

Entretanto, como facilmente se pode calcular, o Grupo de Electroquímica ia-se afirmando a pouco e pouco. Já em 1983 se encarregou da organização da IV Reunião Nacional de Electroquímica, que se realizou em Braga de 30 de Maio a 1 de Junho.

Uma vez que os investigadores electroquímicos continuavam, em termos de inserção no CQPA, integrados na Linha de Síntese Orgânica, apesar da especificidade dos projectos e métodos usados face aos da Química Orgânica, sentia-se a necessidade de criar dentro do CQPA uma nova linha - "Química Física". A sua criação foi discutida e aprovada no CQPA e enviada ao INIC para homologação em 9 de Dezembro de 1982. Mas só em 1987 essa Linha viria a ser homologada e é nela que se integram os seguintes projectos de investigação actualmente em curso:

- "Estudos Electroquímicos e Análise e Especiação" onde um licenciado está a preparar o doutoramento. Em Colaboração com a Universidade de Cardiff.
- "Estudos Cinéticos e Mecanísticos de Reacções Electrossintéticas" onde uma licenciada está a preparar o doutoramento.
- "Aplicação de Microeléctrodos na Determinação de Parâmetros Electroquímicos"
- "Síntese e Estudos Electroquímicos de Complexos Bisciclopentadienilo de Mo, W e Ti com Ligandos Azotados" onde uma assistente prepara o seu doutoramento.

Em termos de equipamento, a linha 4 "Química Física" está medianamente bem equipada.

Quando se compara a situação actual com a inicial anteriormente descrita não podemos deixar de reconhecer que o caminho percorrido foi longo e que o esforço dispendido foi grande, quer em termos de pessoal qualificado, quer em termos de equipamento.

Criaram-se condições de trabalho e os frutos estão à vista no número e qualidade das publicações que o grupo já produziu.

Compete agora aos actuais investigadores solidificar e desenvolver cada vez mais a Electroquímica na Universidade do Minho.

THE DEVELOPMENT OF ELECTROCHEMISTRY AT THE UNIVERSITY OF MINHO

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The history of Electrochemistry at the University of Minho is closely related and determined by the development of the Chemistry Department.

The University of Minho was created on August 11th 1973. The first academic year was in 1975/76, and the academic degrees were teaching oriented B.S.'s. When the B.S. in life sciences started in the next academic year, the Department staff was one Assistant Professor of Organic Chemistry and three assistants, all of them coming from Universities located at the overseas colonies.

By the end of October 1976 an Electrochemistry Professor came from the University of Coimbra.

Meanwhile it was under way the start of a research center at the University of Minho: Pure and Applied Chemistry Center (CQPA), with three research branches: Molecular Physics, Organic Synthesis and Chemical Technology. This center was accepted by the governmental research coordination institute, National Institute for Scientific Research (I.N.I.C.), Lisbon.

In such a structure every new member of the Chemistry Department was assigned to the Organic Synthesis branch whatsoever his preferences should be. As there were neither laboratories, nor instruments, it was not possible to start in Braga any research project. So, the research assistants had to go abroad to get their Ph.D. degrees.

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The efforts to start an electrochemistry research group faced the following situation: as there were no instruments we could not start a research group, even small, with some credibility to apply for grants, and no institution would give a grant to a group that had not yet established itself as a research group.

It was the Rector, who stopped this vicious circle in 1979. He set aside part of a grant by Gulbenkian Foundation to buy a Polarographic Analyzer PAR 174A, a Polarographic Stand SME 303 and a XY Recorder Houston 2000.

An interdisciplinary project involving people from Physics and Chemistry Departments was immediately started. Entitled "**Photogalvanic Cells. Study of the Electrode Reactions with Modified Electrodes**", applied to JNICT, Lisbon, for a grant, and got a research contract for three years.

With the financial support from JNICT, and INIC through CQPA, it was possible to buy more instruments, such as an Universal Programmer PAR 175, an Oscilloscope Nicolet Explorer I, a Keytney Multimeter, a Philips XY Recorder, a Xenon Lamp and a Monochromator.

This project was pursued longer than the original research contract under the title "**Photoelectrochemical Cells**". It should be noted that one of the persons involved already got her Ph.D. degree (1986) and another one is on the way.

At the moment this group is working on three projects:

- "**Electrochemical Studies on Analysis and Speciation**" in collaboration with the Department of Applied Chemistry of the University of Cardiff, Wales.
- "**Lithium Batteries with solid Polimeric Electrolytes**" in collaboration with the Department of Chemistry of the University of St. Andrews, Scotland.
- "**Synthesis and Electrochemical Studies of Biscyclopentadienyl Complexes of Mo, W and Ti with Nitroligands**".

There are research assistants in all these projects, working towards their Ph.D. degree.

As the time went by the Department of Chemistry was expanding not only in the number of courses offered, but also in its teaching staff.

In July 1980 a new member came with an electrochemical background. She got her Ph.D. degree at the University of Southampton with a thesis on

tridimensional nucleation. Once in Braga she started a project on "**Electrochemical Cleavage of Protecting Groups**", in collaboration with the University of Southampton. This project opened the Organic Electrochemistry field at the University of Minho and with the grants from different supporting institutions (JNICT, INIC, EEC) it was possible to buy a great number of new instruments. The collaboration between this research group and the group of Southampton has been very proficuous.

One of the persons involved in this project got her Ph.D. (1987) and another one is on the way.

At the moment this group has some research assistants working towards their Ph.D. degrees on the following projects:

- "**Kinetic and Mechanistic Study of Electroorganic Reactions**";
- "**Applications of Microelectrodes to the Study of Electrochemical Systems**".

The field of Electrochemistry of new materials was started at the University of Minho by an Assistant Professor, who got both his B.Sc. and Ph. D. from the University of St. Andrews, Scotland. His Ph.D. thesis was on "**Electrochemical Studies of Solid Solution Electrodes**". He started a project on "**All Solid Lithium Batteries**" that got a two years supporting grant from JNICT under the programme "**New Materials**".

It is clear, from what we have said before, that the Electrochemistry group at the University of Minho has been increasing slowly but constantly. In 1984 it was in charge of the Fourth National Electrochemistry Meeting that took place in Braga May 30th till June 1st.

The need for a new research branch in the CQPA was at stake, because all the electrochemical researchers were in the Organic Synthesis branch, despite of the specificity of their work.

The new Physical Chemistry branch was discussed and approved in December 9th 1982 but the agreement from INIC only came in 1987. Now, all the Electrochemistry researchers at the University of Minho belong to this research branch, which has a fair amount of instruments for the job that intends to do.

Looking back a couple of years, we can now say that it was a long and hard way to get to the point where we are now.

However, this was only possible with the work and enthusiasm of all the staff of the Physical Chemistry branch, who are the ones that have in their

hands the possibility to make the University of Minho a renown and respected Center of Electrochemistry.

ENCERRAMENTO DA SESSÃO COMEMORATIVA DO 5º ANIVERSÁRIO DA SOCIEDADE PORTUGUESA DE ELECTROQUÍMICA

ARMANDO J. L. POMBEIRO

PRESIDENTE DA SOCIEDADE

A final, reitero os agradecimentos às instituições que nos honraram com a sua representação e faço votos para que deste Encontro, em particular desta sessão comemorativa do 5º aniversário da Sociedade, resulte um melhor conhecimento mútuo das nossas instituições e uma abertura à possibilidade de discussão de acções conjuntas em prol do desenvolvimento da Ciência, em geral, e da Electroquímica, em particular.

Mais importante do que celebrar o passado será projectar o futuro.

Exprimo também o meu agradecimento aos Professores J. Simões Redinha, César Viana, João Cabral e João Simão pelas admiráveis palestras com que nos obsequiaram e aos plenaristas convidados para este Encontro. Agradeço igualmente aos restantes membros das comissões organizadora e executiva desta conferência a sua disponibilidade para participarem na sua organização, e aos titulares dos órgãos directivos da Sociedade, no passado e no presente, bem como a todos os associados, o seu esforço concertado graças ao qual a Sociedade tem levado a bom termo os propósitos em que se tem empenhado.

Permito-me ainda testemunhar o reconhecimento da Sociedade às instituições que têm vindo a apoiar a sua actividade, entre as quais se destacam, pelo carácter decisivo ou quase permanente das suas contribuições, a Academia das Ciências de Lisboa, a Fundação Calouste Gulbenkian, o Instituto Nacional de Investigação Científica (não esquecendo os Serviços de Apoio à Investigação e Desenvolvimento do Complexo I), a Junta Nacional de Investigação Científica e Tecnológica, o British Council, as Universidades de Coimbra (através da Faculdade de Ciências e Tecnologia), de Lisboa (através do Instituto Superior Técnico e da Faculdade de Ciências), do Porto (através da Faculdade de Ciências), do Minho e do Algarve.

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Agradeço, ainda, a todos os circunstantes, a sua amável presença e participação interessada.