

itqb

Annual Report 2009

Instituto de Tecnologia Química e Biológica
Universidade Nova de Lisboa

Index

Introduction	3
Statistics	5
Highlights	11
Organization of the Institute	19
Research Output	49
Scientific Events	69
Educational Output	73

Cover:

Expression pattern analysis of the 4107 genes of the bacterium *Bacillus subtilis* in the initial stages of spore differentiation.



The *Instituto de Tecnologia Química e Biológica* (ITQB) is a research and advanced training institute of the Universidade Nova de Lisboa. Its mission is to develop high-quality research in chemistry and the life sciences, considering all levels of complexity and their potential applications, so as to contribute to the understanding of life's mechanisms. Its highly multidisciplinary nature makes ITQB a leading centre for advanced training of researchers in Portugal. Currently, ITQB hosts 64 independent laboratories grouped in five research divisions and consisting of a scientific staff of more than 350 researchers with different scientific interests and backgrounds. Researchers at ITQB benefit from outstanding facilities, equipment, and support services, some of which are unique in the country. Since 2001, the important contribution of ITQB in research and development has been highly enriched by the partnership with the *Instituto Gulbenkian de Ciência* and the *Instituto de Biologia Experimental e Tecnológica*. This scientific cluster was one of the first to be awarded the title of *Laboratório Associado* by the Portuguese Government in recognition of its scientific excellence as determined by international evaluation panels. ITQB's commitment to high quality scientific research includes a programme for raising public awareness of science.

Further information on ITQB's activities at www.itqb.unl.pt

Statistics

Statistics

Research Groups

ITQB hosts 64 research groups distributed by five research divisions. Each research group is headed by a PhD holder and may include other PhDs, Post-docs, PhD students, and graduates (BI). Excluding trainees, the average group size is 4,1 researchers.

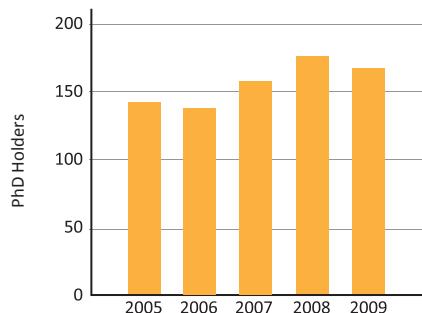
Labs (and PhD holders) per division

Chemistry	09 (17)
Biological Chemistry	18 (35)
Biology	12 (40)
Plant Sciences	09 (32)
Technology	16 (39)

Group leaders by gender: 30 male/34 female

Group leaders by nationality: 54 portuguese/10 other

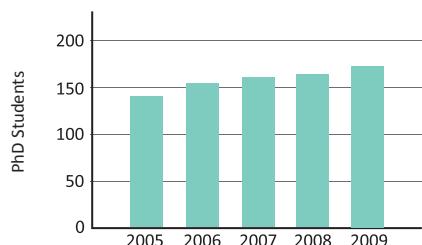
PhD holders in the last five years



PhD students in 2009 173

Only PhD students working at ITQB are accounted for here (students working in other institutions can obtain their degree at ITQB but are accounted for in the Advanced Education Section). All these PhD students are integrated in research groups.

PhD students in the last five years



Researchers

ITQB operates as an open institute with the participation of researchers from other institutions; permanent research and teaching positions are limited. A number of researchers have been hired for 5-year periods under the *Laboratório Associado* contract or under the *Ciência 2007* and *Ciência 2008* initiatives. The majority of the PhD holders is supported through post-doctoral scholarships.

PhD holders in 2009 166

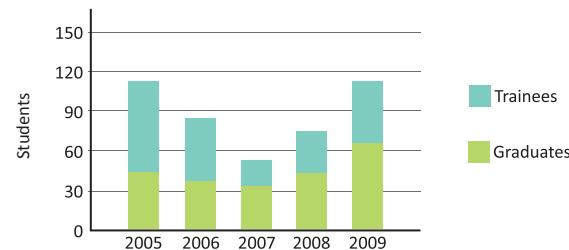
Permanent Staff	26
Other institutions	29
<i>Laboratório Associado</i>	20
<i>Ciência 2007</i>	19
<i>Ciência 2008</i>	07
MIT-Portugal	01
Post Doctoral Fellows	64

Graduates and undergraduates

Other graduates participate in research projects as grantees (*bolsas de investigação - BI*). Undergraduate students also have the opportunity to start their training in scientific research at ITQB. Some of these students receive scholarships (*bolsas de iniciação à investigação - BII*) from FCT.

Other graduates (BI)	62
Undergraduates trainees	47 (15 with BII)

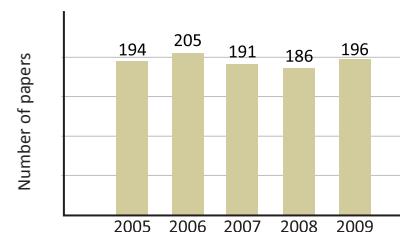
Graduates and undergraduates in the last five years



Research Articles

Publications in peer-review journals in 2009 196
 (see full list in the Research Output Section)

Publications in peer-review journals in the last five years



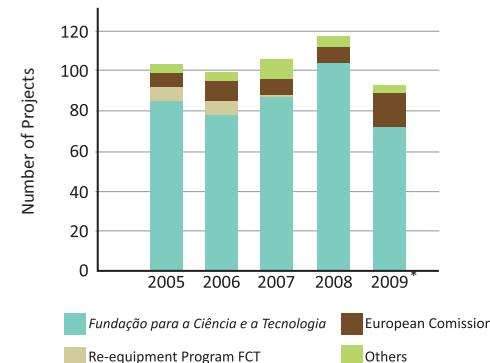
Research Projects

Research at ITQB is mainly supported by contracted projects with R&D funding agencies. The full list of projects currently running at ITQB is given in the Research Output Section.

Running projects (as of 31 Dec 2009) 92*

- 71 projects *Fundação para a Ciência e a Tecnologia*
- 14 projects European Commission
- 3 projects European Commission (individual grants)
- 1 project *Fundação Calouste Gulbenkian*
- 1 project NIH (through Rockefeller University)
- 1 project European Economic Area and Norway Grants
- 1 project as Subcontracting Party (Georgia Institute of Technology)

Running projects in the last five years

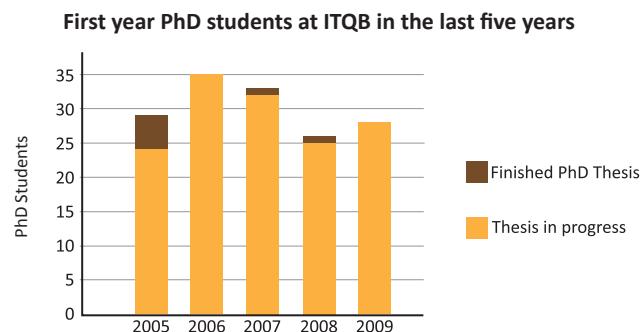


* In 2009, ITQB researchers were awarded 51 new research projects (41% success rate) by *Fundação para a Ciência e a Tecnologia*. Officially, these projects started in 2010 and are therefore not accounted here.

Advanced Education

Total number of registered PhD students **276**
including 103 PhD students from IGC (as of 31 December 2009)

First year PhD students at ITQB in 2009 **28**



PhD Programme

The first edition of the new ITQB PhD Program, re-structured in accordance with the rules of the Bologna Process, took place in 2009. Twenty-four PhD students were enrolled in the PhD program.

Masters Degree Programme

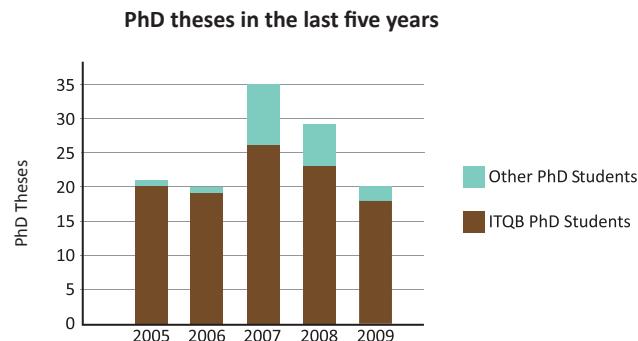
ITQB is involved in the Masters Degree in Medical Microbiology, a collaborative Masters Course from the *Universidade Nova de Lisboa* in conjunction with the *Instituto de Higiene e Medicina Tropical*, the *Faculdade de Ciências Médicas* and the *Faculdade de Ciências e Tecnologia*. In 2009, four master students defended their dissertation theses at ITQB.

PhD Degrees

ITQB awards PhD degrees in Chemistry, Biology, Biochemistry and Chemical Engineering. Since 1995, ITQB has awarded 189 PhD degrees.

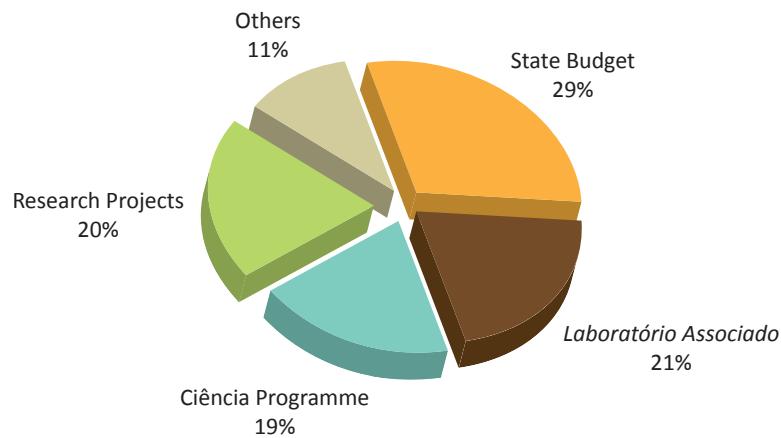
PhD theses awarded in 2009 **20**

(10 in Biology; 6 in Biochemistry, 3 in Technological and Engineering Sciences; 1 in Chemistry). This number includes 2 PhD students from other institutions.



Budget

The overall budget of ITQB for 2009 was circa 12.7 M€ distributed as follows:

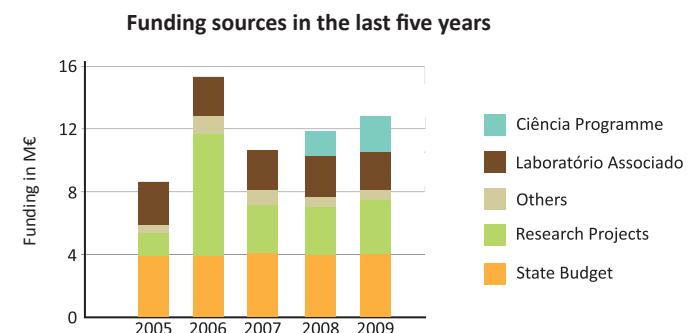


ITQB has two main funding sources, the state budget, attributed by the Ministry of Science, Technology and Higher Education, and the national science funding agency (Fundação para a Ciéncia e a Tecnologia).

FCT accounts for three sources of financial support, obtained through competitive funding processes; via the *Laboratório Associado* contract (LA), through research positions under the *Ciéncia 2007* initiative, and through project funding.

Additional sources for research projects include the European Commission. In the chart, "others" refers to bench fees, isolated subsidies, revenues from Masters Degrees, the sale of analytical services, and the rental of rooms and facilities.

Individual scholarships (bolsas) for PhD and post-doc students are not included in this statistics.



Highlights



Highlights

The 196 papers published in ISI journals during 2009 span different areas of chemistry and biology; these papers reflect the high-quality research work at ITQB and contribute to the over 1,600 papers published in the last 10 years with a corresponding number of citations of 23,197 (h-index for this period is 57).

Adding to the 92 running research projects, the researchers' success in securing funds for their research was visible in the 41% approval rate in the 2008 FCT call; an ITQB project on biofuel cells was one of the four selected by the MIT-Portugal Program in the bioengineering focus area; a project involving ITQB/IBET researchers for preserving Portuguese flora was among the three projects selected for funding through the Biodiversity Fund from EDP.

ITQB researchers received many distinctions for their work presented at international scientific meetings. On a more individual note, Claudina Rodrigues Pousada was honoured at the FEBS Congress and was recognized with the Almofariz Award by the pharmaceutical sector; Helena Santos and Cecília Arraiano became Members of the Portuguese Academy of Sciences

Some of the research highlights in 2009 are listed below.

For details go to <http://www.itqb.unl.pt/about-us/highlights-2009>

A Swiss army knife for RNA degradation

Specialized regions within the exosome uncovered by researchers

Schaeffer D. et al. (2009) *Nature Structural & Molecular Biology* 16(1): 56-62

Looking critically at the landscape

Energy landscape on the cover of *Journal of Physical Chemistry B*

Campos R.R. and Baptista A.M. (2009) *J. Phys. Chem. B*, 113 (49): 15989–16001

Cryopreserving cells

Novel strategy made cover of *Tissue Engineering*

Malpique R. et al. (2009) *Tissue Engineering Part C: Methods*, 15(3): 373-386

Predicting chemical reactions

A new method devised for hydrocarbons

Santos R.C. et al. *The Journal of Chemical Thermodynamics*, 2009 41 (12):1356-1373**Cleaning-up dyes in the environment**

Enzyme biotechnology as an alternative process

Pereira L. et al. (2009) *Journal of Biotechnology*, 139(1): 68-77Pereira L. et al. (2009) *Advanced Synthesis & Catalysis*, 351 (11-12): 1857 - 1865**Making virtual seem more real**

New method for molecular dynamics simulation developed

Machuqueiro M. and Baptista A.M. (2009) *J. Am. Chem. Soc.*, 131 (35): 12586-12594**Maize seeds make researchers start from scratch**

When mass spectrometry seems to fail

Sergeant K. et al. (2009) *J. Proteome Res.*, 8 (6), pp 3182-3190**Aromatic moments determine solubility in ionic liquids**

Researchers propose new rule for predicting liquid-liquid solubility

Shimizu K. et al. (2009) *J. Phys. Chem. B*, 113 (29), pp 9894-9900**Generating new catalysts**

A new method to functionalize N-heterocyclic carbenes

Costa, A.P. (2009) *Dalton Trans.*, 2009, 6960 - 6966**A snapshot of sulfur bioenergetics**

X-ray structure and biochemistry of a sulfide:quinone oxidoreductase

Brito J.A. et al. (2009) *Biochemistry*, 48 (24), pp 5613-5622**Haem biosynthesis in anaerobic organisms**

ITQB researchers discover alternative pathway

Lobo S. et al. (2009) *Biochemical Journal* 420(2): 317-325**Understanding the role of vitamin B2 in lipid metabolism diseases**

ITQB researchers look into mitochondrial protein folding

Henriques B.J. et al. (2009) *The Journal of Biological Chemistry*, 284: 4222-4229.**Stepping forward in gene therapy**

New strategies in downstream processing of viral vectors

Vicente T. et al. (2009) *Gene Therapy*, 16, 766-775**Taking ionic liquids to the next level at ITQB**

When the fungal opinion on green chemistry matters

Petkovic M. et al. (2009) *Green Chem.*, 11: 889 - 894**What nanotechnology could do for DNA**

New nanotool developed at ITQB

Astier Y. et al. (2009) *Small*, 5(11): 1273-1278**Strategies in animal cell culture**

Towards better methods in drug screening

Miranda J.P. et al. (2009) *Tissue Engineering Part C: Methods* , 15(2): 157-167Malpique, R. et al. (2009) *Tissue Engineering Part C: Methods*, 15(3): 373-386**The importance of a bond**

A method to estimate the strength of a carbon-carbon double bond

Nunes P.M. et al. (2009) *J. Phys. Chem. A*, 113 (23): 6524-6530**The Making of a "Super"-Enzyme**

One single aminoacid change in RNase II drastically improves its catalysis

Barbas A. et al. (2009) *Journal of Biological Chemistry* 284(31): 20486-20498**Facts and fiction of genetically engineered food**Review paper in *Trends in Biotechnology*Baptista R. and Oliveira M.M. (2009) *Trends in Biotechnology*, 27(5): 277-286**Killer or defender of *S. aureus*: antagonistic behaviour of a single enzyme**

Bifunctional enzyme with nitroreductase and GSNO reductase activity

Tavares A.F.N. et al. (2009) *Journal of Bacteriology* 191 (10): 3403-3406**Journal of Bacteriology features enzyme structure**

New decameric arrangement described by ITQB researchers

Marçal D. et al. (2009) *Journal of Bacteriology* 191 (4): 1143-1151

Prizes and Awards

Individual distinctions

Cecília Arraiano

Elected corresponding member of the *Academia de Ciências de Lisboa*. Class Sciences, Section Biological Sciences.

Prize Seeds of Science in Life Sciences. *Ciência Hoje*, Portugal.

Elected by the FEBS (Federation of European Biochemical Societies) Council as a member of the FEBS Advanced Course Committee (2009-2012).

Helena Santos

Elected corresponding member of the *Academia de Ciências de Lisboa*.

Claudina Rodrigues-Pousada

Awarded with the "Diplôme d'honneur" given by the Federation of the European of Biochemical Societies

Awarded with the "Prémio Almofariz, Figura do Ano" given by the *Revista Farmácia-Distribuição*.

Luís Jaime Mota

European Society of Clinical Microbiology and Infectious Diseases Research Grant "Development of *Salmonella* as a surrogate system to study the function of virulence proteins of *Chlamydia trachomatis*" (3 years).

Research distinctions

Fundo EDP Biodiversidade 2009 "Conservação e Valorização da Flora Endémica Ameaçada em Portugal" - one of the 3 winning projects. Disease and Stress Biology Lab/ Forest Biotech Lab (in collaboration with Faculdade de Farmácia - Universidade Coimbra and Jardim Botânico da Universidade de Lisboa)

In scientific meetings

Best Poster Award (2nd prize): Improved Cryopreservation Protocols for Brain Cells. Malpique R, Osório L, Ferreira D, Ehrhart F, Zimmermann H, Alves PM. 21th European Society for Animal Cell Technology (ESACT) Meeting, Dublin, Irlanda.

Best Poster Award (3rd prize): Lipid Metabolism as a Basis for Improved Manufacturing of Complex Bioproducts the Casa of Retroviral Vectors. Rodrigues AF, Carmo M, Amaral AI, Alves PM, Coroadinha AS. 21th European Society for Animal Cell Technology (ESACT) Meeting, Dublin, Irlanda.

Best Presentation: Towards the construction of a food-grade *Lactococcus lactis* strain for *in situ* production of mannitol in dairy products. Paixão AL, Gaspar P, Pacheco I, Neves AR and Santos H Symposium 7 – Industrial and Food Microbiology and Biotechnology. MicroBiotec'09 28-30 Nov 2009. Vilamoura, Portugal.

Prix Jeunes Chercheurs (best oral presentation): Ric proteins - A novel system for repair of nitrosatively and oxidatively damaged Fe-S clusters. Justino M, Baptista J, Saraiva L. Congrès 2009 du Club NO, October. Paris, France.

Editorial Boards in 2009

ITQB Researchers as Members of Editorial Boards

Carlos Romão

Member of the Editorial Board of European Journal of Inorganic Chemistry.

Catarina Duarte

Editor of Current Trends of the Supercritical Fluid Technology in the Pharmaceutical, Nutraceutical and Food Processing Industries, Ana Rita C.Duarte and Catarina M.M.Duarte (Eds), (2009) Bentham Science Publishers, eISBN: 978-1-60805-046-8.

Cecília Araiano

Editor of FEMS Microbiological Reviews
Editor of WIRES-RNA (Wiley and Blackwell Reviews on RNA).

Claudina Rodrigues-Pousada

Member of the Editorial Board of the journal Yeast and Comptes Rendus de l'Académie des Sciences, Académie des Sciences (Institut de France - Paris).

Cláudio Soares

Associate Editor of Journal of Biomedicine and Biotechnology.

Dirk-Jan Scheffers

Member of the Editorial Advisory Board of Molecular Microbiology.

Eurico de Melo

Member of the Editorial Advisory Board Biophysical Chemistry.

Helena Santos

Member of the Editorial Board of the journal "Extremophiles" (2001-p).
Managing Editor and Reviews Editor of "Extremophiles" (2008-p).

Hermínia de Lencastre

Member of the Editorial Board of Microbial Drug Resistance.

Luís Paulo N. Rebelo

Member of the Editorial Advisory Board (2009 - 2011) of the J. Chem Eng. Data (American Chemical Society).

Editorial Advisor of the Int. J. Mol. Sci. (2006 – p).

Guest Editor of the Int. J. Mol. Sci. (2009 – 2010) for the "Advances in Green Chemistry and Sustainable Chemistry" issue.

Guest Co-Editor of the J. Chem Eng. Data (2009) for the "Iberian Ionic Liquids Meeting" issue (American Chemical Society).

Manuel Carrondo

Associate Editor of the Journal of Biotechnology.
Member of the Editorial Board of Biotechnology and Bioengineering.
Member of the Editorial Board of Biotechnology Letters.
Member of the Editorial Board of Current Gene Therapy.

Manuela Chaves

Associate Editor of Functional Plant Biology (2008-p).
Member of the Edit. Adv. Board of Journal of Experimental Botany (1998-p).
Member of the Edit. Board Journal of Plant Physiology (2007-2009).

Margarida Oliveira

Associate Editor of the Springer Journal Plant Cell Tissue and Organ Culture.

Maria Arménia Carrondo

Editor of Journal of Biological Inorganic Chemistry.

Paula Alves

Member of the Editorial Board of BMC Biotechnology (2009-p).
Editorial Board of the Journal of Biotechnology (2009-p).

Ricardo Ferreira

Member of the Editorial Board of Journal of Berry Research (2009-p).

What is true for *E. coli* is true for an elephant
Jacques Monod (190 - 1976)



Science and Society

Main activities in 2009

ITQB has a Science Communication Office designed to bring researchers and their research closer to the public. While placing emphasis on young students, the outreach activities aim to promote the appreciation and understanding of science across all sectors of society. See below for some of the activities in 2009. More information can be found at www.itqb.unl.pt/science-and-society.

Throughout the school year, almost 500 students (11th and 12th grade) from 17 schools visited ITQB laboratories; visits were also organized for university students either within a class, in small groups, or individually.

Short summer training periods for high school students were held at ITQB under the Ciência Viva initiative: eight students (including two coming from Spain) were included in the lab's teams to experience the everyday life of a researcher.

The most illustrative outreach activity is the Annual Open Day, a day for families to visit the institute, meet the researchers, and contact with the scientific activities. Over 1,000 visitors came to ITQB in 2009 for a journey into evolution: celebrating Darwin's year, researchers showed how the concepts of evolution and natural selection have wide implication in biology and are present in current research projects. Visitors could participate in experiments, talk to researchers, learn about the role of computers in the life sciences, and visit laboratories, the X-ray facility, or the NMR centre.

In May, the winners of the drawing/writing competition "if I was a microbe" (held in 2008) were invited to spend one Saturday at the Microbiology Laboratory at ITQB. With the support of the local city council, all children took home a new microscope to continue their exploration into the microworld.

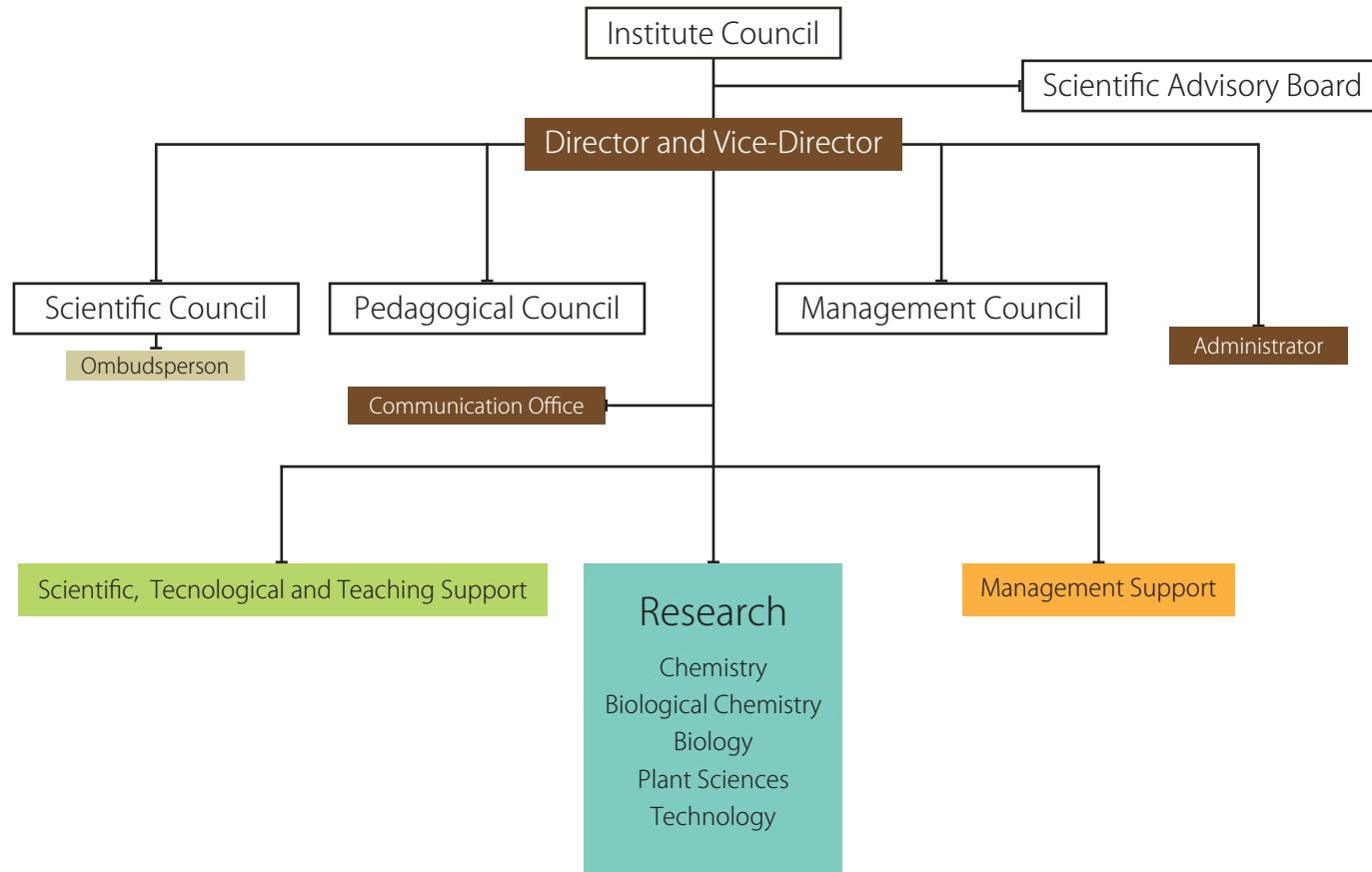
In September, the *Laboratório Associado de Oeiras* was involved in the Researcher's Night. This national wide project, promoted by the European Commission, was coordinated by IGC and involved 10 partner institutions to promote activities in four different cities. ITQB coordinated the science outreach activities in Lisbon. In parallel with science displays and experiments, theatre performances by the researcher's themselves were used as a vehicle to communicate both science and scientist's dilemmas.

During the National Week for Science & Technology, held in November, students were invited to talk to ITQB researchers about research as a career in a series of one to one interviews with ITQB researchers. Both students and researchers found this activity very positive and useful, making this one of the most successful S&T weeks at ITQB.

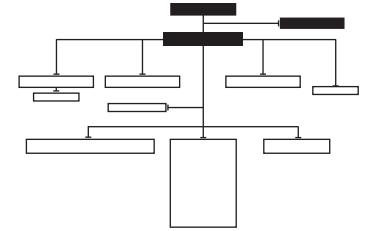
ITQB continues to explore art as a vehicle to stimulate interest in science. Patrícia Noronha, resident artist since 2007, obtained a post-doc fellowship for artistic studies to develop a new project, where fungi and yeast are used as biopigments in watercolour paintings. In May, Patrícia Noronha also conducted a practical Art & Science workshop for 12th grade students (from both arts and science subdivisions). ITQB participated again in the Ciência Viva's initiative for artistic residences in the laboratories and received several applications; Nadia Duval with the project Skin is now developing her project in the Laboratory of Colloids, Polymers and Surfaces.

ITQB seeks to keep the public informed and up-to-date on the institute's main achievements, both through the institute's webpage and by issuing press releases on major scientific breakthroughs or other relevant activities.

Organization of the Institute



Organization of the Institute



Institute Council

Scientific Advisory Board

Francisco Luís Murteira Nabo, Galp Energia - President
Júlio Domingos Pedrosa da Luz de Jesus, Univ. de Aveiro
Peter Villax, Hovione
Carlos José Rodrigues Crispim Romão, ITQB
Maria Helena Dias dos Santos, ITQB
Adriano José Alves de Oliveira Henriques, ITQB
Cláudio Manuel Simões Loureiro Nunes Soares, ITQB
Júlia Carvalho Costa, ITQB
Maria Margarida Moutinho Girão de Oliveira, ITQB
Sérgio Joaquim Raposo Filipe, ITQB
João Miguel Marques Martins Damas (student) ITQB
Fátima Madeira (Secretariat)

Charles L. Cooney
Massachusetts Institute of Technology, USA

Peter J. Sadler
University of Warwick, UK

Staffan J. Normark
Karolinska Institutet, Sweden

Joel L. Sussman
Weizmann Institute of Science, Israel

Paul Christou
Universitat de Lleida, Spain

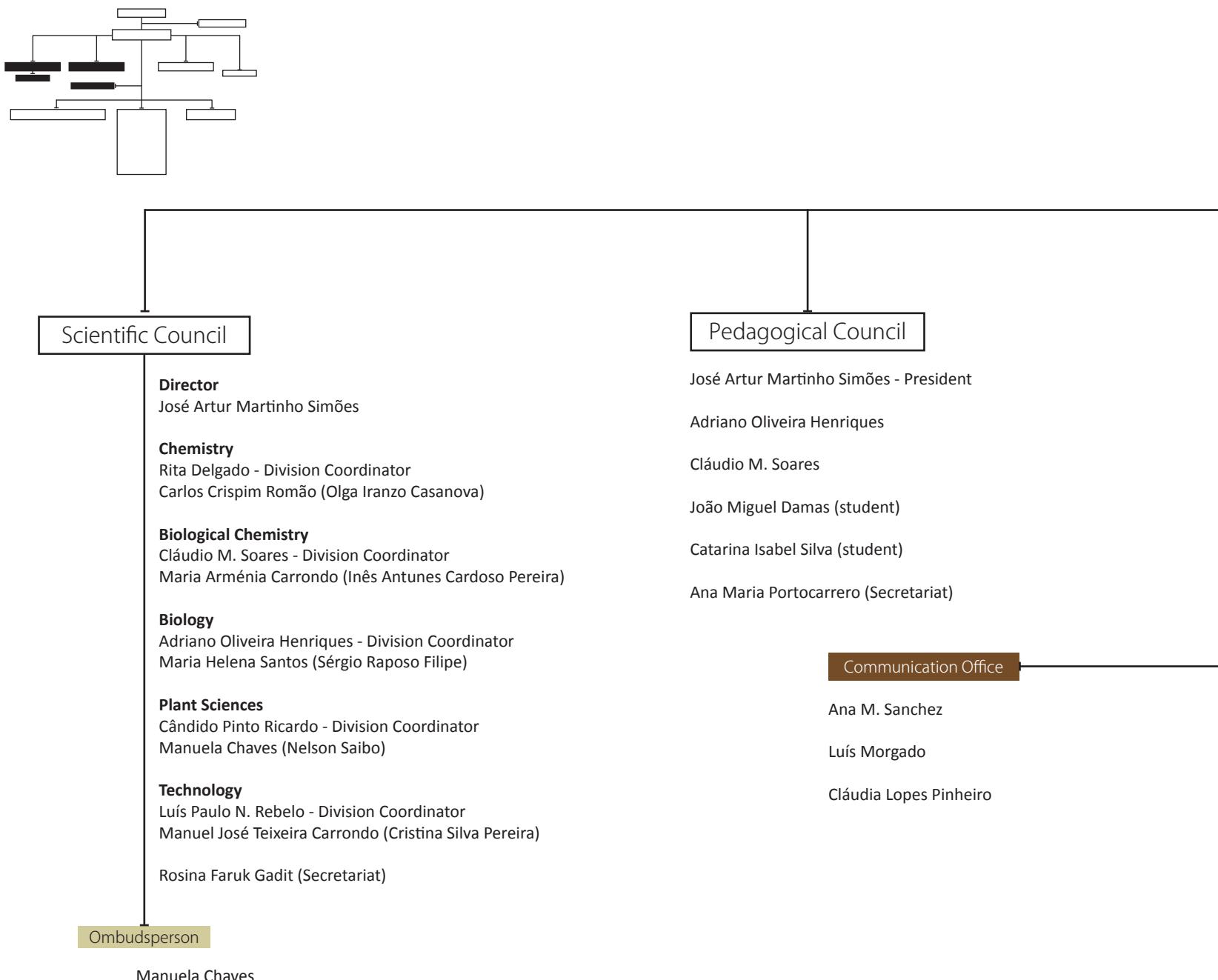
Director and Vice-Director

Director
José Artur Martinho Simões, Professor

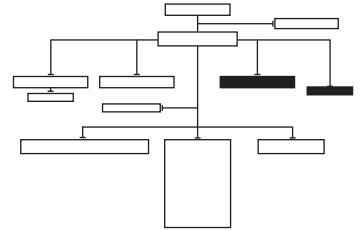
Vice-Director
Luís Paulo N. Rebelo, Professor

Secretariat to the Direction
Rosina Faruk Gadit

Organization of the Institute



Organization of the Institute



Management Council

José Artur Martinho Simões (Director)

Luís Paulo N. Rebelo (Vice-Director)

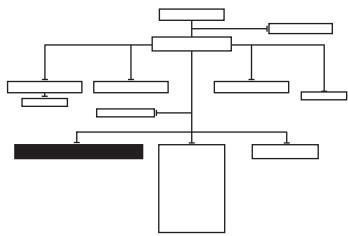
Margarida Senna-Martinez (Administrator)

Fernando Jorge Tavares (Financial and property management)

Administrator

Margarida Senna-Martinez

Organization of the Institute



Scientific, Technological, and Teaching Support

Scientific Services

Nuclear Magnetic Resonance CERMAX

Coordinator: Helena Santos

Manager: Pedro Miguel Lamosa

Helena Pereira Matias

João Pires

Analytical Services Unit

Coordinator: Teresa Crespo

Quality Assurance Unit: Ana Luísa Simplício

Ana Maria Varela Coelho

Elizabeth Pires

Maria da Conceição Almeida

Maria Manuela Regalla

Mário Patrício

Paula Isabel Alves

Paula Chicau

Sandra Silva

Small Molecular X-Ray Crystallography

Isabel Bento

Fermentation Unit

Coordinator: Miguel S. Teixeira

João Carita

Library

Librarian: Susana Lopes

Library Advisory Committee

Chairman: Miguel S. Teixeira

Carlos Romão

Adriano O. Henriques

Margarida Oliveira

Lab Manager

Cláudia Almeida

Washrooms

Coordinator: Teresa B. da Silva

Ana Cristina Barreiros

Carmen Fernandes

Helena Vilaranda

Maria Alice Ferreira

Maria Eugénia Santos

Pilar Campos

Sónia Serrano

Sónia Moita

Workshop and Maintenance

Head: Henrique Campas Nunes

Alexandre Maia

Aníbal Ribeiro

António Ramalho

Miguel Rodrigues

João Carlos Zanão Simões

José Luís Liberato

Luís Gonçalves

Nuno Soares

Nuno Monteiro

Rómulo Correia

Rui Amor Dias

Tiago Escóbar

Computer Systems Support

Coordinator: Carlos Frazão

Executive coord.: Daniel F. Branco

Carlos Manuel Cordeiro

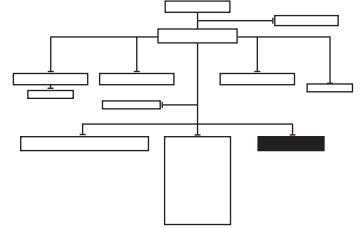
Hugo Gonçalo Cordeiro

José Miguel Loureiro

Maria Manuel Rato

Rui Miguel Alves

Organization of the Institute



Management Support

Administration and Finance

Head: Fernando Jorge Tavares

Accounting

Ana Cristina Afonso Silva
Mónica Adriano Vieira
Isabel Mestre
Nuno Lopes
Sónia Ermida

Treasury Section

Ana Freire
Anabela Bernardo Costa

Stores

Ana Soares Santos
Bruno Gouveia
Carlos Martins
João Rodrigues
Ricardo Pinto

R&D Planning and Management

Head: Maria de Lurdes Conceição
Cristina Amaral
Cristina Lopes
Isabel Murta
Sandra Marina Martins

Science Manager

Alexandra Veiga

Health and Safety

Helena Matias, Chairman
José Artur Martinho Simões, Director
Cristina Lopes, Secretary

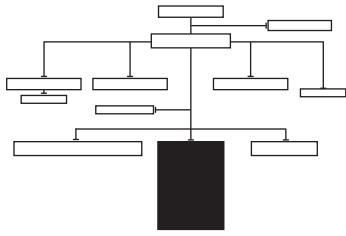
1st Floor and
Workshop & Maintenance / Henrique Nunes, (Alexandre Maia)
2nd Floor / Fernando Tavares (Nuno Lopes)
3rd Floor / Inês Cardoso Pereira (Cláudio Gomes)
4th Floor / Abel Oliva (Júlia Costa)
5th Floor / Teresa Crespo (Victória San Romão)
6th Floor / Cândido Pinto Ricardo (Margarida Oliveira)
7th Floor / Rita Delgado (António Lopes)
ITQB I Building / Jaime Mota (Ana Rute Neves)
Chemistry Building / Christopher Maycock (Rita Ventura)
Radioactive Sources / Cecília Arraiano (Adriano Henriques)
Biological Hazards ITQB I / Rosario Mato Labajos
Biological Hazards ITQB II / Sérgio Filipe
Solvent Handling / Beatriz Royo
Occupational Medicine and Health / Helena Santos MD
Pilot Plant / António Cunha
Equipment and Washrooms / Teresa Baptista da Silva

Human Resources

Head: Maria Cristina Pinto
Ana Luísa Cruz
Goretti Rocha
Helena Cordeiro Rodrigues
Maria Madalena Pereira

Mailing and Archive

Artur Freitas



Research
Chemistry
Biological Chemistry
Biology
Plant Sciences
Technology

Chemistry Division

Bioinorganic Chemistry and Peptide Design

Olga Iranzo, *Investigador Auxiliar*

Marco Filipe Cerqueira de Araújo

BI

Ana Filipa Pereira Fragoso

BI

Joana Isabel Sobral Romão

BII

Bioorganic Chemistry

Rita Ventura, *Investigador Auxiliar*

Eva Correia Lourenço

PhD Student

Osvaldo Santiago Ascenso

BI

Ana Filipa Pereira Nunes

BII

Rafel de Santana Nues

BII

Carla Sofia Pedro Ramos

Trainee

Colloids Polymers & Surfaces

António Lopes, *Professor Associado U. Lusófona*

João Ricardo M. Guerra Marques Cortez

Investigador Auxiliar

Carla Teresa Ribeiro Antunes

PhD Student

José Filipe da Silva Lapas Almeida

PhD Student

Joana Margarida Franco Dantas

BII

Cátia Filipa Medina Bandeiras

BII

Coordination and Supramolecular Chemistry

Rita Delgado, *Professor Associado com Agregação IST*

Nicolas Christian Sylvain Bernier

Post Doc

Luís Miguel Barroso Pereira Lima

PhD Student

Pedro Miguel Veríssimo Mateus

PhD Student

Catarina Alexandra Veríssimo Esteves

BI

Jorge Miguel Martins Santos

BII

Chemistry Division

Homogeneous Catalysis

Beatriz Royo Cantabrana, *Investigador Auxiliar*

Patrícia Matias Reis Francisco
Veera Venkata Krishna Mohan Kandepi
André Filipe Pontes da Costa
José Angel Brito
João Martinho Silva Ramalho Cardoso
João de Carvalho Mesquita Mexia

Post Doc
Post Doc
PhD Student
PhD Student
BI
BII

Micro-Heterogeneous Systems

Eurico de Melo, *Professor Auxiliar IST*

Winchil Luís Cláudio Vaz
Susete Garcia Soares Beirão
Maria Helena Lopes Lameiro
Rute Cristina Martins Silveira Mesquita
Sofia Cristina Leite de Souza
Joana Rita Ripado Valério

Prof. Catedrático
Post Doc
PhD Student
PhD Student
PhD Student
BI

Organic Synthesis

Christopher Maycock, *Professor Associado FCUL*

Ana Sofia da Cunha Miguel
Paula Alexandra Carvalho Rodrigues
Rita Isabel Lourenço da Silva Lopes
Ana Filipa Bilé Silva
Saúl Alves Graça da Silva

PhD Student
PhD Student
BI
BII
BII

Organometallic Chemistry

Carlos C. Romão, *Professor Catedrático*

Jan Harry Andersson
Gonçalo José Lopes Bernardes
Lukas Adrian Kromer
João Daniel Silva Seixas
Maria Carlota Veiga de Macedo
Ana Sofia Gorgulho Gonçalves
Ana Rita Sarzedas Marques Pina
Nuno Miguel Penacho Pereira
Ana Filipa Pinteus da Cruz
Walter Anton Blattler
Ana Margarida Lopes Gonçalves
Vasco Madeira Crispim Romão
* Alfama

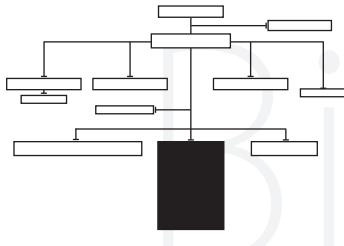
Researcher
Cientista Séniór
Post Doc
PhD Student
PhD Student
Researcher*
Researcher*
Researcher*
Researcher*
Researcher*
Consultant*
Trainee
Trainee*

Single Molecule Processes

Yann Astier, *Investigador Auxiliar*

João Carlos de Sá Nogueira Sousa Dias
Clelia Nelson
Elisa Campos
Małgorzata Magoch
Katharina Hild

Post Doc
Post-Doc
PhD Student
Marie Curie Fellow
Marie Curie Fellow



Research

Chemistry
Biological Chemistry
Biology
Plant Sciences
Technology

Biological Chemistry

Bacterial Energy Metabolism

Inês Cardoso Pereira, Investigador Auxiliar

Sofia Isabel Marques da Silva	PhD Student
Sofia Cristina dos Santos Venceslau	PhD Student
Tânia Pais de Oliveira (cosup. Margarida Archer)	PhD Student
Fábio de Oliveira Moraes e Silva (cosup. Claudina Pousada)	PhD Student
Ana Raquel Martinho Ramos	BI
Marta Franco Coimbra Marques (cosup. Pedro Matias)	BI
Daniela Cristina Antunes Matos	BI
Rolf Reiling	Trainee

Metalloproteins and Bioenergetics Unit Biological Energy Transduction

Manuela M. Pereira, Investigador Auxiliar

Ana Paula Batista	PhD Student
Filipa Lima Sousa	PhD Student
Patrícia Neto Refojo	PhD Student
Ana Teresa Bernardo	BI
Lara Paulo	BI
Carolina Julio	Project Student
Rute Farinhoto	Project Student

Biomolecular NMR

Manolis Matzapetakis, Investigador Auxiliar

Luís Carlos da Cruz Magalhães	Master Student
Fábio Mira Rocha Sabino	BII

Genomics and Stress**Claudina Rodrigues-Pousada**, Professor Catedrático Convidado

Tracy Laura Nevitt Gonçalves	Post Doc
Regina Andrade Menezes	Post Doc
Catarina Isabel Ribeiro Pimentel	Post Doc
Catarina Sá Almeida Amaral	BI (PhD Student)
Fábio de Oliveira Morais e Silva (cosup. Inês Pereira)	PhD Student
Liliana Sofia Batista Nascimento	PhD Student
Joana Alves Ropio	Master Student
Ana Rita Ladeira Courelas da Silva	Master Student
Cristina Maria Teixeira Vicente	Master Student
Ana Catarina Varela Raposo	BI
Mário Rui da Ribeira Vicente	Trainee
Ana Filipa Nunes Leitão Alegre	Trainee

Macromolecular Crystallography Unit**Industry and Medicine Applied Crystallography****Pedro Manuel Marques Matias**, Investigador Principal

Susana Margarida Pires Gonçalves	PhD Student
Tiago Bandeiras (colab. Maria Arménia Carrondo)	Investigador Auxiliar
Ana Maria da Silva Esteves (colab. Helena Santos)	BI
Marta Franco Coimbra Marques (cosup. Inês Pereira)	BI

Inorganic Biochemistry and NMR**Ricardo Saraiva L. Oliveira Louro**, Investigador Auxiliar

Catarina Morais Vaz Paquete	Post Doc
Bruno Miguel Oliveira Maia da Fonseca	PhD Student
Ivo Miguel Henriques Saraiva	PhD Student
Maria Alexandra Alves	PhD Student
Eduardo Paulo de Oliveira Lopes Calçada	BI

Macromolecular Crystallography Unit**Membrane Protein Crystallography****Margarida Archer Frazão**, Investigador Auxiliar

Miguel Pedro Januário Pessanha	Post Doc
José Artur Alves de Brito	PhD Student
Tânia Pais de Oliveira (cosup. Inês Cardoso Pereira)	PhD Student
Przemyslaw Nogly	PhD Student
Ana Lúcia Rebelo do Rosário	PhD Student

Metalloproteins and Bioenergetics Unit**Metalloenzymes and Molecular Bioenergetics****Miguel Teixeira**, Professor Catedrático

Ana Margarida Nunes Portugal Carvalho Melo	Invited Researcher
Célia Romão (colab. Maria Arménia Carrondo)	Investigador Auxiliar
Manuela Marques Pereira	Investigador Auxiliar
João Filipe Bogalho Vicente	Post Doc
Ana Filipa Carapinha Pinto	PhD Student
Pedro Miguel Ferreira Assis de Sousa	PhD Student
Fabrizio Testa	PhD Student
Liliana Carreira Pinto	BTI
Sandra Isabel dos Santos (colab. Maria Arménia Carrondo)	BI
Gabriela Henriques (colab. Maria Arménia Carrondo)	BII

Biological Chemistry

Microbial & Enzyme Technology

Lígia O. Martins, *Professor Auxiliar Convidado*

Debjani Dutta	Invited Researcher
Vânia Sofia Brissos	Post Doc
Zhenjia Chen	Post Doc
André João Tavares Fernandes	PhD Student
Paulo Jorge Rego Durão	PhD Student
Tânia Isabel Soares Rosado	BI
Sónia Alexandra Gonçalves Mendes	BI
Rita Matos de Palma Catarino	BII
Diogo Migule da Costa Pereira	BII

Molecular Genetics of Microbial Resistance

Lígia Saraiva, *Investigador Principal*

Marta Sofia Guedes de Campos Justino	Post Doc
Susana André Lima Lobo	PhD Student
Lígia Isabel Santos Nobre	PhD Student
Vera Lúcia Faria Viola Gonçalves	PhD Student
Joana Morais Baptista	PhD Student
Ana Filipa Nogueira Tavares	PhD Student
Mafalda Cristina de Oliveira Figueiredo	PhD Student
Mafalda Maria Teles de Barros	Trainee
Ana Filipa Carvalho Marques Dias	Trainee

Molecular Interactions and NMR

Patrick Groves, *Investigador Auxiliar*

Malgorzata Palczewska-Groves	Post Doc
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Molecular Simulation

António Baptista, *Investigador Auxiliar*

Sara Isabel Rasteiro Campos	PhD Student
Luís Carlos Santos Filipe	Master Student
Pedro Rafael Silva Álvaro Magalhães	Master Student

Mössbauer Spectroscopy

Filipe Tiago de Oliveira, *Professor Auxiliar FCT-UNL*

Protein Biochemistry Folding & Stability

Cláudio M. Gomes, *Investigador Auxiliar*

Sónia Cristina Alves Dickson Leal Solano	Post Doc
Ema Luís Pereira Gomes Alves	Post Doc
Ana Raquel Viegas Correia	PhD Student
Bárbara Joana de Almeida Henriques	PhD Student
Vesna Prosinecki	PhD Student
Hugo Miguel Raposo Correia Botelho	PhD Student
Daniela Filipa Dias Isidoro	BII
Ana Margarida Lopes Fiadeiro	BII
Carolina Emanuel Carreira Gomes Jardim	Trainee
Sofia Baptista de Carvalho	Trainee

chemistry Division

Protein Modelling

Cláudio Soares, Professor Associado

Bruno Lourenço da Silva Victor
Ana Sofia Fernandes de Oliveira
Diana Andreia Pereira Lousa
João Miguel Marques Martins Damas
Luís Manuel Pinto Pereira
Carla Baltazar

Post Doc
PhD Student
PhD Student
PhD Student
BI
BI

Raman Spectroscopy

Smilja Todorovic, Investigador Auxiliar

Zélia Licínia Ferreira Gouveia
José Gabriel Alves Martins

PhD Student
BI

Macromolecular Crystallography Unit Structural Biology

Carlos Maria Franco Frazão, Investigador Principal

Joana Raquel Morgado Rocha
Patrícia Alexandra Teixeira Borges

PhD Student
BI

Macromolecular Crystallography Unit Structural Genomics

Maria Arménia Carrondo, Professor Catedrático

Isabel Maria Travassos Almeida de Jesus Bento
Colin Edward McVey
Célia Romão (colab. Miguel Teixeira)
Tiago Bandeiras (colab. Pedro Matias)
Ricardo Emanuel Sirgado Miranda Coelho
Catarina Isabel Simões Pires da Silva
Tânia Isabel P. da Silva Madeira (colab. Vitória S. Romão)
Ana Teresa da Silva Gonçalves
Bruno Manuel C. Gonçalves Correia
Sandra Isabel dos Santos (colab. Miguel Teixeira)
Joana Isabel Madeira Vaz
Gabriela Henriques (colab. Miguel Teixeira)
João da Fonseca Francisco (colab. Vitória S. Romão)

Investigador Auxiliar
Investigador Auxiliar
Investigador Auxiliar
Investigador Auxiliar
Technician
PhD Student
Master Student
BI
BI
BI
BII
BII
Trainee

Bacterial Signaling

Karina Xavier, *Investigador Auxiliar*

Michal Bejerano-Sagie - IGC	Post Doc
Catarina S. Pereira - IGC	PhD student
Rita Valente - IGC	PhD Student
Andreia Correia - IGC	BI
Ana Rita Santos - IGC	BI
Osvaldo Ascenso (colab. Rita Ventura)	BI
Bruno Afonso - IGC	Master Student
Daniel Marques - IGC	Master Student

Cell Physiology and NMR

Helena Santos, *Professor Catedrático*

Maria Teresa Nunes Mangas Catarino	Professor Auxiliar
Nuno Miguel Formiga Borges	Investigador Auxiliar
Pedro Miguel Lamosa António	Investigador Auxiliar
Luís Maria Figueiredo M. Lopes Fonseca	Post Doc
Luís Pedro Gafeira Gonçalves	Post Doc
Carla Alexandre Duarte Jorge	Post Doc
Marta Viseu Rodrigues	PhD Student
Tiago Vasconcelos Duarte Moreira Pais	PhD Student
Pedro Oliveira Quintas	PhD Student
Ana Lúcia Serafim Carvalho (cosup. Ana Rute Neves)	PhD Student
Rute Almeida Ferreira Castro (cosup. Ana Rute Neves)	PhD Student
Ana Isabel Canas Ferreira Mingote	BI
Carla Patrícia da Silva Almeida	BI
Cristiana da Silva Faria	BI
Dusica Rados (cosup. Ana Rute Neves)	BI
Ana Maria da Silva Esteves (colab. Pedro Matias)	BI

Cell Signaling in *Drosophila*

Pedro Domingos, *Investigador Auxiliar*

Maria de Fátima Afonso Cairão	Post Doc
Vanya Ivanova Rasheva	Post Doc
Dina Coelho	PhD Student
Gonçalo Manuel Pinho Ribeiro de Oliveira Poças	BI
Tânia Isabel Paixao da Silva Madeira	BII
Joana Mafalda Diogo Portela	BII

Control of Gene Expression

Cecília Arraiano, *Investigador Principal com Agregação*

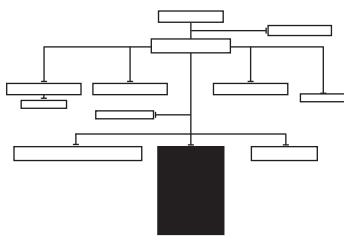
Sandra Cristina de Oliveira Viegas	Post Doc
Susana Margarida Lopes Martins Domingues	Post Doc
José Eduardo Marques Andrade	Post Doc
Michal Malecki	Post Doc
Ana Filipa de Melo Tadeu Pereira dos Reis	PhD Student
Inês de Jesus de Almeida e Silva	PhD Student
Inês Gabriel e Silva Batista e Guinote	PhD Student
Rute Margarida Gonçalves Matos	PhD Student
Vânia Sofia Fidalgo Pobre	PhD Student
Ricardo António Neves Moreira	PhD Student
Ana Margarida Teixeira Saramago	BI
Andreia Aires	Trainee

Glycobiology

Júlia Costa, *Investigador Principal*

Ricardo Jorge Martins Gouveia	PhD Student
Catarina Heitor Gomes	PhD Student
Cristina Isabel Caniço Escrevente	PhD Student
Eda Rita Gomes Soares Machado	PhD Student
Patrícia Alexandra de Sousa Barros	PhD Student
Rita Barreto Duarte Carrilho	BI

Organization of the Institute



Infection Biology

Luís Jaime Mota, *Investigador Auxiliar*

Maria Sarmento de Matos Paiva Raposo da Cunha	PhD Student
Lia Dora David Domingues	PhD Student
Filipe Manuel Baeta da Silva Almeida	Master Student
Sara Raquel Vilela Pais	Master Student
Rui Pedro Marcos Mauricio	BII

Lactic Acid Bacteria & In Vivo NMR

Ana Rute Ramos Neves, *Investigador Auxiliar*

Paula Cristina Trindade Lima Gaspar	Post Doc
Ana Lúcia Serafim Carvalho (cosup. Helena Santos)	PhD Student
Sandra Costa Carvalho	PhD Student
Rute Almeida Ferreira Castro (cosup. Helena Santos)	PhD Student
Ana Laura Machado dos Santos Seara Paixão	PhD Student
Teresa Maio	Master Student

Microbial Development

Adriano Henriques, *Professor Associado*

Mónica Paula Fernandes Serrano Miranda	Post Doc
Teresa Parente Madureira Vasconcelos Costa	Post Doc
Tiago Joel Vultos Santos	Post Doc
Catarina Alexandra Gonçalves Fernandes	PhD Student
Cláudia Alexandra dos Reis Serra	PhD Student
Filipa Andreia Portugal Nunes	PhD Student
Maria de Fátima Cardoso Pereira	PhD Student
Maria Luísa Gouveia e Freitas Côrte	PhD Student
Carla Esteves	Master Student
Pedro Rodrigues	Master Student
Renato da Cunha Alves	BI
Joana Rita Vicente Lopes	BI
Carolina Piçarra Cassona	BII

Joana Cristina Pedro Rodrigues

BII

Microbial Genetics

Isabel Sá Nogueira, *Prof. Associado FCT-UNL*

Maria Isabel Lopes Correia	PhD Student
Lia Raquel Marques Godinho	Master Student
Mário José Rodrigues Ferreira	Master Student

Molecular Genetics

Hermínia de Lancastre, *Professor Catedrático*

Ana Madalena de Drummond Ludovice	<i>Professor Auxiliar</i>
Maria Leopoldina Amorim Miragaia Ryder	<i>Investigador Auxiliar</i>
Rosario Mato Labajos	<i>Investigador Auxiliar</i>
Raquel de Sá Leão Domingues da Silva	<i>Investigador Auxiliar</i>
Susana Maria Lavado de Oliveira Gardete	Post Doc
Rita Gonçalves Sobral Almeida	Post Doc
Catarina Isabel Catarino Milheirço	Post Doc
Nuno Alexandre Gomes Faria	Post Doc
Ana Lopes Tavares	PhD Student
Nelson Emanuel da Silva Frazão	PhD Student
Sónia das Neves Nicolau Nunes Leitão	PhD Student
Teresa Carla de Almeida Figueiredo	PhD Student
Teresa Margarida Gomes da Conceição	PhD Student
Alexandra Sofia Oliveira Simões	PhD Student
Maria Inês Ramos Grilo	BI
Bruno Guerra	BI
Carina Valente	BI
Andre Velez	BI
Ons Bouchami	Visiting PhD Student
Débora Tavares	Master Student
Joana Rita Gonçalves Araújo Rolo	Master Student
Raquel Portela	Master Student

Research

Chemistry

Biological Chemistry

Biology

Plant Sciences

Technology

Plant Sciences

Disease and Stress Biology

Ricardo Boavida Ferreira, Professor Catedrático ISA-UTL

Ana Cristina Ribeiro	Invited Researcher
Maria Cláudia Godinho Nunes Santos	Post Doc
Damiano Vesentini	Post Doc
José da Costa Nunes	Post Doc
Sara Alexandra Monteiro	Post Doc
Lucélia Rodrigues Tavares	PhD Student
Paula Cristina Branco Cabrita Cunha	PhD Student
Alexandre Filipe Guerreiro Borges	BI
Rui Carlos Soares Pimpão	BI
Vanessa Alexandra Falcão Borrego	BI
Sofia Isabel Almeida Fortalezas	BI
Stella Tataiana Liahuca de Esteves	BI
Meenu Tyagi	Trainee
Diana Leonor Constantino Macedo	Trainee

Forest Biotech

Célia Miguel, Investigador Auxiliar

Liliana Maria Bota Marum	Post Doc
Andreia Lúcia Campos dos Santos Ferreira Miguel	PhD Student
Ana Filipa Gonçalves Milhinhos	PhD Student
Marta Andreia Horta Simões	PhD Student
Marta Sofia Morgado dos Santos Madeira	PhD Student
Ana Maria Vieira Oliveira	BI

Plant Sc

Plant Biochemistry

Cândido Pinto Ricardo, Professor Catedrático Jubilado ISA-UTL

Carla Maria Alexandre Pinheiro	<i>Investigador Auxiliar</i>
José António Pires Passarinho	<i>Investigador INRB</i>
Ana Isabel Faria Ribeiro	<i>Invest. Auxiliar IICT</i>
Ana Sofia Correia Fortunato	Post Doc
Marta Alexandra Marques Alves	PhD Student
Isa Catarina Monteiro Brás Ribeiro	BI

Plant Cell Biology

Rita Abrantes, *Investigador Auxiliar*

Nuno Duarte Caixinha Geraldo	Post Doc
Ana Sofia de Carvalho Paiva Fernandes Pires	Post Doc
Stefanie Nunes Rosa	PhD Student
Sónia Marisa Castanheira Dias	Master Student
Cláudio Miguel Letras da Silva Ferreira	Trainee

Plant Cell Biotechnology

Pedro Fevereiro, Professor Auxiliar FCUL com Agregação ITQB

Maria Carlota Morais Cunha Vaz Patto	<i>Investigador Auxiliar</i>
Jorge Almiro Caldeira Pinto Paiva	Invited Researcher
Susana de Sousa Araújo	Invited Researcher
Inês Maria Silva Almeida Chaves	Post Doc
Susana Maria Sousa da Silva Neves	Post Doc
Helena Maria Pereira Garcês	Post Doc
Maria Margarida Rocheta (collab. ISA)	Post Doc
Rita de Sousa Caré	Science Com. (CiB)
Cátia Maria de Jesus Nunes	PhD Student
Inês Garcia de Oliveira Trindade	PhD Student
Matilde de Vasconcelos Manso Ataide Cordeiro	PhD Student
Silvana Coelho Cardoso	PhD Student
Nuno Felipe Alves de Almeida	PhD Student
Pedro Manuel Reis Mendes Moreira	PhD Student
Rafaela Josemara Barbara Queiros	PhD Student
Cláudio Francisco Soares Capitão	Master Student
Diogo Manuel Amaral Geraldes	Master Student
Miguel André Lourenço da Luz Ventosa	Master Student
Leonor Alexandra da Silva Tomaz	BI
Mara Lisa Vieira Alves	BI
Susana Murtinheira da Trindade Leitão	BI

Plant Cell Wall

Philip Jackson, *Investigador Auxiliar*

Luís Filipe Sanches Goulão	<i>Investigador</i>
Ada Doroteia Vatulescu	PhD Student

ciences Division

Plant Developmental Genetics

Jorge Almeida, Professor Associado ISA-UTL

Maria Lisete Galego Dias

Investigador Auxiliar

Plant Genetic Engineering

Margarida Oliveira, Professor Associado com Agregação

Rita Maria Cruz de Campos Batista

Invest.Auxiliar INSA

Isabel Alexandra Aguiar de Abreu

Invest Auxiliar IBMC

Nelson José Madeira Saibo

Investigador Auxiliar

Ana Paula Leitão dos Santos

Post Doc

Sam Cherian

Post Doc

Sónia Sandra Cabrita Negrão

Post Doc

Tiago Filipe dos Santos Lourenço

Post Doc

Duarte Dionísio Figueiredo

PhD Student

Milene Soares Costa

PhD Student

Pedro Miguel Rodrigues de Barros

PhD Student

Tânia Sofia Lobato Paulo Serra

PhD Student

Liliana de Jesus Duarte Ferreira

PhD Student

Subhash Chander

PhD Student

Ana Paula Martins Farinha Resende

PhD Student

Mafalda Alexandra Antunes Rodrigues

BTI (Master Std.)

Tiago Miguel Caetano Dias Cruz

Master Student

Pedro Miguel de Sousa Babo

BI (Master)

Maria Cecília Marques dos Santos Mousinho

BI

João Fernandes Oliveira dos Santos

BI

Diego Melo Almeida

BI

Eva Gonçalves Serra

Trainee

Plant Molecular Ecophysiology

Manuela Chaves, Professor Catedrático Aposentado ISA-UTL

Alla Schwaleva

Post Doc

Ana Paula Martins Alves Ferreira Regalado

Post Doc

Olfa Zarrouk

Post Doc

Tiago Pedreira dos Santos

Post Doc

Joaquim Miguel Costa

Post Doc

Lukasz Tronina

PhD Student

Rita Maria de Brito Francisco

PhD Student

Raquel do Vale

PhD Student

Ana Rita Leandro dos Santos

PhD Student

Nuno Miguel Lopes da Silva Santos Simões

BI

Raquen Raissa Santos

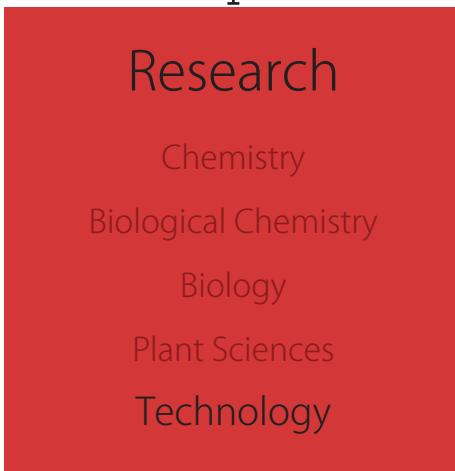
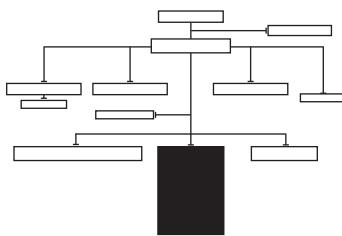
BI

Norberto Heredia Guerrero

BI

Liliana de Pinho Pinhal Ferraz Moreira

Trainee



Technology

Analytical Chemistry

Luís Filipe Silva Castro Vilas Boas, Professor Associado IST

Maria do Rosário Beja Figueiredo G. Bronze	Professor Auxiliar FFUL PhD
Maria Nubélia Bravo	PhD
Antero Augusto Ramos	Lab Technician
Susana Maria Marques Nunes	BII
Elisa Maria Farias Riscado	Trainee
Paulo André de Sousa Esteves da Silva	Trainee

Antibiotic Stress and Virulence of Enterococci

Fátima Lopes, Investigador Auxiliar

Paulo Emanuel de Oliveira Marujo	Investigador PhD Student
Tânia Catarino Ribeiro	PhD Student
Marta Maria Coelho dos Santos Abrantes	PhD Student
Teresa Marina Fonseca de Almeida Santos Braga	PhD Student
Renata Filipa Cruz de Matos	PhD Student
Neuza Prazeres Teixeira	BI
Sofia Alexandra Muchacho Santos	Master Student
Marta Isabel da Silva Ruivo	BI

Applied and Environmental Mycology

Cristina Maria da Costa Silva Pereira, Investigador Auxiliar

Mariana Boavida Lopes Carvalho	PhD Student
Isabel Tavares Lima Martins (cosup. Luís Paulo N . Rebelo)	PhD Student
Adélia Varela Castro	PhD Student
Helga Margarida Garcia (cosup. Luís Paulo N . Rebelo)	PhD Student
Marija Petkovic	PhD Student
Rui Manuel C. Ferreira (cosup. Luís Paulo N . Rebelo)	PhD Student
Paula Cristina de Azevedo Alves	BI
Cátia Filipa Mendes Rodrigues	BI
Diego de Oliveira Hartmann	BI
Patrícia Alexandra dos Santos Borges Pereira	BI

Biomathematics

Jonas S. Almeida, Professor Catedrático Convidado

Maria Helena Futcher de Deus

PhD Student

Ivette Pacheco Leyva

BI

Ana Sofia Cabral e Sousa de Almeida

BI

David Caetano Duarte Felipe Tomaz

BI

Paulo David Machado dos Santos Fernandes

BI

Biomolecular Diagnostic

Abel Oliva, Investigador Auxiliar

Cláudia Sánchez Lara

Investigador

Elisa Regina Figueiras Julião Inácio de Campos

PhD Student

Ana Raquel da Silva Santos

BI

José Valério Nascimento Palmeira

Master Student

Tiago Miguel Caetano Dias Cruz

Master Student

Mariana Alves Reis

Trainee

PhD Student

Animal Cell Technology Unit

Cell Line Development and Molecular Biology

Ana Sofia Coroadinha, Investigador Auxiliar

PhD Student

Ana Filipa Rodrigues

BI

Ana Mendes

BI

Vanessa Isabel Ferreira Veríssimo

BI

Hélio Antunes Tomás

Trainee

Animal Cell Technology Unit

Cell Bioprocesses

Paula M. Alves, Investigador Principal

Ana Catarina Ataíde Montes

Investigador Auxiliar

Investigador Auxiliar

Helena de Araújo Vieira

Post Doc

Researcher Technician

Ana Carina Santos Ferreira

PhD Student

Post Doc

Ana Isabel Porém Amaral

PhD Student

PhD Student

Cláudia Queiroga

PhD Student

PhD Student

Leonor da Gama Carvalho Norton

PhD Student

PhD Student

Maria Margarida Negrão Serra

PhD Student

PhD Student

Nuno Eduardo Buxo Carinhas

PhD Student

PhD Student

Rita Maria Maia Malpique

PhD Student

PhD Student

Sofia Margarida Leite

PhD Student

PhD Student

Ricardo Perdigão Henriques

PhD Student

PhD Student

Fabiana Carreira Fernandes

PhD Student

PhD Student

Daniel Filipe Mestre Simão

Master Student

PhD Student

Marcos Filipe Quintino de Sousa

Technician

PhD Student

Carina Vieira Brilha Técnica

Technician

PhD Student

Animal Cell Technology Unit

Engineering Cellular Applications

Manuel Carrondo, Professor Catedrático FCT-UNL

Investigador Auxiliar

Ana Margarida Palma Teixeira

Researcher Technician

Cristina Maria da Costa Peixoto Lisboa

Post Doc

Vishal Agrawal

PhD Student

António Manuel Missionário Roldão

PhD Student

Tiago Manuel Ferreira Silva Vicente

PhD Student

Rui Manuel Lucas Gameiro Domingues Tostões

PhD Student (MIT)

Techr

Food Microbial Technology

Cidália Peres, *Investigador Principal* INRB

Francisco Xavier Delgado Malcata
Maria Dulce de Azevedo Carneiro de Brito
Amélia Maria Muralha Delgado
Luísa Reis
Maria Cristina de Almeida Pelejão Serrano
Luís Filipe Duarte Catulo
Ana Marta Franco
Ruben Filipe Martins da Rocha
Maria José Cancela Carvalho

Prof. Catedrático UCP
Investigador
Investigador
Technician INRB
Technician INRB
Technician INRB
Master Student
Master Student
Trainee

Mass Spectrometry

Ana Coelho, *Professor Auxiliar Convidado*

Romana Lopes Almeida dos Santos
André Martinho de Almeida
Peter Imre Boross
Renata Filipe Soares
Kamila Koci
Ricardo Jorge dos Anjos Gomes
Catarina de Matos Ferraz Franco
Duarte Nuno Toubarro Tiago
Marta Maria Lavouras Mendes
Ana Sofia de Figueiredo Rodrigues
Ângela Maria Almeida Barreto
Elisabete Andrade Alves Pires

Investigador
Investigador
Investigador Auxiliar
Investigador Auxiliar
Post Doc
Post Doc
PhD Student
PhD Student
PhD Student
PhD Student
Technician
BI
BI
BI
Trainee

Microbiology of Man-Made Environments

Teresa Crespo, *Investigador Principal* IBET

Vanessa Ranhada Pinto Jorge Pereira
Gilda Sousa de Carvalho
Patrícia Rodrigues Noronha da Costa
Ana Filipa Correia Silva
Frédérique Bustos Gaspar
Paula Isabel Louçao Lopes Alves
Bárbara Fonseca de Almeida
Rosalina Nunes Marques
Marta Raquel Conchinha Marques
Sandra Marisa Lourenço Sanches
Ana Catarina Mendonça Dourado

Post Doc
Post Doc
Post Doc
PhD Student
PhD Student
Technician
PhD Student
BI
BI
BI
Trainee

Technology Division

Molecular Thermodynamics

Luís Paulo N. Rebelo, *Professor Catedrático*

Isabel Maria Delgado Jana Marrucho Ferreira	<i>Investigador Auxiliar</i>
José Manuel da Silva Simões Esperança	<i>Investigador Auxiliar</i>
Ana Rodriguez Rodriguez	Invited Researcher
Mara Guadalupe Freire Martins	Post Doc
Mohammad Tariq	Post Doc
Francisco Javier Deive Herva	Post Doc
Ana Belén Pereiro Estévez	Post Doc
Marija Petkovic (cosup. Cristina Silva Pereira)	PhD Student
Helga Margarida Garcia (cosup. Cristina Silva Pereira)	PhD Student
Isabel Tavares Martins (cosup. Cristina Silva Pereira)	PhD Student
Rui Manuel C. Ferreira (cosup. Cristina Silva Pereira)	PhD Student
Helena Isabel Abrantes de Gouveia da Mota Veiga	BI (PhD Student)
Filipe Serrão Santos Oliveira	BI
Mário Rui Costa Soromenho	BI
Carlos Alberto da Silva Ribeiro de Melo	BI
Diana Carolina Vaz Ruivo de Oliveira	BI

Nutraceuticals and Delivery

Catarina Duarte, *Investigador Auxiliar*

Ana Alexandra Figueiredo Matias	PhD Student
Ana Teresa de Carvalho Negrião Serra	BI
Mariana Isabel Ferreira Nobre de Sousa Costa	PhD Student
Ana Vital Morgado Marques Nunes	Technician
Ana Patrícia Correia de Almeida	BI
Susana Rodrigues Marques	BI
Duarte Maria Torres Alves Sousa Rêgo	BI

Pharmacokinetics and Biopharmaceutical Analysis

Ana L. Simplício, *Investigador Auxiliar*

Vukosava Djordjevic Milic	Post Doc
Hugo Ortolá de Abreu e Serra	PhD Student
Joana Catarina Rocha Lamego	PhD Student
Nádia Ferreira da Silva Santos	PhD Student
Rui Miguel Correia Portela	BII

Physiology of Environmental Conditioned Microbiota

Vitória San Romão, *Investigador Coordenador INRB*

Ana Paula Gomes Marques	PhD Student
Maria do Carmo Barreto Baptista Basílio	PhD Student
Tânia Isabel Paixão da Silva Madeira	Master Student
Cecília Gonçalves Simão	Trainee
Ana Margarida Conchinha Marques	Trainee

Systems Biodynamics

Andreas Bohn, *Investigador Auxiliar*

Daniel Santa Cruz Damineli	PhD Student
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Invited and Visiting Professors

Alessandro Giuffrè, Università di Roma “La Sapienza”, IT
Fast Kinetics

Alexander A. Konstantinov, Moscow State University, RU
Bioenergetics

Alexander Tomasz, The Rockefeller University, USA
Microbiology

Daniel H. Murgida, Technische Universität Berlin, DE
Raman spectroscopy

David Edward Onions, Invitrogen Corporation, USA
Virology / Vectorology

David L. Turner, University of Southampton, UK
Biology

Hansjörg Hauser, Gesellschaft für Biotechnologische Forschung GmbH, Germany
Eukaryotic Molecular Biology

John G. Aunins, Merk Research Laboratories, West Point, USA
Bioprocess Engineering

Jonas Almeida, University of Texas, USA
Biomathematics

José Artur Martinho Simões, Universidade de Lisboa, PT
Chemistry

José Canongia Lopes, Instituto Superior Técnico, PT
Molecular Simulation

Maria Teresa N. Duarte, Instituto Superior Técnico, PT
Crystallography

Kenneth R. Seddon, The Queen’s University of Belfast, UK
Ionic Liquids

Peter Alfred Donner, Direvo Biotech, Köln, DE
Biotechnology

Peter F. Lindley, Birkbeck College London, UK
Structural Biology

Peter G. Hildebrandt, Technische Universität Berlin, DE
Raman Spectroscopy

Robert Archibald Samson, Kasetsart University of Bangkok, TH
Plant Pathology



Scientific
Services

Nuclear Magnetic Resonance

ITQB hosts the largest Portuguese NMR facility - Centro de Ressonância Magnética António Xavier. CERMAX has several NMR spectrometers (300, 400, 500 and 800 MHz), including the highest field spectrometer in Portugal. This equipment is part of the National NMR Network Facility and serves the Portuguese scientific community.

Small Molecule X-ray Crystallography

This X-ray crystallography facility is an analytical service that involves a close collaboration with IST and ITN. X-ray diffraction by a single crystal is used to determine the three dimensional structure of small molecules.

Fermentation Unit

This unit is only available for in-house researchers, and is devoted to small or large scale cell growth of a multitude of different organisms. The unit is in charge of keeping the relevant collection of bacterial strains.

Teaching Laboratory

The Teaching Laboratory is designed and equipped to support the teaching activities of the Institute in areas ranging from Biochemistry to Genetics.

Laboratory Manager

The ITQB Lab Manager is responsible for the purchase and maintenance of scientific equipment for the Institute. Besides establishing efficient and professional purchase procedures, the Lab Manager supervises the common scientific equipment and supports researchers who need to acquire laboratory instruments, leading to significant budget savings for the whole institute.

Analytical Services Unit

The Analytical Services Unit is a partnership between *Instituto de Biologia Experimental e Tecnológica* (IBET) and ITQB under the executive management of IBET. The Unit is certified by the INFARMED (Portuguese Pharmacy and Medicines Agency) and IPQ (Portuguese Institute for Quality) as compliant with Good Laboratory Practices Principles (GLP). The Analytical Services Unit is divided in three Laboratories with different expertise.

Analytical Laboratory

The laboratory has a long track record of providing services using chromatographic (HPLC and GC with several detectors) and electrophoretic methods for pharmaceutical, agro and chemical industry and academia.

Microbiology Laboratory

Services include *in vitro* potency assays, protein quantification, molecular biology analysis (GMOs in food and feed and other) and detection and quantification of impurities or contaminants in pharmaceuticals.

Protein Characterization and Mass Spectrometry Laboratory

Develops and validates analytical methods and performs routine analyses for a broad range of chemical compounds, from small organic and inorganic compounds to peptides, oligosaccharides, nucleotides, and proteins. The laboratory is associated with the Mass Spectrometry National Network Facility.



Institutional Relationships

Established Protocols

ITQB/IBET

ITQB's association with the *Instituto de Biologia Experimental e Tecnológica* (IBET), located in the same building, provides the interface between fundamental research and economic activities.

Laboratório Associado de Oeiras

ITQB was one of the first research institutions to be awarded the status of *Laboratório Associado* by the Minister of Science and Technology, in 2001. Under the *Laboratório Associado* programme the Institute established a partnership with IGC and IBET to maximize its research and development potential.

Rede Nacional de Ressonância Magnética Nuclear

ITQB participates in Portuguese NMR network created with the support of the *Fundação para a Ciência e a Tecnologia* (FCT) in the frame of a national programme for the acquisition and upgrading of scientific equipment. The network aims to stimulate the use of advanced facilities by Portuguese researchers and the sharing of the national scientific resources.

Rede Nacional de Espectrometria de Massa

Mass spectrometry is one of the main instrumental supports in scientific research, namely in life, chemical and environmental sciences. ITQB is one of the nine Portuguese academic institutions that integrate RNEM (*Rede Nacional de Espectrometria de Massa*), an infrastructural network launched in 2007, under the general National Program for Scientific Re-equipment.

Massachusetts Institute of Technology - Portugal

The MIT - Portugal partnership is an international collaboration between the Portuguese state and the MIT, focused on the areas of engineering systems. This collaboration is centred on research, technology and higher education, and aims at promoting scientific and technological development. The *Laboratório Associado* ITQB/IGC/IBET is directly involved in the Focus Area of Bioengineering Systems.

ITQB-Unicat – Unifying Concepts in Catalysis, German Cluster of Excellence

UniCat is a Cluster of Excellence in the area of catalysis research, under the supervision of the German Research Foundation. The Cluster is a Consortium of the three Berlin Universities, two Max-Planck Institutes and the University of Postdam, coordinated by the Technische Universität Berlin. As External Partners, it includes large companies, and Foreign Academic Partners.

Harvard Medical School-Portugal

The Harvard Medical School-Portugal program is a long-term collaboration to significantly expand translational research and health information. This initiative involves the Harvard Medical School, the Portuguese government, and Portugal's medical schools and biomedical research centers. The Laboratório Associado de Oeiras is one of the participating associate laboratories.

Interbio

Interbio is a consortium of research institutions from Southeast Europe, funded for 2.5 years in 1.9 million euros under SUDOE Programme. The consortium's main objective is to develop interdisciplinary research in the interface between chemistry and life/health sciences.

Research Output

Publications 2009

Articles

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15. Blesic M., Lopes J. N. C., Padua A. A. H., Shimizu K., Gomes M. F. C. and Rebelo L. P. N. (2009). "Phase Equilibria in Ionic Liquid-Aromatic Compound Mixtures, Including Benzene Fluorination Effects."*Journal of Physical Chemistry B* **113**(21): 7631-7636.
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20. Brissos V., Pereira L., Munteanu F.-D., Cavaco-Paulo A. and Martins L. O. (2009). "Expression system of CotA-laccase for directed evolution and high-throughput screenings for the oxidation of high-redox potential dyes." *Biotechnology Journal* **4**(4): 558-563.
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25. Campos S. R. R. and Baptista A. M. (2009). "Conformational Analysis in a Multi-dimensional Energy Landscape: Study of an Arginylglutamate Repeat." *Journal of Physical Chemistry B* **113**(49): 15989-16001.
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Publications

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Ongoing Projects

Projects coordinated by ITQB Researchers / Project where ITQB researchers participate

PROJECTS FUNDED BY FCT

Role of the interaction between AgfA and AgfB proteins from <i>Salmonella enterica</i> serovar Typhimurium in the surface polymerization of the amyloid-like thin aggregative fimbriae.	POCI/SAU-IMI/55520/2004	Francisco Enguita	71.872	2006-2009
Cytochrome c: A model protein to probe thermodynamic and choreographic constraints in electroprotonic energy transducers	POCI/QUI/58985/2004	David Turner	69.000	2005-2009
Exploiting genetic variability of resistance genes in major European food legumes to improve varieties for sustainable agriculture	ERA-PG/0008/2006	Carlota Vaz Patto	101.300	2007-2010
Genomic research-assisted breeding for sustainable production of quality GRAPEs and WINE	ERA-PG/005/2006	Pedro Fevereiro	85.700	2007-2010
Genome-wide analysis of short RNAs as modulators in dehydration stress tolerance using tolerant and genetic model systems	ERA-PG/001/2006	Pedro Fevereiro	126.588	2007-2010
Tannin polymerase, a novel and previously unknown enzyme that is required by obligate pathogens to invade grapevine tissues	PTDC/AGR-AAM/65611/2006	Ricardo Boavida Ferreira	126.456	2007-2010
Two-dimensional micelles and emulsions in lipid bilayers resulting from caophylic/caophobic amphiphilicity of some phospholipids. Biological consequences	PTDC/QUI/68242/2006	Eurico de Melo	93.238	2007-2010
Understanding sulfate respiration at molecular level: studies of two conserved membrane complexes	PTDC/QUI/68368/2006	Inês Cardoso Pereira	74.700	2007-2009
Z-DNA and Z-RNA: the long road to a biological function	PTDC/SAU-MII/69084/2006	Maria Arménia Carrondo	159.643	2007-2010
Novel stroke model for neuroprotective research: bioreaction of primar brain cell aggregates	PTDC/BIO/69407/2006	Paula Alves	169.000	2007-2010
Functional analysis and origins of the pathophysiology of mutations within genes of the fatty acid oxidation pathway: implications in the multiple acyl-CoA dehydrogenase deficiency disorder	PTDC/SAU-GMG/70033/2006	Cláudio Gomes	70.801	2007-2010
In search of ideal protein stabilisers: compound libraries inspired by solute from hyperthermophiles	PTDC/BIO/70806/2006	Pedro Lamosa	105.000	2007-2010
Analysis of the breeding potential of fasciation traits in Portuguese maize landraces	PTDC/AGR-AAM/70845/2006	Carlota Vaz Patto	77.100	2007-2010
Molecular Adaptation to Extreme Environments: Structural Studies of Proteins Involved in the Synthesis of Osmolytes in (hyper)thermophilic micro-organisms	PTDC/QUI/71142/2006	Pedro Matias	85.500	2007-2010
Contribution of the capsular polysaccharide to the inflammatory ability of the bacterial peptidoglycan	PTDC/SAU-MII/75696/2006	Sérgio Filipe	159.686	2007-2010

Ingoing Projects

Impact of nonencapsulated strains on the ecology and pathogenesis of <i>Streptococcus pneumoniae</i>	PTDC/BIA-MIC/64010/2006	Raquel Sá Leão	110.000	2008-2010
Chromatin remodelling and abiotic stresses responses in rice	PTDC/BIA-BCM/64215/2006	Ana Paula Santos	52.000	2008-2011
Chiral N-heterocyclic carbene complexes for asymmetric catalysis and for C-H activation processes	PTDC/QUI/64458/2006	Beatriz Royo	80.100	2008-2010
Structural, bioenergetic and dynamic aspects of respiratory chain complexes studied by vibrational and spectroelectrochemical methods	PTDC/QUI/64550/2006	Smilja Todorovic	44.800	2008-2010
Spatial and temporal organization of <i>Staphylococcus aureus</i> cell division	PTDC/BIA-BCM/66449/2006	Mariana Pinho	157.000	2008-2011
Investigating the energy transduction Q-cycle mechanism in complexes of respiratory chains	PTDC/BIA-PRO/66557/2006	Manuela Pereira	96.000	2008-2011
Searching for the functional/structural minimum common denominator in haem-copper oxygen reductases	PTDC/QUI/66559/2006	Manuela Pereira	70.700	2008-2010
A structural genomics approach to membrane transport proteins from Archaea	PTDC/BIA-PRO/66833/2006	Margarida Archer	45.000	2008-2009
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Iron Metabolism Study in <i>Deinococcus radiodurans</i> - Novel strategies	PTDC/BIA-PRO/67240/2006	Célia Romão	62.600	2008-2010
Microbial enzymes involved in superoxide and nitric oxide reduction	PTDC/BIA-PRO/67263/2006	Miguel Teixeira	116.000	2008-2010
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Towards biohydrogen production - study of a high-activity, oxygen-resistant bacterial hydrogenase	PTDC/BIA-PRO/70429/2006	Pedro Matias	112.000	2008-2010
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Regulatory networks on <i>Staphylococcus aureus</i> cell wall physiology	PTDC/BIA-MIC/71168/2006	Hermínia de Lencastre	136.979	2008-2010
Elucidating the Critical Role of RNase II family of Enzymes in RNA metabolism: Structural and Functional Studies	PTDC/BIA-MIC/71453/2006	Cecília Arraiano	115.766	2008-2010
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Impact of the conjugate pneumococcal vaccines on pneumococcal ecology	PTDC/SAU-ESA/65048/2006	Raquel Sá Leão	153.667	2009-2011
Site-specific labeling of proteins <i>in vitro</i> , <i>in vivo</i> and at the cell surface by a novel type of transglutaminase isolated from spores of <i>Bacillus subtilis</i>	PTDC/BIO/73946/2006	Adriano Henriques	87.555	2009-2011
Characterization of sea urchins temporary adhesives by mass spectrometry-based proteomics	PTDC/DG-MAR/80012/2006	Romana Santos	38.448	2008-2011
Chemical reactivity as a tool in drug design: modification of the beta-lactam scaffold to improve serine protease inhibition	PTDC/QUI/64056/2006	Margarida Archer	23.325	2007-2010
Molecular Evaluation and Characterization of Tolerance Mechanisms to Adverse Environmental Conditions in Coffea sp. - Central Role of the Oxidative Stress Control at Leaf Level	PTDC/AGR-AAM/64078/2006	Manuela Chaves	29.930	2007-2010
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BioMode - From data to modelling on biofilm phenotype	PTDC/BIO/73550/2006	Andreas Bohn	11.760	2007-2010

Ingoing Projects

Gas Phase Reactions on Ionic Liquids	PTDC/QUI/66199/2006	José N. Canongia Lopes	12.500	2008-2010
Synthesis and Characterization of New and not so-New Ionic Liquids	PTDC/QUI/66826/2006	Luís Paulo N.Rebelo	13.800	2008-2011
Molecular design of novel aza-bridged calixarene receptors for medicinal chemistry: encapsulation of lanthanide ions and chiral resolution of drugs	PTDC/QUI/68582/2006	Rita Delgado	16.620	2008-2010
High Pressure CO ₂ -Induced Melting of Salts: New Ionic Liquids	PTDC/QUI/70383/2006	Manuel N. Ponte	25.020	2008-2010
Protein glycation and transthyretin amyloidogenesis in yeast: A model system of neurodegenerative amyloid diseases	PTDC/QUI/70610/2006	Ana Coelho	48.050	2008-2010
Integrated Isolation, Bio- and Organic-Synthetic Transformations of Portuguese Natural Resources	PTDC/QUI/73061/2006	Cristina Silva Pereira	30.000	2008-2011
Polymer plasticization and compatibility using Green Technologies. Application of ionic liquids and supercritical fluids	PTDC/QUI/71398/2006	Luís Paulo N. Rebelo	37.800	2008-2011
Anchoring Basic Parameters for Fundamental Predictive Models in Liquid Salt Systems	PTDC/QUI/72903/2006	José Esperança	10.800	2009-2011
Sol-gel entrapped cutinase: Understanding enzyme/matrix interactions via fluorescence, NMR and DRIFT spectroscopies, and site-directed mutagenesis	PTDC/QUI/64744/2006	Isabel Sá Nogueira	15.000	2009-2011
Anthocyanins as natural photoprotectors	PTDC/QUI/65728/2006	Eurico de Melo	9.600	2009-2011
Respiratory rehabilitation in Amyotrophic Lateral Sclerosis: clinical and biochemical impact	PIC/IC/82765/2007	Júlia Costa	86.968	2009-2011
MIT – Bioengineering Systems		Cláudio Soares	446.672	2006-2009
Structural and functional study of the proteins mediating electron transfer between microorganism and solid substrates with relevance for bio-energy production	MIT-PT/BS-BB/0014/2008	Ricardo Louro	147.936	2009-2012
Pathogenomics of increased Clostridium difficile virulence	ERA-PTG/SAU/0002/ 2008	Adriano Henriques	181.800	2009-2012
Bio-based production of chemical building blocks: Corynebacterium glutamicum as a platform for new and efficient bioprocesses.	ERA-IB-BIO/0002/2008	Helena Santos	185.424	2009-2012
Cork Oak ESTs Consortium – Bioinformatics Platform	Sobreiro/0030/2009	Andreas Bohn	17.322	2009-2010
Development of ultras-sensitive detection methods and plant Nano-Vaccines for the Fungi Fusarium spp using nanotechnological devices	Nano/NTec-SQA/0131/2007	Abel Oliva	119.792	2009-2011

PROJECTS FUNDED BY FUNDAÇÃO CALOUSTE GULBENKIAN

Community-associated methicillin-resistant <i>Staphylococcus aureus</i> (CA-MRSA) in Portugal: a pilot study focusing on an emerging public health concern	MM/P-99911	Hermínia de Lancastre	61.918	2009-2012
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PROJECTS FUNDED BY EUROPEAN COMISSION

European macromolecular crystallography infrastructure network 2 (MAX-INFO 2)	RICA 505977	Maria Arménia Carrondo	36.700	2004-2009
From receptor to gene: structures of complexes from signalling pathways linking immunology, neurobiology and cancer (SPINE2-COMPLEXES)	LSHG-CT-2006-031220	Maria Arménia Carrondo	206.750	2006-2009
Genomics to combat resistance against antibiotics in community – acquired LRTI in Europe (GRACE)	LSHM-CT-2005-518226	Hermínia de Lencastre	129.216	2006-2011
White biotechnology for added value products from renewable plant polymers: design of tailor-made biocatalysts and new industrial bioprocesses (BIORENEW)	NMPT2-CT2-2006-026456	Lígia O. Martins / Cláudio Soares	417.000	2006-2010
Training for high volume, high value structural genomics methodologies (TEACH-SG)	LSSG-CT-2006-031220	Maria Arménia Carrondo	11.000	2007-2009
Sustainable water use Securing Food production in dry areas of the mediterranean region (SWUP-MED)	212337	Manuela Chaves	310.880	2008-2012
A Doctoral training network in integrative studies of Plant Stress Biology (ADONIS)	MEST-CT-2005-020232	Margarida Oliveira	155.519	2006-2010
Genotyping for the conservation and valorization of European Rice germplasm (EURIGEN)	049 AGRI GEN RES 870/2004	Margarida Oliveira	48.713	2008-2010
Structural Biology of Membrane Proteins	PITN-GA-2008-211800	Margarida Archer	284.099	2008-2012
Setting the Stage in Portugal: researchers and the public come together through theatre	SP3 - 245061	Ana Sanchez	18.650	2009
A comprehensive dissection of pneumococcal-host interactions – (PNEUMOPATH)	HEALTH-F3-2009-222983	Hermínia de Lencastre	150.000	2009-2012
CONtrol of COnmunity-acquired MRSA: Rationale and Development of counteractions (CONCORD)	HEALTH-F3-2008-222718	Hermínia de Lencastre	202.512	2009-2011
The “FluoRox” concept; advanced Education and Research in Bio-NanoScience (EDROX)	MRTN-CT-2006-035649	Yann Astier	78.757	2009-2010
Translational Research on Combating Antimicrobial Resistance (TROCAR)	HEALTH-F3-2008-22303	Hermínia de Lencastre	196.152	2009-2011

Ingoing Projects

INDIVIDUAL FELLOWSHIPS BY EUROPEAN COMMISSION

Designing metallopeptides for the removal of superoxide radicals (MFRosPep)	PIRG03-GA-2008-230896	Olga Iranzo	100.000	2008-2012
Analysis of the cellular function of type III secretion effectors of <i>Chlamydia trachomatis</i> (CHLRT3SE)	PERG03-2008-230954	Jaime Mota	45.000	2009-2011
ER Stress and Photoreceptor Degeneration in Drosophila (DROSOERSTRESS)	Pirgga-2008-230935	Pedro Domingos	100.000	2008-2012

Project funded by EEAA and Norway Grants

Awake of Green Biotech in Portugal: waste elimination using genetically manipulated fungal species in an ionic liquid environment	FMO PT0015	Cristina Silva Pereira	1.241.143	2007-2011
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Projects funded by NIH through Rockefeller University (amounts in usd)

Evolution and acquisition of drug resistance in MRS	Sérgio Filipe	284.012 \$ USD	2005-2009
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Subcontracting Parties – Georgia Institute of Technology (amounts in usd)

Assessment of pathway design through multi-level modeling and experiments	NSF	Helena Santos	61.818 \$ USD	2006-2009
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Education
Output

PhD Theses completed in 2009

Catarina Isabel Catarino Milheirço (Biology)

"Studies on Methicillin-resistance cassette in *Staphylococcus aureus*: New typing strategies and insights into the regulation of resistance expression"

Supervisor: Hermínia de Lencastre/Duarte C. Oliveira

Cristina Maria da Costa Peixoto Lisboa (Engineering and Technological Sciences)

"Challenges in the Purification of Complex Biopharmaceuticals"

Supervisor: Paula Marques Alves

Jorge Manuel Martins Cunha (Biology)

"Diversidade biológica de *Vitis vinifera* L em Portugal: contribuição genética da subsp. *sylvestris* (Gmelin) Hegi para a origem das castas Portuguesas, subsp. *vinifera*"

Supervisor: Pedro Fevereiro/José Eiras Dias

Liliana Maria Bota Marum (Biology)

"Genetic and epigenetic approaches to evaluate stability during *in vitro* propagation of *Pinus pinaster* Ait."

Supervisor: Margarida Oliveira/Célia Miguel

Luís Miguel Barroso Pereira Lima (Chemistry)

"New Tetraaza Macroyclic Ligands with Potential Medical Interest: Synthesis and Study of their Transition Metal and Lanthanide Complexes"

Supervisor: Rita Delgado

Marco António Mattos Vilela (Biology)

"Automated reverse engineering of metabolic pathways from time series"

Supervisor: Jonas Almeida

Maria Cândida Maia Mellado (Engineering and Technological Sciences)

"Triple-layered rotavirus-like particles production: a focus on *in vitro* assembly and disassembly"

Supervisor: Manuel Carrondo/Paula Alves

Maria Luís Guimarães Amorim (Biology)

"Insight into the local epidemiology of Methicillin-resistant *Staphylococcus aureus* (MRSA) in a Portuguese Hospital"

Supervisor: Herminia de Lencastre/Duarte C. Oliveira/José M. Cabeda/Carlos Vasconcelos

Marlene Isabel Rosa do Carmo (Engineering and Technological Sciences)

"Gammaretroviral and Lentiviral vectors for Gene Therapy: Stability and Inactivation Mechanisms"

Supervisor: Manuel Carrondo/Pedro Cruz

Marta Gomes da Silva (Engineering and Technological Sciences)

"Development of a new *Babesia bovis* diagnostic method and identification of new vaccine candidates"

Supervisor: Abel Oliva

Nuno Alexandre Gomes Faria (Biology)

"Molecular epidemiology of methicillin-resistant *Staphylococcus aureus*: typing strategies and epidemiology trends"

Supervisor: Hermínia de Lencastre/Duarte C. Oliveira/Henrik Westh

Nuno António Gonçalves Moreno (Biology)

"Oscillatory behavior in pollen tubes: the biophysical and biochemical fundamental basis of cell growth and morphogenesis"

Supervisor: José Feijó

Patrícia Isabel Gomes Alves (Biology)

"Cystic Fibrosis By Proteomics: Identification of Molecular Targets for Therapeutic Intervention"

Supervisor: Deborah Penque/Ana Coelho

Regina Maria Fonseca da Luz Freitas (Biochemistry)

"Expression of protein biologic activity. Different strategies in a space/time referential"

Supervisor: Ricardo Ferreira

Ricardo Jorge Martins Gouveia (Biology)

"The neuronal L1 cell adhesion molecule – Procution, characterization and biological role"

Supervisor: Júlia Costa

Rute de Almeida Ferreira de Castro (Biochemistry)

"Metabolism in *Lactococcus lactis*: Glucose Transporters and a Novel α-Phosphoglucomutase"

Supervisor: Helena Santos/Ana Rute Neves

Master Theses in Medical Microbiology completed in 2009

Sara Isabel Rodrigues Rasteiro de Campos (Biochemistry)

"Study of the effect of pH on the structure and function of peptides and proteins using molecular simulation methods"

Supervisor: António Baptista

Sónia Adelaide Q.S. Santos Rocha (Biochemistry)

"*In Vitro* models for metabolic studies of Brain insults"

Supervisor: Paula Alves

Susana André Lima Lobo (Biochemistry)

"Anaerobic bacteria: an investigation of metabolic important enzymes. A novel type of oxygen reductase and enzymes of the tetrapyrrole biosynthesis"

Supervisor: Lígia Saraiva

Tiago Jorge de Pinho Carvalho - PGDB (Biology)

"The Computational Role of Short-Term Plasticity and the Balance of Excitation and Inhibition in Neural Microcircuits: Experimental and Theoretical Analysis"

Supervisor: Sukalyan Chatterjee/Dean Buonomano

Ana Margarida Teixeira Saramago

"Post-transcriptional studies in *Salmonella* focusing on the role of RNases and small non-coding RNAs"

Supervisor: Cecilia M. Arraiano

Ana Daniela de Araújo Sampaio

"Efluxo de brometo de etídio no complexo *Mycobacterium avium*: correlação com a resistência intrínseca aos antibióticos em estirpes de origem clínica"

Supervisor: Miguel Viveiros

Celeste Manuela Falcão

"Importância dos Sistemas de Efluxo na Resistência às Fluoroquinolonas em *Staphylococcus aureus*"

Supervisor: Isabel Couto

Frederico Gustavo Ferreira de Melo e Silva

"Estudo comparativo entre a antigenémia e uma técnica de PCR em tempo real para o diagnóstico e monitorização das infecções pelo vírus citomegálico humano em doentes transplantados"

Supervisor: Teresa Marques/co-sup: Paulo Paixão

Helena Isabel Ribeiro Nunes

"*Chlamydia trachomatis* em populações de risco: detecção de anticorpos e de DNA"

Supervisor: Filomena Pereira/co-sup: Rita Castro

Scientific Events

Scientific Meetings in 2009

Organized by ITQB Researchers

EMBO-FEMS Workshop on Microbial Sulfur Metabolism

Tomar, Portugal, 15-19 March
Inês C. Pereira, organizer

International Workshop on

'Protein Folding Diseases: from metabolic disorders to neurodegeneration'

ITQB, Oeiras, Portugal, 19 March
Cláudio Gomes (Chair), Bárbara Henriques, João Rodrigues, Organising Committee

Annual meeting of the Marie Curie Integrated Training Network

"Structural Biology of Membrane Proteins" (SBMP)

ITQB, Oeiras, Portugal, 4-6 June
Margarida Archer, organizer

21st European Society for Animal Cell Technology Conference

Dublin, Ireland, 7-11 June
Paula Alves, Member of Executive Committee

Iberian Meeting on Ionic Liquids

Aveiro, Portugal, 15-16 June
Isabel M. Marrucho and Luís Paulo N. Rebelo, Members of Organizing Committee

17th Symposium on Thermophysical Properties

Boulder, Colorado, USA 21-26 June
Luís Paulo N. Rebelo, Organizer and Chair of eight sessions on Ionic Liquids

2nd CERMAX practical course on basic NMR

CERMAX, ITQB, Oeiras, Portugal, 17-19 June and 21-23 October
Pedro Lamosa (chair), Manolis Matzapatakis, Patrick Groves, Organizers

XI Congreso Hispano-Luso de Fisiología Vegetal

Zaragoza, Spain, September
Manuela Chaves, Member of Organizing Committee

FEBS advanced course chemistry of metals in biological systems

Louvain-la-Neuve, Belgium, September
Ricardo Louro, organizer

V Simpósio Nacional de Olivicultura.

Santarém, Portugal, September
Cidália Peres, Member of Management Committee

8th Plant Genomics European Meeting

Lisbon, Portugal, 7-10 October
Margarida Oliveira (chair), Cândido Pinto Ricardo, Célia Miguel, Isabel Abreu, Nelson Saibo, Members of Organizing Committee

Primeiro Encontro do Projecto

"CA-MRSA/MSSA: da diversidade genética ao potencial patogénico"

ITQB, Oeiras, Portugal, 10 October

Hermínia de Lencastre, Maria Miragaia, Rosario Mato, Ana Tavares, Joana Rolo, Organizers

Workshop on Oxidative Stress at the

4th International Congress on Stress Response in Biology and Medicine

Sapporo, Japan, October

Claudina R. Pousada

8th Short course of the Short course of the Portuguese Biophysical Society

"Systems Biology"

Santarém, Portugal, 30 October - 1 November

Cláudio Soares, Lígia Martins, Members of Organizing Committee

V Congresso Nacional de RNA – RNA09

Carcavelos, Portugal, 5-6 November

Cecília Arraiano, Member of Organizing Committee

Biomolecular NMR "from Liquids to Solids"

UNL, Lisbon, Portugal, 2 December

Pedro Lamosa (chair), Manolis Matzapetakis, Patrick Grooves, Organizers

COST863 Management Committee and Workshop on

'Defining needs of berry industries'

Lisbon and Odemira

Cláudia Santos, Member of Organizing Committee

9th Short Course of the Portuguese Biophysical Society on "Systems Biology"

Manuela Pereira, organizer

Conferências Sociedade Portuguesa Biofísica

Manuela Pereira, organizer

ITQB Researchers as Members of Scientific Committees

Ana Coelho

5th Congress of the Portuguese Proteomics Network
ProCura and 1st International Congress on Analytical Proteomics
October 2009 ICAP, Caparica, Portugal

Cândido Pinto Ricardo

and Carla Pinheiro were the Portuguese members of the Managing Committee
COST Action nº FA0603 "Plant Proteomics in Europe"

Claudina Rodrigues-Pousada

Member of the scientific committee of the 4th International Congress on Stress Response in Biology and Medicine

Cecília Arraiano

Member of Scientific Committee of V Congresso Nacional de RNA – RNA09
5-6 November 2009, Carcavelos, Portugal.

Cidália Peres

Member of the Scientific Committee of III International Conference on Table Olives, Spain

Helena Santos

Coordinator of the Symposium "The Limits of Life" in the "3rd FEMS Congress of European Microbiologists" 28 June to 2 July 2009 , Goteborg, Sweden.

Member of the Scientific Committee and Coordinator of the Symposium "Microbial Physiology" in MicroBiotec09, 28-30 November 2009.

Permanent Member of the International Organizing Committee of the series of meetings "International Congress on Extremophiles"

Hermínia de Lencastre

Member of the Scientific Committee of the 9th European Meeting on the Molecular Biology of the Pneumococcus-Europneumo 2009. 4-7 June 2009, Bern, Switzerland

Member of the Scientific Committee of the Congresso Nacional de Microbiologia e Biotecnologia, MICRO-BIOTEC 09. 28-30 November 2009, Vilamoura, Portugal

Júlia Costa

Member of the Scientific Committee, 8th International Meeting of the Portuguese Carbohydrate Chemistry Group - Glupor 8, Braga, Portugal, 2009.

Lígia O. Martins

Member of the Scientific Committee of the "8th Short Course of the Portuguese Biophysical Society in Systems Biology", 30 October to 1 November Santarém, Portugal

Luís Paulo N. Rebelo

Member for the International Scientific Advisory Committee for the 3rd Congress on Ionic Liquids (COIL3), 2009, Cairns, Australia

Iberian Meeting on Ionic Liquids, Member Organizing Committee, 15-16 June Aveiro, Portugal

Permanent member of the International Organizing Committee of the Congresses on Ionic Liquids

Manuela Chaves

Member of Programme Committee of the Scientific Committee INTER-DROUGHT III October 2009. Shanghai, China

Manuela Pereira

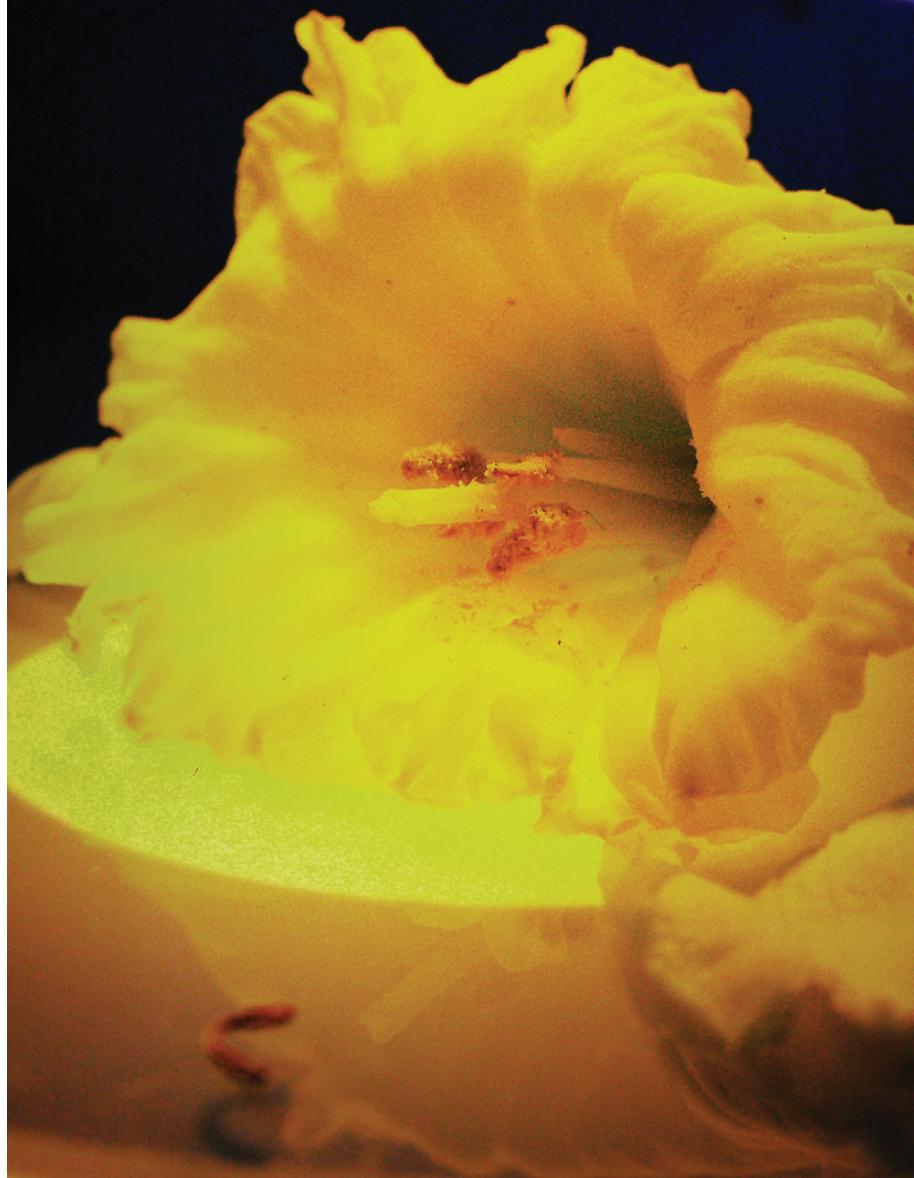
Member of the Scientific Committee of VII Iberoamerican Congress of Biophysics 2009, Búzios, Brazil

Margarida Oliveira

Member of the Scientific Committee of XI Congreso Hispano-Luso de Fisiología Vegetal, September 2009, Zaragoza, Spain

Rosário Bronze/Luís Vilas Boas

Member of the Scientific Committee of 6º Encontro de Cromatografia, December 2009, Funchal, Portugal



Seminars at ITQB

Scans

Once a week at 12 o'clock, ITQB researchers give a seminar for the whole institute. These Science Conferences at Noon (or SCANS) are not listed here and can be found at www.itqb.unl.pt/events, together with other scientific events at ITQB.

AVX Seminars

Hematological malignancies: from the patient to the lab and back to the clinic
António Parreira, Faculdade de Ciências Médicas, Universidade Nova de Lisboa

Computational enzymatic catalysis
Maria João Ramos, Faculdade de Ciências, Universidade do Porto

Spatial control of the cell division clock
Helder Maiato, IBMC

The essence of chemistry
Jorge Calado, Instituto Superior Técnico, Universidade Técnica de Lisboa

Astrophysical conditions for the life in the Universe
Rui Jorge Agostinho, Faculdade de Ciências, Universidade de Lisboa

Enabling environments for biotechnology
Carlos Faro, Biocant

What, if anything, is an extremophile?
Milton Costa, Universidade de Coimbra

Nanocomposite particles for bio-applications
Tito Trindade, Universidade de Aveiro

Frontier Leaders Seminars

Third generation transgenic plants and the politics of plant biotechnology
Paul Christou, Universitat Leida, Spain

A systems approach to virus entry
Ari Helenius, ETH Zurich, Switzerland

Other Invited Seminars

Addressing functionally relevant large-scale motions in proteins by molecular-dynamics simulation: The ArtJ case
Xavier Daura, Universitat Autònoma de Barcelona, Spain

Micromanaging cell growth and differentiation
Judy Lieberman, Harvard Medical School, USA

Bioreactor scale-down studies of temperature-inducible recombinant protein production in E. coli
Octavio T. Ramírez

Notes on Influenza A (H1N1) 2009
Francisco George, Direcção Geral de Saúde, Portugal

Novel and useful organic compounds, how do we find them?
Olov Sterner Organic Chemistry, Lund University, Sweden

Biological activities of Z-DNA binding proteins
Alexander Rich, MIT, USA

Novel, single-use bioreactors using a pneumatic mixing mechanism
Brian Lee, PBS Biotech, USA

The madness of King George III and Queen Victoria's haemophilia - a molecular detective story
Martin Warren, University of Kent, United Kingdom

A peptide recognition event leading to the native fold of *E. coli* thioredoxin
Javier Santos, University of Buenos Aires, Argentina

Rising to the metabolomics challenge: new LC-MS/MS approaches
Jane Thomas-Oates, University of York, United Kingdom

Mobile DNA and multiple drug resistance in *Enterococcus faecalis*: How did it come to this?
Kelli Palmer The Schepens Eye Research Institute, Harvard Medical School , USA

Redox proteomics tools for study of redox lesions in proteins
David Sheehan University College Cork, Ireland

Protein glycation and deglycation. A story of protein damage and repair
Maria Veiga-da-Cunha, Université Catholique de Louvain, France

Complexes of macrocyclic ligands with arms containing phosphorus atoms for medicinal chemistry
Přemysl Lubal, Masaryk University, Czech Republic

Compartmentalising enzymes in bacteria
Martin Warren, University of Kent, United Kingdom

Computational design of immunogens to 'Re-elicit' neutralizing antibodies
Bill Schief, University of Washington, USA

EMBO - the idea, the achievements and future perspectives
Hermann Bujard Executive Director of the European Molecular Biology Organization (EMBO)

Studying gene functions via tetracycline controlled transcription activation: principles, advances and applications
Hermann Bujard, EMBO

Late transition metal nanoparticles: synthesis and catalytic reactivity in wet medium
Montserrat Gómez Université Paul Sabatier, Toulouse, France

Centrifuge handling
Beckman European Coordinator

The selective cause of an ancient adaptation
Antony Michael Dean, University of Minnesota, USA

Technology transfer for ITQB/IBET
Francisco Pereira do Valle, RAND Project Management

Viral vectors in gene therapy: special emphasis on alphaviruses
Kenneth Lundstrom PanTherapeutics, Lausanne, Switzerland

Expression of GPCRs in drug discovery and structural biology
Kenneth Lundstrom PanTherapeutics, Lausanne, Switzerland

Structural membrane proteomics - Respiratory chain complex I from thermophilic bacteria
Guohong Peng, Max Planck Institut fur Biophysics, Frankfurt, Germany

Mitochondrial targets for chemotherapy
Catherine Brenner-Jan, University Versailles/St Quentin (CNRS UMR 8159), France

Protein glycosylation, LPS, and peptidoglycan: three pathways, many possibilities
Mario F. Feldman, University of Alberta, Edmonton, Alberta, Canada

Genes for drought and salinity tolerance
Rana Munns, CSIRO Division of Plant Industry, Canberra, Australia

Targeting the cell surface molecules responsible for the African sleeping sickness parasite survival and infectivity
João A. Rodrigues, Centre for Malaria & Tropical Diseases-IHMT/UNL , Portugal



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