português de Oncologia Doing the Nuclear Medicine Speciality, 3-7 May 2004, ITN, Sacavém. (Organizer: I. SANTOS (ITN)), 4 participants.

Lectures given by ITN staff

- A. PIRES de MATOS, A Composição dos Vidros e as suas Propriedades, Invited lecture, Instituto Politécnico de Tomar, 26 March 2004.
- A. PIRES de MATOS, A química e o Vidro, Invited lecture, Fórum da Química, FCT/UNL, 7 October 2004.
- M. ALMEIDA, Two chain compounds and field-induced transition in extreme 1-D systems, Seminar, Lecture Working Group Meeting, COST D14 WGD14/0003/99, Univ. Valencia, Spain, 13 November 2004.
- M. ALMEIDA, New Charge transfer salts between thiophene-TTF donors and metal bisdithiolate complexes; possible new spin ladder candidates, COST D14 WGD14/0003/99, Towards New Molecular Inorganic Conductors, London, UK, 27 March 2004

- D. BELO, M.J. FIGUEIRA, J.MENDONÇA, H.ALVES, I.C. SANTOS, E.B. LOPES, L.C. PEREIRA, M.T. DUARTE, V. GAMA, R.T. HENRIQUES, M. ALMEIDA, C. ROVIRA, J. VECIANA, New Transition Metal Complexes and their use as Building Blocks in Molecular Materials, COSTD14 WGD14/0003/99, Towards New Molecular Inorganic Conductors, London, UK, 27 March 2004
- A.P. GONÇALVES, Preparação e caracterização de compostos intermetálicos, filmes e multicamadas no ITN, Seminar, “Ciclo de Seminários do GCEP (Group of Complexity and Electronic Properties”- Primavera de 2004”, Dept. Física Univ. Minho, 26 May 2004.
- A.P. GONÇALVES, Preparation and characterization of intermetallic compounds with f elements, Invited Seminar, Dept. Electronic Structures and the Joint Laboratory for Magnetic Studies of the Charles University of Prague, Czech Rep., 29 September 2004.
- A.P. GONÇALVES, Preparation et caractérisation des composés intermétalliques avec des éléments 5f, Invited Seminar, Lab. Chimie Métallurgique des Terres Rares, CNRS-UPR209, Thiais, France, 20 October 2004.
- L.C.J. PEREIRA, Crystallographic and magnetic studies on DyFe_xSn₂ compounds (0 ≤ x ≤ 0.3), Invited Seminar, Dept. Electronic Structures and the Joint Laboratory for Magnetic Studies of the Charles University of Prague, Czech Rep., 19 May 2004.
- J.C. WAERENBORGH, Mössbauer spectroscopy; a valuable tool for the study of molecular magnets, Seminar, Lecture Working Group Meeting, COST D14 WGD14/0003/99, Univ. Valencia, Spain, 13 November 2004.

Graduation and post-graduation teaching

- M.I. PRUDÊNCIO, Invited Professor at Faculty of Sciences, University of Lisbon, Chemistry and Biochemistry Department, Master Course on Biomedical Inorganic Chemistry: Diagnostic and therapeutical applications. Discipline: Radiochemistry: Fundamentals and techniques. Lecture on “Determination of Absolute Activity of radionuclides and radionuclide purity/gamma spectrometry”.
- A.M. MONGE SOARES - Lectures on Isotopic Analysis and Radiocarbon Dating. Discipline: Methods of Analysis II (2nd Semester). Master Course “Applied Chemistry to the Cultural

- Heritage*”, Faculty of Sciences, University of Lisbon.
- A.M. MONGE SOARES – Seminar on *Archaeometry* (1st Semester), Master Course: “*Pre-History and Archaeology*”, Faculty of Humanities, University of Lisbon.
 - M.F. ARAÚJO, Invited Professor at Dep. Química e Bioquímica, Faculdade de Ciências da Universidade de Lisboa, Teaching of “*Métodos Avançados de Análise e Técnicas Hifenadas*” in the MSc Course in “Applied Analytical Chemistry”.
 - M.F. ARAÚJO, Invited Professor at Dep Conservação e Restauro, Faculdade de Ciências e Tecnologia da Universidade Nova de Lisboa, Teaching of “*Energy Dispersive X-ray Fluorescence Spectrometry*” in “Analytical Methods I” chair from the BSc Course in “Conservation and Restoration”.
 - M.F. ARAÚJO, Invited Professor at Dep Conservação e Restauro, Faculdade de Ciências e Tecnologia da Universidade Nova de Lisboa, Teaching of “*Energy Dispersive X-ray Fluorescence Spectrometry*” in “Analytical Methods II” chair from the BSc Course in “Conservation and Restoration”.
 - A. PIRES de MATOS, Invited Professor at the Universidade Nova de Lisboa, Dep. de Conservação e Restauro, Discipline: Analytical Methods I and II.
 - A. PIRES de MATOS, A Utilização da Espectroscopia de Absorção Electrónica na Caracterização de Objectos de Vidro, Lecture in a MSc course on Chemistry Applied to Cultural Heritage. Faculdade de Ciências, Universidade de Lisboa, 28 May, 2004.
 - J. P. LEAL, Invited Professor of the Chemistry and Biochemistry Department of Faculdade de Ciências da Universidade de Lisboa
 - J. P. LEAL, Responsible for the “New Resources for Education in Chemistry” chair on the Master Graduation “Teaching Chemistry”, Faculdade de Ciências da Universidade de Lisboa.
 - J. MARÇALO, Universidade de Évora, Dep Química, Discipline: Biochemistry Analysis II, lecture on Nuclear Chemistry and Radiochemical Methods.
 - J. MARÇALO, Universidade Nova de Lisboa, Departamento de Conservação e Restauro Discipline: Analytical Methods I and II, lectures on Radiochemistry and Mass Spectrometry.
 - A. PAULO, Invited “Professor Coordenador” at School of Health Technologies of Lisbon, Disciplines: Radiopharmacy I (2nd year, 2nd Semester) and Radiopharmacy I (3rd year, 1st Semester).
 - A. PAULO, L. GANO, F. MARQUES, Training on Radiopharmacy at ITN, Graduation Course on Nuclear Medicine, ESTeSL, 1st June - 25th June (2004).
 - A. PAULO, L. GANO, F. MARQUES, Training on Radiopharmacy at ITN, Graduation Course on Nuclear Medicine, ESTeSP, 15th March- 25th March and 17th May-27th May (2004).
 - F. MARQUES, Training on Radionuclides in Nuclear Medicine at ITN, Physics Engineering Graduation, IST, Technical University of Lisbon, March (2004).
 - L. GANO, ^{99m}Tc-Radiopharmaceuticals and Quality Control, Graduation Course on Pharmacy, Faculty of Pharmacy, University of Lisbon, April/May (2004).
 - A. PAULO, Introdução à Radioactividade /Protecção Radiológica, Master Course on Pharmaceutical and Therapeutical Chemistry, Faculty of Pharmacy, University of Lisbon, April 2004.
 - A. PAULO, Produção de Radionuclidos/ Geradores de Radionuclidos, Master Course on Pharmaceutical and Therapeutical Chemistry, Faculty of Pharmacy, University of Lisbon, April 2004.
 - A. PAULO, Química Radiofarmacêutica /Radiometais, Master Course on Pharmaceutical and Therapeutical Chemistry, Faculty of Pharmacy, University of Lisbon, April 2004.
 - J. GALAMBA, Radiofármacos Específicos: Estado Actual e Tendências Futuras, Master Course on Pharmaceutical and Therapeutical Chemistry, Faculty of Pharmacy, University of Lisbon, April 2004.
 - J. GALAMBA, Radiofármacos para Tomografia de Emissão de Positrões (PET), Master Course on Pharmaceutical and Therapeutical Chemistry, Faculty of Pharmacy, University of Lisbon, April 2004.
 - J. GALAMBA, Moléculas Orgânicas Radioiodadas, Master Course on Pharmaceutical and Therapeutical Chemistry, Faculty of Pharmacy, University of Lisbon, April 2004.
 - L. GANO, Formulação e Controlo de Qualidade de Radiofármacos, Master Course on Pharmaceutical and Therapeutical Chemistry, Faculty of Pharmacy, University of Lisbon, April 2004.
 - L. GANO, Aplicações Clínicas de Radiofármacos: Mecanismos de Localização, Master Course on Pharmaceutical and Therapeutical Chemistry, Faculty of Pharmacy, University of Lisbon, April 2004.

- L. GANO, Measure of the Mass of Blood and Quality Control of ^{99m}Tc -Radiopharmaceuticals, *INSTN*, Saclay, França, November 2004.
 - A. PAULO, Geradores de Radionuclédeos, Master Course on Biomedical Inorganic Chemistry: Diagnostic and Therapeutical Applications, ITN/FCUL, Lisboa, October 2004.
 - F. MARQUES, Interação da Radiação com a Matéria, Master Course on Biomedical Inorganic Chemistry: Diagnostic and Therapeutical Applications, ITN/FCUL, Lisboa, October 2004.
 - L.GANO, Radionuclédeos com Interesse em Bioquímica e em Medicina, Master Course on Biomedical Inorganic Chemistry: Diagnostic and Therapeutical Applications, ITN/FCUL, Lisboa, October 2004.
 - J. GALAMBA, Síntese de Compostos Radioactivos, Master Course on Biomedical Inorganic Chemistry: Diagnostic and Therapeutical Applications, ITN/FCUL, Lisboa, November 2004 (2h).
 - L. GANO, Radiofármacos: Síntese, Formulação e Controlo de Qualidade, Master Course on Biomedical Inorganic Chemistry: Diagnostic and Therapeutical Applications, ITN/FCUL, Lisboa, October 2004.
 - I. SANTOS, Complexos com Interesse em Imagem e Radioterapia Interna,, Master Course on Biomedical Inorganic Chemistry: Diagnostic and Therapeutical Applications, ITN/FCUL, Lisboa, October 2004.
 - I. SANTOS, Química dos Elementos do Grupo VII, Master Course on Biomedical Inorganic Chemistry: Diagnostic and Therapeutical Applications, ITN/FCUL, Lisboa, October 2004.
 - A. PAULO, Química dos Elementos do Grupo 11, Master Course on Biomedical Inorganic Chemistry: Diagnostic and Therapeutical Applications, ITN/FCUL, Lisboa, November 2004.
 - A. PAULO, Química dos Elementos do Grupo 13, Master Course on Biomedical Inorganic Chemistry: Diagnostic and Therapeutical Applications, ITN/FCUL, Lisboa, November 2004.
 - M. P. C. CAMPELLO, Elementos-*f*: Aplicações e Perspectivas, Master Course on Biomedical Inorganic Chemistry: Diagnostic and Therapeutical Applications, ITN/FCUL, Lisboa, November 2004.
 - A. PAULO, Química do Boro e BNCT, Master Course on Biomedical Inorganic Chemistry: Diagnostic and Therapeutical Applications, ITN/FCUL, Lisboa, November 2004.
 - J. GALAMBA, Complexos Bioespecíficos, Master Course on Biomedical Inorganic Chemistry: Diagnostic and Therapeutical Applications, ITN/FCUL, Lisboa, November 2004.
 - J.C.WAERENBORGH, Invited professor at Faculdade de Ciências, Univ. Lisboa; coordinator of the Crystallography and Crystalchemistry course for graduation study in Geology, Geology Dept.
- “Ciência Viva”**
- R. MARQUES: "Programa Ciência Viva". Title: Radiocarbon Dating. Date: 9 - 13 August.
 - SANTOS, J. GALAMBA, C. FERNANDES, Radiofármacos para Imagiologia Molecular, Sacavém, July 2004.
- Lectures given by ITN staff**
- M.I. PRUDÊNCIO and M.I. DIAS, APA Workshop on: “Mais além das tipologias. Estudos arqueométricos em cerâmicas arqueológicas”. Lecture: Analytical methodologies for the archaeometric study of archaeological ceramics: sample selection and statistical analysis. *Centro Tecnológico da Cerâmica e do Vidro*, Coimbra, February 2004.
 - A. PAULO, Biomedical Applications of Radionuclides, Part I, *ITQB-PhD Programme* ITQB, UNL, Oeiras, April 2004.
 - I. SANTOS, Radioisotopes and Biomedical Applications: Part II, *ITQB-PhD Programme*, ITQB, UNL, Oeiras, April 2004
 - I. SANTOS, Complexos Metálicos e Aplicações Médicas, MSc Course Ensino da Química, FCUL, UL, Lisboa, April 2004
- Participations in juries**
- M.I. DIAS, Arguing member of a graduation thesis in Geosciences: “Geoquímica e mineralogia aplicadas ao património cultural”, by Catarina Capitão-Mor, University of Aveiro, July, 2004.
 - A. PIRES de MATOS, Arguing Member, Assistant Lecturer Thesis, Theme: Glass Research, Fernando Quintas, Faculdade de Belas Artes, Universidade de Lisboa, December 2004.
 - A. PIRES de MATOS, President of a Juri of 3 Graduation Thesis, Themes: Analytical Methods and Conservation; Sara Serrão; Ana Claro; Mícaela de Sousa, Departamento de Conservação e Restauro, Universidade Nova de Lisboa, July and September, 2004.
 - J. P. LEAL , Arguing member of the Júri of a PhD Thesis in Chemistry, Theme: “Estudos Termoquímicos de Haloácidos, Acetatos e

- Propionatos de Metais Alcalinos e Derivados Bis(ciclopentadienilo) de Metais de Transição”, Ana Lúcia Costa Lagoa, Instituto Superior Técnico, Universidade Técnica de Lisboa, March 2004.
- J. MARÇALO, Arguing member of the Jury of a Graduation Thesis in Chemistry, Theme: “Complexação de Biomoléculas com Cu^{2+} , Zn^{2+} e Cp_2TiCl_2 . Um Estudo por Técnicas de Espectrometria de Massa”, Vera Odília Ferreira Dias, Faculdade de Ciências da Universidade de Lisboa, December 2004.
 - I. SANTOS, MSc jury of Rita Oliveira, Faculdade de Farmácia, Universidade do Porto, January 2004.
 - A. PAULO, MSc jury of Rita Oliveira, Faculdade de Farmácia, Universidade do Porto, January 2004.
 - I. SANTOS, PhD jury of Claudia Pereira, ITQB, UNL, October 2004.
 - J. GALAMBA, PhD jury of Zeljko Petrovski, ITQB, UNL, November 2004.

Physics

Conference organisation

- I.F. GONÇALVES and P.VAZ, organizers of the 10th International Conference on Radiation Shielding, ICRS-10 and 13th Topical Meeting on Radiation Protection and Shielding, RPS-13, Madeira. 9-14 de Maio de 2004.

Graduation and post-graduation teaching

- A.N. FALCÃO, Invited Coordinator Professor at the *Higher School of Health Technologies of Lisbon*, Disciplines: Applied Physics (1st Semester) and Biomechanics (2nd Semester).

Participation in Juries

- F. G. CARVALHO, Arguing Member of a PhD. Thesis in Physics, “Low-energy X-ray Detectors based on Xe-Ne Mixtures” (in Portuguese), by

Filipa Isabel Gouveia M. Borges, Faculty of Sc. & Technology, Univ. of Coimbra, December 2003.

Lectures given by ITN staff

- N. R. PINHÃO, “Controlo de equipamento, aquisição e tratamento de dados”, lectures on a course for under-graduated grantees, ITN, 21-25 June. 2004.

Inter-departmental activities

“Ciência-Viva nas Férias”

- Optimization of software to control a mass spectrometer, supervisor N. R. Pinhão (two weeks)

Reactor

Graduation and post-graduation teaching

- J. G. MARQUES, Co-professor of “Radioquímica: Fundamentos e Técnicas”, M.Sc. in Química Inorgânica Biomédica - Aplicações em Diagnóstico e Terapia, Faculdade de Ciências da Universidade de Lisboa
- N. P. BARRADAS, Co-professor of “Radioquímica: Fundamentos e Técnicas”, M.Sc. in Química Inorgânica Biomédica - Aplicações em Diagnóstico e Terapia, Faculdade de Ciências da Universidade de Lisboa
- J. ANTUNES, “*Application of Modal Methods to Instrument Simulation*”, Course on “Science and Music”, CNRS Conference Centre, Cargèse, France, 27th September-2 October 2004.

Participation in juries

- M. C. FREITAS, Ph.D. of Susana Marta Almeida, 22 March 2004, Universidade de Aveiro, Portugal
- N. P. BARRADAS, Ph.D. of Carlos Pascual-Izarra, 8 November 2004, Universidad Autónoma de Madrid, Spain
- J. ANTUNES, Arguing member of a PhD Thesis on Mechanical Engineering, “Two Studies on a Musical Instrument of the Clarinet Type: Analysis of the Resonator Eigenvalues and Computation of the Self-Excited Vibrations by a Modal Method”, by Vincent Debut, *École Supérieure de Mécanique de Marseille, Université de la Méditerranée*, 27 October 2004.
- J. ANTUNES, Member of a PhD Thesis on Acoustical Science, “Contribution to the Study of Mechanical Systems with Fractal Structure”, by Etienne Bertaud du Chazaud, *Université de Paris VII-Denis Diderot*, 20 December 2004.
- J. ANTUNES, Arguing member of a MSc Thesis on Computational Methods in Engineering Science, “Nonlinear Beam Vibrations by the

Hierarchic Finite Element Method”, by Rute Lopes, *Faculty of Engineering, Porto University*, 29 January 2004.

- J. ANTUNES, Member of the jury for a position of Adjoint Professor at the *Polytechnic Institute of Porto, ESMAE*, 15-16 July 2004.
- J. ANTUNES, Juries on three Graduation thesis on Acoustics, at the *Conservatoire Supérieur de Musique de Paris*, 25 June 2004.

Lectures given by ITN staff

- N.P. BARRADAS, “IBA data analysis”, Instituto Tecnológico e Nuclear, 9 March 2004.
- J. ANTUNES, “*Application of Optimization Techniques to Structures and Resonators*”, Seminar at Université du Mans, 20th July 2004.
- J. ANTUNES, “*Friction-Induced Vibration: String-Body Coupling Phenomena*”, Seminar at Université de Toulouse, 23th July 2004.
- J. ANTUNES, “*Research Performed at ADL on Music Acoustics: Physical Modelling and Optimization*”, 3 Seminars at IRCAM, Paris, 29th July 2004.
- J. ANTUNES, “*Friction-Induced Vibrations of Shells: The case of Tibetan Bowls*”, Seminar at Commissariat à l’Energie Atomique, Saclay, 8th September 2004.
- J. ANTUNES, “*Nonlinear Flow-Coupled Seismic Responses of Nuclear Spent Racks*”, Seminar at Commissariat à l’Energie Atomique, Saclay, 20th September 2004.
- J. ANTUNES, “*State of the Art on Rotor Balancing Techniques: A Review*”, Seminar at Commissariat à l’Energie Atomique, Saclay, 22th December 2004.

Radiological Protection and Nuclear Safety

Conference organisation

- *International Workshop on Environmental Contamination from Uranium Production Facilities and Remediation Measures*, organized by DPRSN/ITN and AIEA, Sacavém, Portugal, 11-13 February 2004.

Organizing and Scientific Committee: F.P. CARVALHO, M.J. MADRUGA, M. REIS, J. G. ALVES.

- ICRS-10/RPS 2004, Tenth International Conference on Radiation Shielding and ANS Topical Meeting on Radiation Protection and Shielding, Funchal, Madeira, Portugal, 9-14 May 2004. Organizer: P.VAZ (350 participants).
- SATIF-7, "Seventh Specialists Meeting on Shielding Aspects of Accelerators, Targets and Irradiation Facilities", in Lisbon, 17-18 May 2004. Organizer: P. VAZ (35 participants)

MSc graduation

- "Radiation Protection" in collaboration with Instituto Superior Técnico. Organizers: C. Oliveira (ITN), Rocha Vieira (IST)

Graduation and post-graduation teaching

- F.P. CARVALHO. Teaching of 'Radioactivity and Effects on Man' Invited lecture to the MSc Course on Hygiene and Safety at Workplaces. Faculdade de Motricidade Humana, Maio 2004, Lisboa.
- M.J. MADRUGA, Teaching of "A Aplicação de Radioisótopos como Traçadores" in the MSc Course in Applied Analytical Chemistry, Faculdade de Ciências da Universidade de Lisboa, Departamento de Química e Bioquímica, June 2004.
- C. OLIVEIRA, Invited "Professor Coordenador" at *School of Health Technologies of Lisbon*, Disciplines: Applied Physics and Biophysics (1st Semester). P. VAZ, teaching the following disciplines:
 - "Radiation Technologies", IST- Technical University of Lisbon, Physics Department, Physics Engineering graduation (LEFT) and Masters programme in Physics, October 2003-February 2004 (1 semester)
 - "Radiation Technologies", IST- Technical University of Lisbon, Physics Department, Physics Engineering graduation (LEFT) and Masters programme in Physics, October 2004-February 2005 (1 semester)
 - "Nuclear Physics Methods in Science and Technology", IST- Technical University of

Lisbon, Physics Department, Physics Engineering graduation (LEFT) and Masters programme in Physics, October 2003-February 2004 (1 semester).

- "Nuclear Physics Methods in Science and Technology", IST- Technical University of Lisbon, Physics Department, Physics Engineering graduation (LEFT) and Masters programme in Physics, October 2004-February 2005 (1 semester).
- "Computational Methods in Radiation Technology", IST- Technical University of Lisbon, Physics Department, Masters and Ph.D. programme in Physics, October 2004-February 2005 (1 semester).

Theses

PhD

- A. BARBOSA CHAVES, "Monte Carlo Simulation Applied to Dosimetry of Narrow High-Energy Photon Beams used in Radiosurgery". PhD in Physics. Universidade de Lisboa. Supervisor: C. OLIVEIRA

Participation in juries

- C. OLIVEIRA, Arguing of a PhD thesis "Contribuição para o Estudo de Parametrização de Têxteis Hospitalares", by M. José Araújo Marques Abreu, *Departamento de Engenharia Têxtil, Universidade do Minho*

Course organisation

- *Training Course for the Operators of the Gamma Radiation Facility*, 2-3 February 2004, ITN, Sacavém. (Organizer: A.F. Carvalho) (ITN/ DPRSN).
- *Training Course for the Operators of the Gamma Radiation Facility*, 2-3 February 2004, ITN, Sacavém. (Organizer: A.F. Carvalho) (ITN/ DPRSN).
- L. PORTUGAL. The Gamma Irradiation Facility UTR. Overview and Design.
- L. PORTUGAL. Principles of Operation of a Gamma Irradiation Facility. The UTR Operation.
- L. PORTUGAL. Principles and Fundamental Objectives of Radiation Protection.
- L. PORTUGAL. Radiation safety of a Gamma Irradiation Facility. Overview of the Safety Systems at the UTR.
- L. PORTUGAL. Emergency Planning and Review of Accidents in Irradiation Facilities

Course on Radiation Protection and Safety for the workers of COFICAB, 5 March 2004, Guarda. Organizer: M.B. Martins (ITN/DPRSN).

- R. TRINDADE. Principles of Radiological Protection

Course for Trainees, 2003/ 2004, ITN, Sacavém (Organizer: J. Salgado) (ITN/Physics Sector).

- R. TRINDADE. Operational Radiation Safety.
- I. PAIVA. Radioactive Waste Managements.
- J. SEBASTIÃO. Emergency and Intervention in Case of Accident.

Training Course for the Operators of the Gamma Radiation Facility, 2-3 February 2004, ITN, Sacavém, (Organizer: A.F. Carvalho) (ITN/DPRSN).

- M.B. MARTINS. Biological Effects of Ionising Radiations.

Course on Radiation Protection and Safety for the workers of COFICAB, 5 March 2004, Guarda, (Organizer: M.B. Martins) (ITN/DPRSN).

- M.B. MARTINS. Biological Effects of Ionising Radiations.

Course for Trainees, 2003/ 2004, ITN, Sacavém, (Organizer: J. Salgado) (ITN/Physics Sector).

- M.B. MARTINS. Biological Effects of Ionising Radiations.
- M.B. MARTINS. Final Test.

Training Course on MCNP-X, 3-7 May 2004, ITN, Sacavém, Portugal, (Organizer: P. VAZ) (25 participants)

Big Challenges in Monte Carlo: from Physics to Biology, tutorial, 9th May 2004, Funchal, Madeira, Portugal (Organizer: P. VAZ) (50 participants)

An Introductory Course in Proton Cancer Therapy, tutorial, 9th May 2004, Funchal, Madeira, Portugal, (Organizer: P. VAZ) (50 participants)

Radiation Shielding for Diagnostic Radiology & Radiation Therapy, tutorial, 10-11 May 2004, Funchal, Madeira, Portugal (Organizer: P. VAZ) (50 participants).

Training Course for the Operators of the Gamma Radiation Facility, 2-3 February 2004, ITN, Sacavém. (Organizer: A.F. Carvalho).

- A.D. OLIVEIRA. Radiological Protection Programme.

- A.D. OLIVEIRA. Internal Rules, Procedures and Registries.

- A.D. OLIVEIRA. Analyses of Procedures and Registries.

Course on Radiation Protection and Safety for the workers of COFICAB, 5 March 2004, Guarda, (Organizer: M.B. Martins).

- A.D. OLIVEIRA. Physics and Dosimetry of Ionizing Radiations.

Course for Trainees, 2003/ 2004, ITN, Sacavém (Organizer: J. Salgado) (ITN/Physics Sector).

- A.D. OLIVEIRA. Matter and Radiation.
- A.D. OLIVEIRA. Radiation Protection Quantities and Units.

Training Course

- R. TRINDADE “Training Course on Rádio- logical Protection for ADR drivers” Associação Nacional dos Transportadores Públicos Rodoviários de Mercadorias, Out. 2004, Lisboa

Lectures given by ITN staff

- M.J. REIS, Intervenção em emergências radiológicas, Seminar, Escola Secundária/3º Ciclo de Porto de Mós, March 2004.
- M. NEVES. Radiations in Medicine and Biology. Graduation in Chemistry and Biochemistry. Departamento de Química e Bioquímica. Faculdade de Ciências. Universidade de Lisboa.
- M. NEVES. Radiations in Medicine and Biology. MSc Course in Medical Imaging, Faculdade de Ciências e Tecnologia, Universidade do Algarve
- TRINDADE R., PAIVA I., PORTUGAL L., Efluentes radioactivos, Pannel sobre Efluentes Líquidos e Resíduos Sólidos Hospitalares, ATEHP, APIH, Escola Superior de Tecnologias da Saúde, 3 December 2004, Lisboa, (Oral)

Referee

- M. NEVES. Journal of Inorganic Biochemistry.

