



UNIVERSIDADE DE ÉVORA

INSTITUTE OF EARTH SCIENCES

**Post-Doctoral Researcher Position:
Modelling of CO₂ Storage in porous media**

10 July 2024

A Post-Doctoral (Post-Doc) position in CO₂ storage modelling is available within project “*CTS - CO₂ Transport and Storage directly from a ship*”, funded by CETP (Clean Energy Transition Partnership) and by FCT (Fundação para a Ciência e Tecnologia), with grant agreement CETP/0006/2022:

Scientific area: Earth Sciences

Admission requirements:

The candidate must hold a Doctoral's degree (Ph.D.) in Reservoir Engineering or in related scientific areas, such as Petroleum Engineering, Hydrogeology, Earth-Resources, Mathematics, Geology, Physics and Mining Engineering.

Experience on dynamic flow simulator, such as TOUGH2, Eclipse, Tempest, CMG or similar, self-drive and be eager to learn about CO₂ dynamic reservoir modelling, capable for teamwork and with good communication skills.

Previous engagement on in CO₂ storage projects appreciated but not mandatory.

Regarding the “BIPD” (postdoctoral scholarship), in terms of the requirements to be verified for their attribution (article 7 of the FCT Research Grant Regulation no. 950/2019) the need for a doctoral degree to have been obtained in the 3 years prior to the date of submission of the application to the scholarship and, in terms of its execution, the fact that it can only be renewed for a maximum period of 3 years.

Work plan:

The candidate will integrate a multidisciplinary team of University of Evora and will develop its research on, but not limited to:

- Develop and implement numerical models to simulate CO₂ injection, migration, and trapping mechanisms.
- Investigate reservoir behavior, fluid-rock interactions, and long-term storage capacity.
- Collaborate with geoscientists, engineers, and stakeholders to enhance model accuracy.
- Publish research findings in peer-reviewed journals and present at conferences.
- Mentor graduate students and contribute to grant proposals.



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Applicable legislation and regulations: The granting of the Research Scholarship will be carried out upon the signing of a contract between the University of Évora and the scholarship holder, according to the version in **Annex I**, pursuant to the Research Scholarship Statute (Law No. 40/2004 of August 18 and Decree-Law No. 123/2019 of August 28) and in accordance with the legislation and Regulation of Research Grants of the Foundation for Science and Technology, IP in force, regulation nº950/2019 of December 16, 2019: <https://files.diariodarepublica.pt/2s/2019/12/241000000/0009100105.pdf> and other applicable rules.

Place of work: The work will be developed at the Institute of Earth Sciences/ Geoscience Department, at the Science and Technology School of the University of Évora, under the general coordination of the Administrator of the University of Évora and the scientific guidance of the Professor and the scientific guidance of Prof. Dr. Júlio Carneiro, who must draw up an opinion on the final activity report of the scholarship (**Annex II**), according to the draft in **Annex III**.

Duration of the scholarship(s): The scholarship will have a duration of 16 months, starting on the September 2024, and it may be renewed until 30 April 2026 in the scope of project project “PilotSTRATEGY - CO₂ Geological Pilots in Strategic Territories”, with reference GA 101022664, funded through EU Horizon 2020.

Amount of monthly maintenance allowance: The net amount of the scholarship corresponds to €1 801.00, according to the table of scholarships awarded directly by FCT, I.P. in Portugal (https://www.fct.pt/wp-content/uploads/2024/02/Tabela-de-Valores-SMM_atualizacao-2024.pdf), payments being made monthly, by check or bank transfer.

Selection methods: The selection methods to be used will be the following: curricular assessment (CA), based on the candidate's academic merit (AM), previous research experience (PRE) and background knowledge (BK) indicated in the admission requirements, and interview (I), obtaining the final classification (FC) as follows: $FC = (0.6 \cdot CA) + (0.4 \cdot I)$, with $CA = (0.5 \cdot AM) + (0.3 \cdot PRE) + (0.2 \cdot BK)$, with the different components quantified between 0 and 100%. The interview (I) will only be held if the jury so determines after the curricular assessment (CA) and only for candidates who have achieved a mark of at least 60% in this component. In the event an interview, the score will be $AF = 0.6 \cdot AC + 0.4 \cdot E$

Composition of the Selection Jury:

President: Professor Júlio Carneiro, Associate Professor, Department of Geosciences, University of Évora

1st Effective Member: Professor Carlos Ribeiro, Assistant Professor of the Department of Geosciences, University of Évora

2nd Effective Member: Dr. Pedro Pereira, Researcher of the Institute of Earth Sciences, University of Évora

1st Alternate Member: Dr. Karwan Khudhur, Researcher of the Institute of Earth Sciences, University of Évora



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Advertising/notification of results: The final results of the evaluation will be publicized, through an ordered list by the final grade obtained and posted in a visible and public place at the Institute of Earth Sciences/ Geoscience Department of the University of Évora, being the candidate approved notified through email.

To ensure the right of prior hearing of interested parties, the Final Classification project will be announced by any written means to all interested parties.

After communicating the provisional list of the results of the evaluation, candidates have a period of 10 working days to express their opinion in a preliminary hearing of interested parties. Based on the final ranking list, a reserve selection list will be drawn up, to be used for the possible recruitment of new scholarship holders within the scope of this project, up to the duration of the scholarship, which may be used in the eventuality of the first ranked candidate withdrawing, failing to present the mandatory documentation, or in the event of the scholarship holder canceling their scholarship early. In the eventuality that none of the candidates demonstrates the profile required to carry out the work plan, the jury reserves the right not to award the scholarship.

Application deadline and submission of applications: The tender is open from 2 of August to 30 of August of 2024 and the results of the selection will be published by 6 of September 2024.

Applications must be formalized, obligatorily, by sending an application letter with the following documents: Curriculum Vitae with the description of the curricular units and grades obtained, certificate of qualifications, recommendation letters and other supporting documents considered relevant of the academic and/or professional career.

For the purposes of application, the evidence may be replaced by a declaration of honour signed by the candidate, but the failure to demonstrate that evidence, in the contracting phase, possession of the required degree on the deadline for application or the non-presentation of proof of enrolment in the study cycle or non-degree course, for scholarships with this component, imply the cancellation of the candidate's application.

Academic degrees obtained in foreign countries require registration by a Portuguese Institution in accordance with Decree-Law no. 66/2018, of August 16 and Ordinance No. 33/2019, of January 25th.

The presentation of the certificate is mandatory for the signing of the contract. More information can be obtained at: <https://www.dges.gov.pt/pt/pagina/recognition?plid=374>

Applications must be sent by email to:

Júlio Ferreira Carneiro
Geosciences Department of the University of Évora
email: jcarneiro@uevora.pt



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ANNEX I
MINUTE SCHOLARSHIP CONTRACT

Between,

FIRST PARTY: The _____ (name of organisation), com sede em _____ with registered office at _____ (address of registered office of organisation), with tax number _____, represented in this act by _____ (name of representative of organisation), in the capacity of _____ (Director/President) of the contracting/financing organisation, hereinafter referred to as the "First Party", and

SECOND PARTY: _____ (*name of grantee*), holder of ID card/passport no. _____ (*ID card/passport no.*) and taxpayer no. _____ (*taxpayer no.*), resident at _____ (*address of grantee*), hereinafter referred to as the "Second Party".

whereas,

The application requirements for the award of the scholarship under the call _____ (*call identification / call notice reference*) have been met, the process of evaluating the candidates and publicising the results has been completed and the required documentation has been received.

This scholarship contract is entered into in good faith and mutually accepted, under the terms of the Research Fellow Statute, and is governed by the following clauses:

FIRST CLAUSE

The First Party undertakes to award the Second Party a grant _____ (type of grant and reference of the call for tenders), within the scope of the project _____ (type of project) / R&D unit with the reference _____ (reference of the project or unit) and with the title _____ (title),

(Reference should be made to the sources of funding for the project/unit).

- with 100% OE funding - Mention of funding: financed by the Foundation for Science and Technology, I.P./MCTES through national funds (PIDDAC)

- With FEDER co-financing - Mention of funding:

Financed by the European Regional Development Fund (ERDF) of the European Union, through (indicate which Operational Programme it finances) Portugal 2030 or other programmes that may succeed it) starting at _____ (date of start of the scholarship), for a period of _____ months, possibly renewable (as defined in the call for proposals).

SECOND CLAUSE

In the alternative, the FCT Research Grant Regulations apply, of which the Second Party declares that it is aware.

THIRD CLAUSE

The Second Party undertakes to carry out the attached work plan, the content of which he/she declares that he/she has taken full cognisance of and accepts unreservedly, from the above-mentioned start date and on an exclusive dedication basis, under the terms of article 5th of the Research Fellow Statute.



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FOURTH CLAUSE

The Second Party will carry out the work at _____ (*name of the host institution as defined in Article 3(g) of the FCT Research Grant Regulations*), which acts as the host institution, with _____ (*name of the supervisor and affiliation institution*) as the scientific supervisor.

FIFTH CLAUSE

1. The monthly maintenance allowance awarded is _____ (€...,00).
2. The Second Grantor also benefits from personal accident insurance for the duration of the grant, the conditions of which he/she declares to have read and accepted without reservation.
3. The following scholarship components are also added _____ (*specify the applicable components in the terms set out in the FCT Research Grant Regulations*).

SIXTH CLAUSE

The First Party may cancel the grant and the Second Party may be obliged to refund all or part of the sums received in the following cases:

- a) a) Serious and repeated failure to comply with the Second Party's obligations under the Research Grant Holder Statute and the FCT Research Grant Regulations, for reasons attributable to the Second Party;
- b) b) A negative evaluation of the Second Grantor's performance by the supervisor or the host organisation under the terms of the FCT Research Grant Regulations;
- c) c) False declarations by the Second Granting Party on matters relevant to the award and renewal of the grant or to the assessment of its development.

SEVENTH CLAUSE

Without prejudice to the provisions of the previous clause, this contract shall terminate automatically:

- a) Upon completion of the activity plan;
- b) End of the period for which the scholarship is awarded;
- c) Repeated non-compliance by one of the parties;
- d) Revocation by mutual agreement;
- e) Establishment of a legal employment relationship with the host organisation.

EIGHTH CLAUSE

1. The rights and duties of the parties are those resulting from the provisions of the Research Fellow Statute.
2. The Second Party declares that he/she has read the Research Fellow Statute and the applicable Regulation(s) and undertakes to comply with their provisions.

NINTH CLAUSE

It is agreed between the parties, that in case of need and to settle all questions arising from this contract, the District Court of _____ (*name of the District*) shall have jurisdiction, expressly waiving any other.



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TENTH CLAUSE

Any changes to be made to the contract in the course of its performance shall be the subject of prior written agreement.

ELEVENTH CLAUSE

1. This contract shall take effect on the date it is signed by both parties.
2. The grant awarded under the terms of the FIRST CLAUSE of this contract may be renewed for additional periods of (...) months, up to a maximum of (...) months, under the terms of article 15 of the FCT Scholarship Regulations.
3. [ONLY FOR RESEARCH SCHOLARSHIPS, otherwise withdraw]: The award of the academic degree (or diploma) during the term of this contract shall not affect its effects, and the grant referred to in the preceding paragraph may be renewed at a later date, provided that it is aimed at carrying out activities that are indispensable for the completion of the project (...).
4. The concrete definition of the activities referred to in the previous paragraph is the responsibility of the First Party, after hearing the Second Party and the Scientific Advisor, and they must be included in the agreement to be signed, as provided for in the previous clause.

_____, _____ of _____

The First Party

The Second Party

(Signature and stamp of the organisation)

(Signature of the grant holder or his/her proxy)

With 100% OE funding



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Or with FEDER co-financing:



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Programa
Operacional)



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ANNEX II

FINAL REPORT FORM (Fellowships)



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UNIVERSIDADE DE ÉVORA
Largo dos Colegiais, N.º 2
Apartado 94
7002-554 ÉVORA PORTUGAL
Telefone (telephone): +351 266 760 975
Mail: cop@uevora.pt

Referência da bolsa (Grant Reference)	
Organização (Organisation)	

DETALHES DO BOLSEIRO / FELLOWSHIP DETAILS

Título (Title)	
Nome próprio (Forename)	
Apelido (Surname)	
Organização (Organisation)	
Departamento ou Centro (Department or Centre)	
Supervisor (Supervisor)	

DETALHES DO PROJETO / PROJECT DETAILS

Título da Bolsa (Grant Title)				
Referência da bolsa (Fellowship reference)				
Período da bolsa (Period of Review)	Data de Início: (Start Date):		Data do Termo:	



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OBJETIVOS / OBJECTIVES

Objetivos originais como constam na proposta (Original objectives as presented in the proposal)

Estes objetivos permaneceram válidos durante o período da bolsa, ou
(These objectives remained valid throughout the Fellowship (*tick box*), or

☐

Estes objetivos foram modificados

☐

(explique como/ porque no seu relatório)

(These objectives were changed) (*tick box*).

(If so please explain how/why in your report)

Novos objetivos (New objectives)

Sumário dos resultados do projeto: descreva em termos simples o seu trabalho de forma a que possa ser divulgado perante uma audiência genérica
(Summary of project outcomes: In simple terms describe your work in such a way that it could be publicised to a general audience.)

Endereço de página com mais detalhes, se desejar: (Web address with further details if you wish)



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RESULTADOS DA BOLSA / OUTCOMES OF THE FELLOWSHIP

Os principais benefícios das bolsas concedidas pela Universidade de Évora incluem:
(Major benefits of Évora University Fellowships include:

- i) os impactes potenciais sobre as carreiras dos bolseiros e
(the potential to impact positively on the careers of individual Fellows and)
- ii) os resultados da investigação
(the research results)

RELATÓRIO DAS ACTIVIDADES DESENVOLVIDAS / REPORT ON WORK UNDERTAKEN

Utilize o número de páginas necessário (please continue on additional pages as required)

Participação em conferências científicas, no país e no estrangeiro (nome, local e data)
(Scientific Conference attendances – name, location and date)



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RESULTADOS DA INVESTIGAÇÃO (RESEARCH RESULTS)

Publicações/ Publications

(1) Enuncie quantos resultados da investigação resultaram principalmente da investigação financiada através desta bolsa e indique o tipo (revista, conferência, livro, patente, software, outro).

(Please state how many research results have resulted principally as a result of the research funded through this grant and indicate the type (journal, conference, book, patent, software, other))

	REVISTA (JOURNAL)	ARTIGOS EM CONFERÊNCIAS (CONFERENCE PAPERS)	LIVRO OU TESE (BOOK OR THESIS)	PATENTE (PATENT)	SOFTWARE	OUTRO OTHER
Número total de publicações / Total Number of Publications						
Número de Publicações com arbitragem científica (se diferente do anterior) / Number of Refereed Publications (if different from above)						
Número de Publicações que contêm um coautor estrangeiro / Number of Publications That Contain An International Co-Author						

(2) No caso de Bolseiro de mestrado ou doutoramento, referencie os dados relativos à tese: (In the case of Master or Ph.D. Fellowship, please indicate:)

Título da tese/ Thesis title:

Classificação obtida / Classification:

Universidade e data/ University and date:



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- (3) Liste até cinco publicações que resultaram principalmente da investigação financiada através da Bolsa e indique o tipo (revista, ata de conferência, livro, patente, software, outro); se houve coautores estrangeiros ou industriais e se a publicação foi sujeita a arbitragem científica. / Please list up to five significant publications that have resulted principally as a result of the research funded through this grant and indicate the type (journal, conference, book, patent, software, other); whether there was an international or industrial co-author and whether the publication was refereed.

AUTOR(ES) (AUTHOR(S))	TÍTULO (TITLE)	REFERÊNCIA (REFERENCE)				TIPO (TYPE)	Arbitragem? Refereed?	Industrial co-author?	International co- author?
		Revista/Ata de Conf. (Journal/Conference).	ano (year)	Vol./Nº (vol./Nº)	página (page)				
							<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
							<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
							<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
							<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
							<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>



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Outros resultados da Bolsa / Other Results of the Fellowship

Indique o calendário para potencial exploração (i.e. conseguido, expectável dentro de 3 anos, expectável dentro de 10 anos, não expectável em 10 anos) e inclua números das patentes, datas, nomes e endereços das empresas, etc., de forma apropriada, nas colunas “detalhes” e “referência” / Please indicate the timescale for potential exploitation (e.g. achieved, expected within 3 years, expected within 10 years, none foreseeable in 10 years) and include patent nos., dates, company names and addresses etc. as appropriate, in the ‘details’ and ‘reference’ columns.

	DETALHES (DETAILS)	REFERÊNCIA / REFERENCE	CALENDAR. / TIMESCALE
Licenças ou Patentes/ Licences or Patents			
Empresa de Spin Off/ Spin Off Company			
Consultadoria Direta/ Direct Consultancy			
Cursos de Formação Industrial/ Industrial Training Courses			
Compreensão Pública de Ciência e Engenharia/ Public Understanding of Science and Engineering			
Outro (especifique) / Other (please specify)			



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**Contribuições Relacionadas Concedidas/Pendentes
(Related Support Awarded / Pending)**

Indique o nível de apoio à investigação que derivou principalmente como resultado da Bolsa./ Please indicate the level of research support that has arisen principally as a result of the Fellowship.

FONTE DE FINANCIAMENTO (FUNDING SOURCE)	DETALHES (DETAILS)	SUORTE (€) SUPPORT (€)
Universidade de Évora (desde o início da bolsa) Évora University (from start of Fellowship)		
Outro Organismo Nacional de Investigação /Other National Research Organization		
Outro Organismo Governamental Português / Other Portuguese Government Council		
Empresa / Industrial		
Outra (Other)		
Comissão Europeia / European Commission		
Pendente (Pending)		

Assinaturas (Signatures):

Bolseiro (Fellow)
Data (Date):



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ANNEX III

**MODEL OF THE FINAL EVALUATION REPORT ON THE ACTIVITY OF THE SCIENTIFIC
RESEARCH FELLOW TO BE DRAWN UP BY THE SCIENTIFIC SUPERVISOR**

1. Scientific supervisor of the scholarship:
2. Identification of the grant:
3. Project name:
4. Host organisation:
5. Fellow:

5.1. Critical analysis of the activities and work carried out by the grant holder.

[A brief description of the activities carried out by the grant holder, in accordance with the announcement and the activity plan, and a critical appraisal of the objectives and results achieved by the grant holder].

5.2. Final assessment of the work carried out by the grant holder.

[Reasoned overall appraisal of the work carried out by the grant holder, with a final positive or negative balance, addressing their performance, effort and dedication]

Évora, ____ of ____ 20__

The Scientific Supervisor of the Scholarship, ____ (full name)



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