

# Experiência de participação no ERC

**Mara G. Freire**

CICECO, Departamento de Química, Universidade de Aveiro



European Research Council

# Percurso Académico:

**Licenciatura em Química** - Ramo de Química Analítica, em 2003, pela Universidade de Aveiro

(Prémio de Melhor Aluna de Química pela Dow Portugal)

**Doutoramento em Engenharia Química**, em 2007, pela Universidade de Aveiro (Universidade Federal do Rio de Janeiro, Brasil, e Universidade Claude-Bernard, França)

**Estagiária de pós-doutoramento em Engenharia Química**, no ITQB2, Universidade Nova de Lisboa (2008-2013)

**Investigadora Auxiliar** no CICECO, Departamento de Química, Universidade de Aveiro

(Junho 2013 – Janeiro 2014)

**Investigadora Coordenadora** no CICECO, Departamento de Química, Universidade de Aveiro (Fevereiro 2014-Janeiro 2019)

# Substitutos Artificiais do Sangue

## Sangue Branco: Formulações com Perfluorocarbonetos



Dr<sup>a</sup>. Isabel M. Marrucho

Projeto final de licenciatura em Química Analítica

Estágio integrado na licenciatura na Universidade Federal do Rio de Janeiro, Brasil

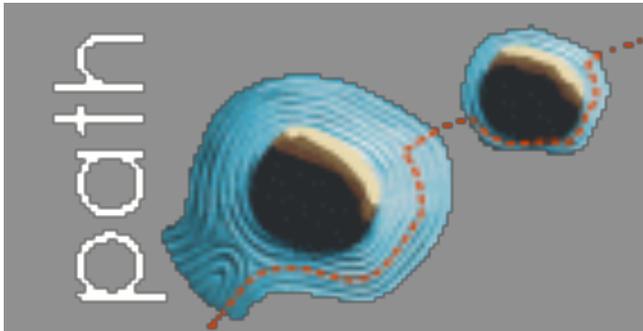
UFRJ



Universidade Federal  
do Rio de Janeiro

Doutoramento em Engenharia Química pela Universidade de Aveiro: Outubro 2003 – Setembro 2007

Orientadores: Dr. João A.P. Coutinho e Dr<sup>a</sup> Isabel M. Marrucho



Process and Product Applied  
Thermodynamics

<http://path.web.ua.pt/index.asp>

Tese: **Arejamento e Extracção em Reactores Biológicos Multifásicos**

Janeiro 2004-Junho 2004

Laboratoire des Sciences Analytiques, UMR 5180, Université  
Claude Bernard, Lyon, França



Dr. Jacques Jose

Dr<sup>a</sup>. Ilham Mokbel



Maio 2005-Junho 2005

Departamento de Engenharia Química, Universidade Federal  
do Rio de Janeiro, Rio de Janeiro, Brasil

Dr<sup>a</sup>. Maria Alice Coelho

**UFRJ**



**Universidade Federal  
do Rio de Janeiro**



Até Setembro de 2007 ... Universidade de Aveiro

Janeiro 2008 – Maio 2013

Pós-doutoramento em Engenharia Química no ITQB2, Universidade Nova de Lisboa



Prof. Dr. Luís Paulo N. Rebelo

**Objetivo:** estudar líquidos iónicos como solventes de extracção e purificação para produtos de valor acrescentado utilizando sistemas aquosos bifásicos.

Cite this: *Chem. Soc. Rev.*, 2012, **41**, 4966–4995

[www.rsc.org/csr](http://www.rsc.org/csr)

## CRITICAL REVIEW

### Aqueous biphasic systems: a boost brought about by using ionic liquids†

Mara G. Freire,<sup>\*ab</sup> Ana Filipa M. Cláudio,<sup>b</sup> João M. M. Araújo,<sup>a</sup>  
João A. P. Coutinho,<sup>b</sup> Isabel M. Marrucho,<sup>ab</sup> José N. Canongia Lopes<sup>ac</sup> and  
Luís Paulo N. Rebelo<sup>\*a</sup>



## Mestrados (4) e Doutoramentos (1) Concluídos em 2012:

- ✓ Passos, H.I.S., “Extraction of bioactive compounds with aqueous solutions of ionic liquids”
- ✓ Marques, C.F.C., “Treatment of Aqueous Effluents Contaminated with Ionic Liquids”
- ✓ Cláudio, A.F.M., “Extraction of Phenolic Compounds with Aqueous Two phase Systems”
- ✓ Louros, C.S., “Extraction of Biomolecules with Aqueous Two Phases Systems”
- ✓ Pereira, J.F.B, “A Tail of Two Bioprocesses”

## Mestrados (4) e Doutoramentos (4) em Curso em 2012:

- ✓ Carvalho, S.F., “Alternative Aqueous Biphasic Systems Composed of Ionic Liquids and Polysaccharides”
- ✓ Almeida, A.M.R., “Purification of Antibodies using Aqueous Two-Phase Systems”
- ✓ Ferreira, A.M., “Selective Separation of Dyes using Reversible Aqueous Biphasic Systems”
- ✓ Santos, R., “Identification and Characterization of Eutetic Mixtures Composed of Ionic Liquids”
- ✓ Passos, H. I. S., “IgY Technology: A Purification Platform using Ionic-Liquid-Based Aqueous Biphasic Systems”
- ✓ Almeida, H. F. D., “Treatment of Aqueous Effluents Contaminated with Pharmaceutically Active Compounds (PhACs)”
- ✓ Cláudio, A. F. M., “Extraction of Added-Value Products from Biomass using Ionic Liquids”
- ✓ Neves, C. M. S. S., “Evaluation of Environmental Impact and Treatment of Aqueous Effluents Contaminated with Ionic Liquids”

# 2012

**Concurso a nova posição de pós-doutoramento pela FCT (Universidade de Aveiro)**

Resultados: final de 2012

**Concurso para Investigadora Auxiliar para o CICECO, Departamento de Química, Universidade de Aveiro, pela FCT**

Resultados: Abril 2013

***Starting grant pelo European Research Council (ERC)***

Resultados: Junho 2013

**Outros convites...**

# European Research Council (ERC)



Posição na UA: Investigadora Coordenadora  
Verbas para investigação e contratação de  
recursos humanos  
Criação de uma equipa de investigação e  
consolidação do IP como investigador  
independente

**Starting Grants (até 1.5 M€):** para investigadores com 2-7 anos após o doutoramento

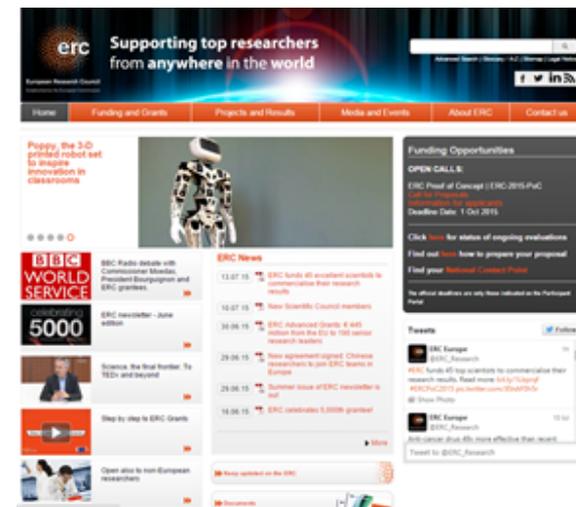
Toda a documentação necessária foi preparada com base na informação e manuais disponíveis em:

<http://erc.europa.eu/>

Concursos abertos

Datas limite de candidatura

Informação detalhada para cada tipo de concurso



# European Research Council (ERC)

The screenshot displays the ERC website's 'Step by Step' guide. The header features the ERC logo and the tagline 'Supporting top researchers from anywhere in the world'. A navigation bar includes links for Home, Funding and Grants, Projects and Results, Media and Events, About ERC, and Contact us. A search bar and social media icons are also present.

**Funding Schemes**  
Apply for Funding  
Step by Step  
Call for Proposals  
Evaluation Panels  
Host Institutions  
For Non-European Researchers  
National Contact Points  
FAQ

## Step by Step

ERC grant applications can be submitted only in response to a 'Call for Proposals'. Calls for the ERC funding schemes are published on the ERC website, the [Participant Portal](#) and in the Official Journal of the European Union.

Each call covers one specific funding scheme.

There are 3 types of calls for the ERC core funding schemes:

- Starting Grant call for the [Starting Grant funding scheme](#)
- Consolidator Grant call for the [Consolidator Grant funding scheme](#)
- Advanced Grant call [Advanced Grant funding scheme](#)

In addition, there is also a call for researchers who have already been awarded an ERC grant:

- Proof of Concept call for the [Proof of Concept Scheme](#)

Once the Call is published on the [Participant Portal](#), official documents are available, providing decisive information (deadlines, budget, etc.).

Check out these three steps:

- + [Before the call is published](#)
- + [Once the call is open](#)
- + [After the call for submission deadline](#)

**Related video**  
Step by step to ERC Grants



# Aplicação de anticorpos em imunoterapia

A prática corrente do uso de anticorpos está ainda condicionada pelo seu elevado custo de produção o que não tem permitido a sua adoção pela indústria farmacêutica e logo a sua aplicação em larga escala.

Produção e purificação de anticorpos para uso em humanos tem estado centrada maioritariamente nos **anticorpos produzidos por animais de pequeno porte.**



Elevado custo e obtidos a partir de práticas invasivas

## Alternativa?

**IgY**, um anticorpo produzido pelas aves e que existe na gema de ovo

**Vantagens:** Evita-se o recurso a técnicas invasivas  
IgY é produzido em maior quantidade

O seu custo elevado deve-se ainda à escassez de uma técnica de purificação eficaz para separar a imunoglobulina de outras proteínas contaminantes existentes numa matriz extremamente complexa que é a gema de ovo.



# ***O Projecto...***

Domain: Physical Sciences and Engineering

Tendo a ideia para o projecto...

Ler o manual com todo o cuidado e detalhe...



[http://ec.europa.eu/research/participants/portal/doc/call/h2020/erc-2015-cog/1632604-info\\_for\\_applicants\\_stg\\_-\\_cog\\_2015\\_final\\_12112014\\_en.pdf](http://ec.europa.eu/research/participants/portal/doc/call/h2020/erc-2015-cog/1632604-info_for_applicants_stg_-_cog_2015_final_12112014_en.pdf)

# O Projecto...

## 1.1.2.1 Completing the online administrative Proposal Submission Forms<sup>20</sup>

Proposals must be submitted electronically via the web-based Participant Portal Submission Service (PPSS)<sup>21</sup>. **Please read point 1.1.3 of this document before starting the pre-registration process.** In the submission forms, the PI is asked to fill in the administrative data online that will be used in the evaluation and further processing of the proposal. The administrative forms are an integral part of the proposal<sup>22</sup> and are divided in 5 Sections:

- 1 – General information
- 2 – Administrative data of participating organisations
- 3 – Budget
- 4 – Ethics
- 5 – Call specific questions

**Section 1 – General information** contains information about the research proposal, including an abstract of the project proposal and the chosen ERC panel for evaluation. The PI must indicate the most relevant ERC panel for evaluation of his/her proposal and choose one or more ERC keywords related to the research fields involved from a drop-down menu (see Annex 1 to this document for the full list of ERC keywords). Furthermore, section 1 contains declarations related to the proposal and the participation in H2020.

**Section 2 – Administrative data of participating organisations** contains information about the PI and the PI's host institution<sup>23</sup>.

**Section 3 – Budget** contains information about the total estimated project costs and the requested EU contribution. The amount given in the online financial form (section 3) must correspond exactly to the information provided in the research proposal text (Part B2, section c, resources).

**Section 4 – Ethics** serves to identify any ethical aspects of the proposed work. This table has to be completed even if there are no issues (simply confirm that none of the ethical issues apply to the proposal). Please note that, in case you answer YES to any of the questions, you are requested to provide an Ethics Self-Assessment and additional ethics documentation – if applicable, as detailed in the Ethics Issues Table checklist (in Annex 4 to this document).

**Section 5 – Call specific questions** contain information on the academic training of the PI, as well as declarations related to eligibility, and permission statements on data-related questions (the data-related consents are entirely voluntary). In section 5, as established in section 3.3 of the [ERC Rules for Submission](#), applicants submitting a proposal may request that up to three specific persons would not act as peer reviewers in the evaluation of their proposal.



## Part B1 (a, b and c)

### **a. Extended Synopsis of the scientific proposal (max 5 pages)**

The Extended Synopsis should give a **concise presentation of the scientific proposal**, with particular attention to the **ground-breaking nature of the research project** and the feasibility of the outlined scientific approach. Describe the proposed work in the context of the state of the art of the field. References to literature should also be included. It is important that **this extended synopsis contains all relevant information including the feasibility of the scientific proposal** since the panel will only evaluate Part B1 at step 1.

### **b. Curriculum Vitae (max 2 pages)**

The CV should include the standard academic and research record as well as a succinct 'funding ID' which must specify any current research grants and their subject, and any ongoing application for work related to the proposal. Any research career gaps and/or unconventional paths should be clearly explained so that can be fairly assessed by the evaluation panels.



### c. Early achievements track-record (max 2 pages)

The Principal Investigators must provide a list of achievements reflecting their track record.

The PI should list his/her activity as regards:

1. **Publications** in major international peer-reviewed multi-disciplinary scientific journals and/or in the leading international peer-reviewed journals, peer-reviewed conferences proceedings and/or monographs of their respective research fields, highlighting five representative publications, those without the presence as co-author of their PhD supervisor, and the number of citations (excluding self-citations) they have attracted (if applicable).
2. **Granted patent(s)** (if applicable).
3. **Invited presentations to peer-reviewed, internationally established conferences** and/or international advanced schools (if applicable).
4. **Prizes and Awards** (if applicable).

*Concise presentation of the scientific proposal, with particular attention to the ground-breaking nature of the research project, which will allow evaluation panels to assess, in step 1 of the evaluation, the feasibility of the outlined scientific approach.*

## Part B2: The Project proposal (not evaluated in Step 1)

**Section a. State-of-the-art and objectives**

**Section b. Methodology**

**Section c. Resources**

**Section d. Ethical and security-sensitive issues**

*Please respect the following formatting constraints: Times New Roman, at least font size 11, margins (2.0 side and 1.5 bottom), single line spacing.*

Documento com 15 páginas  
Flowcharts, timeline e milestones...

Descrição do orçamento segundo o template/tabela:

Human Resources:

PI

3 PhD students

2 post-doctoral fellows

1 technician

Equipment, consumables and overheads

Total: 1.4 M€



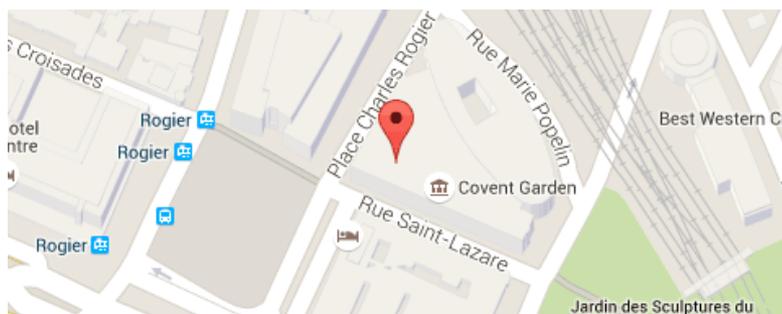
# A avaliação...

**1º fase:** Avaliação da parte B1 (classificação A)

**2ª fase:** Avaliação das partes B1 e B2 + entrevista em Bruxelas

## **Informação para a entrevista:**

3 slides em pdf correspondentes a 7 min de apresentação, seguidos de 30 min de discussão com os avaliadores



Portugal tem mentes brilhantes!!!  
No entanto, é preciso arriscar...



# Path

