

Chemistry

Conference organisation

- *EMAC'03, European Meeting on Ancient Ceramics* organized by CHS, 27-31 October 2003, Calouste Gulbenkian Foundation, Lisbon, Portugal.

Co-Ordinators: M. I. PRUDÊNCIO

M. I. DIAS

- J. C. WAERENBORGH

- Metals in Medicine Symposium, *7th FIGIPS Meeting in Inorganic Chemistry*, Lisboa, June 2003, organized by QIR.

Co-Ordinator: I. SANTOS

- VIRAD meeting, organized by QIR, 3-4 July, 2003, ITN, Sacavém, Portugal

Co-Ordinator: L. GANO

Graduation and post-graduation teaching

- M.I. PRUDÊNCIO, Invited Professor at *Departamento de Geociências, Universidade de Aveiro*, Disciplines: Data Analyses in Techniques and methodologies in Archaeometry and geoarchaeology. MSc in Minerals and Industrial Rocks (1st and 2nd semester).
- A.M.M. SOARES, *Faculdade de Ciências da Universidade de Lisboa*. Discipline: Análise Isotópica e Datação pelo Radiocarbono. In Curso de Especialização em Química Aplicada ao Património Cultural (1st semester).
- A.M.M. SOARES, *Faculdade de Letras da Universidade de Lisboa*. Discipline: Archaeometry. Msc in Pré-História e Arqueologia (1st semester)
- A. PAULO, Invited "Professor Coordenador" at *School of Health Technologies of Lisbon*, Disciplines: Radiopharmacy I (2nd year, 2nd Semester) and Radiopharmacy II (3rd year, 1st Semester).
- F. MARQUES, P. VAZ, Training on Radionuclides in Nuclear Medicine at ITN, Physics Engineering Graduation /IST, Technical University of Lisbon, 10-14 Feb. 2003.
- A. PAULO, L. GANO, F. MARQUES, *Training on Radiopharmacy* at ITN, Graduation Course on Nuclear Medicine, ESTeSl, 18th February- 14th March (2003).
- A. PAULO, Radioisotopes: Basic Concepts, 2003 Post-Graduate Teaching Program, ITQB, UNL, April 2003.

- I. SANTOS, Biomedical Applications of Radionuclides, 2003 Post-Graduate Teaching Program, ITQB, UNL, April 2003.
- L.GANO, Invited professor on ^{99m}Tc-Radiopharmaceuticals, *Faculty of Pharmacy, University of Lisbon*, Discipline: Radiopharmacy (2nd Semester- 4 hours).
- L.GANO, Invited professor on "Measure of the Mass of Blood and Quality Control of ^{99m}Tc-Radiopharmaceuticals in post-graduation European Radiopharmacy Course *CEA INSTN*, Saclay, France (2nd, 3rd December 2003).
- ANTÓNIO PIRES DE MATOS, Invited Professor at the "Universidade Nova de Lisboa, Dep. de Conservação e Restauro", Discipline: Analytical Methods II, (2nd Semester)
- JOÃO PAULO LEAL, Invited Professor of the Chemistry and Biochemistry Department of Faculdade de Ciências da Universidade de Lisboa. Educational software in Chemistry, (x semester).
- JOÃO PAULO LEAL, Responsible for the "New Resources for Education in Chemistry" chair on the Master Graduation "Teaching Chemistry", Faculdade de Ciências da Universidade de Lisboa.
- JOAQUIM MARÇALO, "Universidade de Évora, Departamento de Química" MSc in Analytical Chemistry, Lectures on Nuclear Methods and Radiochemistry.
- JOAQUIM MARÇALO, "Universidade de Évora, Departamento de Química", Discipline: Biochemistry Analysis II, lectures on Nuclear Chemistry and Radiochemical Methods.
- JOAQUIM MARÇALO, "Universidade Nova de Lisboa, Departamento de Conservação e Restauro" Discipline: Analytical Methods II, lectures on Radiochemistry and Mass Spectrometry.
- M. ALMEIDA, "Crystal engineering of molecular electronic solids; from low dimensional conductors to spin ladders", 7th European Intensive Course: "Advanced Physics and Chemistry of Materials", Dept. Física da Faculdade de Ciências da Universidade de Lisboa, ITN, July, 2003.
- M. ALMEIDA, "Charge transfer salts with transition metal bis-dithiolene complexes; From low dimensional conductors to spin ladders", NATO, ASI-"Organic Conductors, Superconductors and Magnets: From Synthesis to Molecular Electronics". Corfu, Greece, April – May 2003.
- M. ALMEIDA, Visiting Professor at the Department of Chemistry of the University of Angers, France, 15 - 30 May 2003 where he

taught two seminars on materials science of molecular materials.

- A.P. GONÇALVES, “Synthesis and characterization of intermetallic compounds with *f* elements”, 7th European Intensive Course: “Advanced Physics and Chemistry of Materials”, Dept. Física da Faculdade de Ciências da Universidade de Lisboa, ITN, July, 2003.
- L. C. J. PEREIRA, “Técnicas de Criogenia e Vácuo” Course for ITN laboratory technicians, ITN, October 2003.
- D. ROJAS, J. C. WAERENBORGH “Practice in ⁵⁷Fe Mössbauer Spectroscopy Laboratory” MSc in Physical Engineering, Applied Nuclear Physics, *Faculdade de Ciências da Universidade de Lisboa*, ITN, June 2003.
- D. ROJAS, S. SÉRIO, J.C. WAERENBORGH “⁵⁷Fe Mössbauer Spectroscopy Laboratory” 7th European Intensive Course: “Advanced Physics and Chemistry of Materials”, Dept. Física da Faculdade de Ciências da Universidade de Lisboa, ITN, July 2003.
- D. ROJAS, J. C. WAERENBORGH “⁵⁷Fe Mössbauer Spectroscopy Laboratory” Nuclear Techniques for graduation study in Physical Engineering, *Faculdade de Ciências da Universidade de Lisboa*, Dept. Physics, ITN, December 2003.
- J. C. WAERENBORGH, Invited Professor, Crystallography and Crystalchemistry course for graduation study in Geology, *Faculdade de Ciências da Universidade de Lisboa*, Dept. Geology, September-December 2003.
- M. ALMEIDA, PhD jury of Eugenia Martinez Ferrero, Dept. of Inorganic Chemistry, Univ. Valencia, Spain, June 2003.
- **Participation in juries**
- L.GANO, Arguing member of a Msc Thesis in Biomedical Engineer, “^{99m}Tc(V)-Ácido Dimercaptosuccinico – Estudos In Vitro e In Vivo”, by Jorge Veiga, *Faculty of Medicine, University of Coimbra*

I. SANTOS, Arguing Member of a PhD Thesis in Chemistry, *Química de Coordenação de Alcinóis e Dinitrilos em Centros de Ferro(II)*, by Ana Isabel Venâncio, IST, Lisboa December 2003.

Course organisation

Co-organisation of the 10th workshop on Magnetism and Intermetallics, Centro de Física da Matéria Condensada, Univ. Lisboa, December 2003.

Lectures given by ITN staff

- A. PAULO, RMN Multinuclear de Complexos de Rénio, Workshop on NMR, Chemistry Department, FCUL, University of Lisbon, , 15th March 2003.
- F. MARQUES, Elementos de Radiobiologia, Lecture Physics Engineering Graduation/IST, Technical University of Lisbon, 13 Nov. 2003.
- R. MARQUES, “Radiocarbon Dating. The ITN laboratory”, *Fac. Ciências, Dep. Física* 26th September, 2003.
- N. MARQUES, Organo-f-Element Chemistry with Multidentate Nitrogen Ligands, Grenoble, January 7, 2003, invited lecture.
- A. PIRES DE MATOS, “FTICR research in Sacavém: From ion molecule reactions to ruby glass”, Université de Metz, November 7, 2003, invited lecture.
- A. PIRES DE MATOS, “A utilização da espectroscopia de absorção electrónica na caracterização de objectos de vidro” Lecture in a post-graduate course on chemistry applied to cultural heritage“, “*Faculdade de Ciências, Universidade de Lisboa*”, May 16, 2003.
- D. ROJAS, “Transport and Magnetic properties of Y1-xUxGe2 Series of Compounds” Dept. Earth Sciences and Condensed Matter Physics, Faculty of Sciences, University of Cantabria, Santander, Spain, October 2003.

Physics

Conference organisation

- NANODERM *meeting*, organized by HESUIB, 24-26 May 2003, ITN, Sacavém, Portugal.

Co-Ordinator: T. Pinheiro.

Graduation and post-graduation teaching

- E. ALVES, Invited "Professor Coordenador" at *School of Health Technologies of Lisbon*, Disciplines: Applied Physics (1st Semester) and Atomic and Nuclear Physics (2nd Semester).
- R. C. da SILVA, Invited Assistant Professor ("Professor Auxiliar") at Physics Department of FCT-UNL ("Faculdade de Ciências e Tecnologia da Universidade Nova de Lisboa"). Course: Introductory Nuclear Physics.
- J. SALGADO, *Radiation Physics, Dosimetry and Radiation Protection*, in the MSc Course in Physics Engineering – Applied Nuclear Physics, Faculty of Sciences, Universidade de Lisboa (1 Semester)
- J. SALGADO, Discipline: *Seminar* in the MSc Course in Physics Teaching, Faculty of Sciences, Universidade de Lisboa (1 Semester).
- A.D. SEQUEIRA, Discipline: *Structural Characterisation of Materials* of the Master Course in Surfaces from the Tree Lisbon Universities: Universidade de Lisboa, Instituto Superior Técnico and Universidade Nova, Course: Characterisation of Materials by X-ray diffraction (1st semester).
- A.D. SEQUEIRA, Discipline: *Física Experimental Avançada-II* Universidade de Lisboa, Master Course in Nuclear Applied Physics, Course: Characterisation of Materials by X-ray diffraction.
- A.D. SEQUEIRA, Discipline: *Seminar* in the 5th year of the Course in Materials Engineering of the Instituto Superior Técnico, Course: Study of nano-structured semiconductors by High resolution X-ray diffraction in two sessions (2nd semester).

Lectures given by ITN staff

- A.D. SEQUEIRA. Absolute Scale Reciprocal Space Mapping on X-ray Diffractometers Incorporating a Position Sensitive Detector: Application to III-Nitride Semiconductors. Materials 2003, Costa da Caparica, 14 April 2003.
- A.D. SEQUEIRA. Structural Characterization and Luminescence of Ge/Si Quantum Dots. Materials 2003, Costa da Caparica, 14 April 2003.
- C. NUNES, V. TEIXEIRA, M. L. PRATES, N.P. BARRADAS, A. D. SEQUEIRA, Nanostructured

Cr-Cr₂CO₃ and Ti-Ti₂O₃ thin coatings prepared by magnetron sputtering, in Materials 2003 Accepted in Mat. Sci. Forum.

- E. RITA, Lattice Site Location of Impurities in ZnO with the Emission Channelling Technique, ISOLDE seminars, 21.08.2003, oral.
- A.C. MARQUES, Development of Cooled Detectors for Detection of Low Energy Electrons in Emission Channelling Experiments, at the ISOLDE seminars, 12.09.2003, oral and at the Jornadas da Faculdade de Ciencia da Universidade de Lisboa, 21.09.2003, oral and poster.
- M. VILARIGUES and R.C. da SILVA, E-MRS *Spring Meeting* 2003, "The European Materials Conference", Strasbourg (França), 10-13 Jun. 2003: "Ion beam and infrared analysis of medieval stained glass", oral O-VII.4.
- R.C. da SILVA, 7th European Intensive Course "Advanced Physics and Chemistry of Materials", Lisboa (Portugal), 29 Jun.-11 Jul. 2003. Aula apresentada "Ion Beam Techniques in Materials Studies".
- I. F. GONÇALVES, "Aplicações tecnológicas envolvendo neutrões", Seminar, Licenciatura em Engenharia Física, Departamento de Física, Instituto Superior Técnico, 18th December.
- N. R. PINHÃO, "Comparison of Boltzmann equation and Monte Carlo methods for the description of a pulsed Townsend discharge", Seminar, Inst. of Fluid-Flow Machinery, Gdansk, Poland, 9th July. 2003.
- N. R. PINHÃO, "Os plasmas frios: Caracterização, problemas actuais e aplicações, MSc in Engenharia Física, especialização em Física Nuclear Aplicada, Faculdade de Ciências da Universidade de Lisboa, 21 de Fevereiro de 2003.
- M.L. BOTELHO, S. CABO VERDE, Lecture to students in Food and Agriculture Engineering course: "Tecnologias de irradiação na área agro-alimentar, tratamento de efluentes, segurança alimentar", ESAS, May 2003.
- M.L. BOTELHO, lecture in "Esterilização por radiação" Applied Microbiology Course - Faculty of Sciences, Lisbon, Nov. 2003.
- S. CABO VERDE participation in laboratory experiments (4 hours), Inactivation of microorganisms by gamma radiation" Lisbon, Nov. 2003.
- M.L. BOTELHO Lecture in Master Science Course of the "Management and Conservation of Nature Masters" Theme "Wastewater treatment by ionising radiation and Radiation Technologies", University of Azores, 4-5 October 2003.

- S. CABO VERDE, P. MATOS, Lecture on
“Biocontaminação do Ar”, Escola Secundária de
Bocage, Setubal, 16 Dec. 2003

Radiological Protection and Nuclear Safety

Conference organisation

- *Second Portuguese Journeys about Radon and Natural Radioactivity*, organized by ITN, 23rd and 24th January 2003, Curia, Portugal

Chairmen: F.P. carvalho, m.c. Faísca, p.m. duarte, 60 participants.

Courses Organised

Course on Radiation Protection and Safety, (INEM) – Sacavém, 26 September 2003, organized by DPRSN (Course Organization - M. B. Martins):

- M.B. MARTINS. Biological Effects of Ionising Radiations.
- J. G. ALVES. Ionizing Radiations – Nature, Detection Measurement and Dosimetry.
- L. PORTUGAL. Aspects of Operational Radiation Protection.
- F. CARVALHO. Radiological Emergency – Intervention.
- L. PORTUGAL. Utilization of Radiological Protection Equipment.

Intensive Course on Laboratorial Safety: Biological, Chemical and Radiological, (UNIVERSIDADE DO MINHO) – Braga 29-31 October 2003, organized by Universidade do Minho (DPRSN Course Organization - M. B. Martins):

- M.B. MARTINS. Biological Effects of Ionising Radiations.
- A. OLIVEIRA. Physics and Dosimetry of Ionizing Radiations.
- R. TRINDADE. Manipulation of Radioisotopes at Laboratory.
- R. TRINDADE. Operational Radiation Safety. Radioactive Waste Managements.

Course on Radiation Protection and Safety, (ITN Grant) – 3 November 2003-9 December 2004, (DPRSN Course Organization - M. B. Martins):

- M.B. MARTINS. Biological Effects of Ionising Radiations.
- A. OLIVEIRA. Matter and Radiation.
- A. OLIVEIRA. Radiation Protection Quantities and Units.
- A. OLIVEIRA. Detection and Measurements of Ionising Radiations.

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

Course on Radiation Protection and Safety, (REFRIGE) – 4 December 2003, organized by DPRSN (Course Organization - M. B. Martins):

- M.B. MARTINS. Biological Effects of Ionising Radiations.
- A. OLIVEIRA. Matter and Radiation.
- A. OLIVEIRA. Radiation Dosimetry
- A. OLIVEIRA. Detection and Measurements of Ionising Radiations.
- R. TRINDADE. Principles of Radiological Protection.
- R. TRINDADE. Operational Radiation Safety.
- R. TRINDADE. Emergencies and Intervention in Case of Accident.

Course on Radiation Protection - Technicians of Radiodiagnostic and Nuclear Medicine, Sacavém, (10-12 December 2003, organized by DPRSN (Course Organization - M. B. Martins):

- M.B. MARTINS. Biological Effects of Ionising Radiations.
- A. OLIVEIRA. Matter and Radiation.
- J. CARDOSO. Radiation Protection Quantities and Units.
- A. OLIVEIRA. Detection and Measurements of Ionising Radiations.
- J. G. ALVES. External Individual Monitoring.
- A. OLIVEIRA. Radiological Facilities and Radiological Safety.
- F. CARVALHO. Manipulation of Radioisotopes at Laboratories. Radiological Risk Assessment.
- R. TRINDADE. Transport of Radioactive Sources.
- J. SEBASTIÃO. Emergencies and Intervention in Case of Accident.
- R. TRINDADE. Legislation of Radiological Protection.
- M.B. MARTINS. Final Test.

Graduation and post-graduation teaching

- 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 2003.
- M.J. MADRUGA, Teaching of “A Importância da Radioquímica” in the Chemistry Graduation Course, Faculdade de Ciências da Universidade de Lisboa, Departamento de Química e Bioquímica, November 2003.
- M. REIS, Teaching of “Aerossóis Radioactivos na Atmosfera-sua Importância e Aplicação no Estudo de Processos Atmosféricos” in the MSc Course in Climate and Atmospheric Environment, Universidade de Évora, March 2003.
- C. OLIVEIRA, Invited Coordinator Professor at High School of Health Technologies of Lisbon, Classes: Applied Physics and Biophysics (1st semester); Ultra-sounds (2nd semester).
- M. A. NEVES, Teaching of “Radiações em Medicina e Biologia”, in the Chemistry Graduation Course, Faculdade de Ciências da Universidade de Lisboa, Departamento de Química e Bioquímica, November 2003.
- M. A. NEVES, Teaching of “Radiações em Medicina e Biologia”, in the Physical Engineering Graduation Course, Instituto Superior Técnico, Universidade Técnica de Lisboa, Departamento de Química e Bioquímica, December 2003.
- F. P. CARVALHO, Requalificação Ambiental dos Antigos Sítios Mineiros e o Projecto MinUrar, , Casa do Pessoal da ENU, Urgeiriça-Canas de Senhorim, 31 de Março 2003.
- F. P. CARVALHO, A Radioactividade e os Seres Vivos, Pavilhão do Conhecimento, Lisboa, 4 de Setembro 2003.
- F. P. CARVALHO, As Antigas Minas de Uranio e o Projecto MinUrar, Auditório da Casa da Cultura de Seia, Seia, 9 de Setembro 2003.
- M. C. FAÍSCA, “O Radão”, Second Portuguese Journeys about Radon and Natural Radioactivity, Grande Hotel da Curia, 23rd and 24th January 2003.
- M. C. FAÍSCA, “Técnicas de Redução dos Níveis de Radão”, Second Portuguese Journeys about Radon and Natural Radioactivity, Grande Hotel da Curia, 23rd and 24th January 2003.
- P. M. DUARTE, “Cartografia do Radão em Portugal”, Second Portuguese Journeys about Radon and Natural Radioactivity, Grande Hotel da Curia, 23rd and 24th January 2003.
- J.H.PEREIRA LUIS. Biological effects of radiation. *Faculty of Veterinary Medicine*, Lisbon, 4 December 2003.
- J.H. PEREIRA LUIS. Biological dosimetry of Radiation. *Faculty of Veterinary Medicine*, Lisbon, 4 December 2003.
- I. PAIVA “Radioactive waste management”, Seminar for Instituto Gulbenkian de Ciência Researchers, IGC, Oeiras 8th Oct. 2003
- R. TRINDADE “Radiological Protection” Seminar for Instituto Gulbenkian de Ciência Reseachers, IGC, Oeiras 8th Oct. 2003.

Lectures given by ITN staff

- F. P. CARVALHO, “Radão no Ambiente”, Second Portuguese Journeys about Radon and Natural Radioactivity, Grande Hotel da Curia, 23rd and 24th January 2003.