



Funded by the
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Thessaloniki, 20-12-2023
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TO BE PUBLISHED ONLINE

CALL FOR EXPRESSION OF INTEREST

(For submission of proposals for the conclusion of a project lease contract)

The Research Committee (Special Account for Research Funds) of Aristotle University of Thessaloniki (ELKE AUTH), in the framework of the project "**Continuous Digitalized Processes for Producing Biopharmaceuticals (CoDiBio)**" funded by the European Union (European Research Council - ERC), Horizon 2021-2027, with Academic Head Prof. Massimo Morbidelli, invites candidates to submit proposals for (2) positions as described below, through the award of a project contract, starting from the signing of the contract until **01/12/2027** and with a total anticipated remuneration **165.118,00€** (VAT and taxes included). The contract can be extended until the end date of the project **30/09/2028** (in case of extension until its completion) and within the approved limits of its budget and up to the amount of **20.800€**.

One (1) position/ Chemical Engineer, PhD Candidate / until 01/12/2027/ up to 82.559,00€ (extension up to 10.400€)

1. Project Description (A)

The aim of the proposed project is to develop an efficient, scalable and continuous fermentation process for high-quality plasmid DNA production, which will be integrated within an end-to-end continuous manufacturing platform at bench-top scale (**WP1, Continuous Bioprocessing Facility**). This aim has been broken down to a series of scientific objectives:

- Investigation of the upstream process design space via a formalised Design of Experiments (DoE) approach. This will enable multifactor optimisation of the E. coli fermentation process in order to maximize product titre and quality.
- Validation of optimal operating conditions at bench-top scale and adaptation to continuous cultures. The objective here will be to fine tune Critical Process Parameters (CPPs) for continuous mode cultivation in order to further enhance plasmid amplification.
- Finally, the optimized continuous fermentation process will be integrated into an end-to-end continuous process train including filtration, cell lysis and chromatographic purification of pDNA. Further 'whole-process' optimization will be performed via finetuning of upstream CPPs, as downstream processing efficiency is often influenced by upstream process performance.

Successful completion of the project will have a significant impact, addressing the need for high-quality pDNA production to meet the demand for mRNA vaccines and gene therapies in the field of biopharmaceuticals. By identifying and implementing optimal upstream conditions that maximize efficacy and enhance plasmid purity, the project will contribute to reducing downstream or/and purification costs. These advancements will not only benefit current production processes, but also lead to various other applications in the field, as they will provide a highly efficient and scalable biomanufacturing platform.

2. Required Qualifications

- Integrated Masters/Meng/MSc Chemical Engineering
- PhD Candidate in Chemical Engineering
- Knowledge of English (B2)

- Proven Knowledge of 3D CAD software (Autodesk Tinkercad)
Note: The knowledge is documented with a relevant certificate or with a relevant bachelor's / master's dissertation / doctoral thesis or with relevant courses of the study cycle (detailed grade and if the correlation does not immediately result from the title of the course, the detailed course score must be accompanied by description of the course in the Study Guide) or with teaching of relevant courses (certificate of institution and / or contract).

3. Additional Qualifications

- Publications in scientific journals in the field of Continuous Bioprocessing
- Announcements in scientific conferences in the field of Continuous Bioprocessing
- Experience* in the field of Continuous Bioprocessing
- Interview

4. Qualifications Assessment

| | Qualifications criteria | Credits (Researchers) |
|---|--|-----------------------|
| 1 | Publications in scientific journals (per publication) – 6 max | 40 (per publication) |
| 2 | Announcements in scientific conferences (per announcement) – 6 max | 15 (per announcement) |
| 3 | Experience* (per month) up to 84 months | 7 (per month) |
| 4 | Interview | ≤100 |

All the qualifications listed above are in relevance with the project requirements and objectives.

One (1) position/ Chemical Engineer, PhD Candidate / until 01/12/2027/ up to 82.559,00€ (extension up to 10.400€)

1. Project Description (B)

The aim of the proposed project is therefore to employ an integrated supervisory control and hybrid modelling approach for the digitalization of continuous process for the manufacturing of Pdna (**WP2, The Hybrid Models**). This aim has been broken down to a series of scientific objectives:

- Investigate the mechanistic behaviour of the entire system. This objective aims on gaining thorough knowledge of the physical, chemical and biological properties of each unit operation individually.
- Data collection and integration. Develop a software layer to establish bidirectional communication with a physical Supervisory Control and Data Acquisition (SCADA) system connected to 5 distinct unit operations. This will enable real time capturing and processing of process data and feedback corrective actions to hardware actuators.
- Employ the collected data to train hybrid models, incorporating both mechanistic modelling and data driven elements (such as Artificial Neural Networks).
- Dynamically optimize the process in real-time by leveraging feedback from the model. Once the hybrid model is trained and validated, it can be used for real-time process optimization since it will continuously analyse the incoming data. Thus, the model can provide insight on how the controlling variables (e.g., Temperature, pH levels, feed rate) can be handled to optimize the entire process.

Successful completion of the project will showcase on a physical continuous manufacturing process, the benefits of digitalisation and will provide a 'real-life' example of an industry 4.0 application.

2. Required Qualifications

- Integrated Masters/Meng/MSc Chemical Engineering
- PhD Candidate in Chemical Engineering
- Knowledge of English (B2)
- Proven Knowledge of numerical analysis software (Matlab and/or Python)
Note: The knowledge is documented with a relevant certificate or with a relevant bachelor's / master's dissertation / doctoral thesis or with relevant courses of the study cycle (detailed grade and if the correlation does not immediately result from the title of the course, the detailed course score must be accompanied by description of the course in the Study Guide) or with teaching of relevant courses (certificate of institution and / or contract).

3. Additional Qualifications

- Publications in scientific journals in the field of Hybrid Modelling of Bioprocesses
- Announcements in scientific conferences in the field of Hybrid Modelling of Bioprocesses
- Experience* in the field of Hybrid Modelling of Bioprocesses
- Interview

4. Qualifications Assessment

| | Qualifications criteria | Credits (Researchers) |
|---|--|--------------------------|
| 1 | Publications in scientific journals (per publication) – 6 max | 40 (per publication) |
| 2 | Announcements in scientific conferences (per announcement) – 6 max | 15 (per announcement) |
| 3 | Experience* (per month) up to 84 months | 7 (per month) |
| 4 | Interview | ≤100 |

All the qualifications listed above are in relevance with the project requirements and objectives.

5. Required Documents:

1. Submission of Proposal - Statement (see appendix)
2. Detailed table data for the proof of experience, if needed (see appendix)
3. Detailed Curriculum Vitae
4. Copies of the Degrees
Special cases:
 - a) In cases where the degree grade is a qualification/criterion and is not indicated on the relevant copy of the degree, the transcript of records should be submitted in addition, otherwise the specific qualification requested will not be marked.
 - b) Postgraduate and PhD students should submit a recent certificate (within the last three months) from the relevant University Department, showing that they have the relevant status (postgraduate/PhD student) at the time of submission of the proposal,
 - c) If the scientific field/specialisation is not evident from the degree:
 - For bachelor's and master's degrees, the transcript of records should be submitted,
 - For PhD candidates, if the scientific field/specialisation is not evident from the subject of the doctoral thesis, as indicated on the registration certificate from University's Department Secretariat, any other certificate documenting the above, signed by the Secretariat or the supervisor or the three-member committee, should be submitted.
 - For PhD holders, if the scientific field/specialisation is not evident from the doctoral degree, the electronic address of the doctoral thesis from the National Archive of Doctoral Dissertations should be included in the Curriculum Vitae. If the doctoral thesis was obtained from foreign institutions, the title and an abstract should be included in the Curriculum Vitae.
5. Copies of certificates and certifications of previous experience, as well as any other document that will certify the information mentioned in the CV and which are related to the Required or Additional qualifications-criteria of this call for expression of interest.
6. In order to prove that the criterion of publications in journals and/or conference announcements has been fulfilled, the candidate should include the required minimum information in the detailed CV, for journals, the title of the journal, the issue, the date of publication, the title of the publication, the authors, and for conferences, the title, the date and venue, a copy of the programme and a certificate of participation.

*** Proof of Experience:**

Certificate of employment or/and employment contract, detailing the duration and the job duties and responsibilities.

All the above concerning the experience apply if the candidates during their participation held the required basic qualification or the required professional license or other professional license or certificate.

6. Interview

Candidates who meet all the conditions and required qualifications of the call will be invited for an interview (after written information by e-mail). Candidates who do not attend the interview will be rejected. It is not necessary to hold an interview if all the conditions and required qualifications of the call are met by a single proposal.

The topics of the questions and the marking system to be used are shown in the following table:

| Nr. | Interview topic | Level of Knowledge Units for Grading | Scoring range |
|-----|---|---|---------------|
| 1 | Communication skills (technical presentation) | Basic 0-10 Good 11-20 Excellent 21-25 | 0-25 |
| 2 | Organisational skills | Basic 0-10 Good 11-20 Excellent 21-25 | 0-25 |
| 3 | Crisis management | Basic 0-10 Good 11-20 Excellent 21-25 | 0-25 |
| 4 | Understanding job requirements, project objectives and critical success factors | Basic 0-10 Good 11-20 Excellent 21-25 | 0-25 |

7. Submission of proposals

Proposals and required documents should be submitted either via e-mail to info@cheng.auth.gr or in person or by post to the following address Office 306, Department of Chemical Engineering, Aristotle University of Thessaloniki 54124 Thessaloniki, Greece within hours 10:00-13:00 no later than **03/01/2024 at 13:00**. Proposals will be attributed a reference number from the Secretariat of the Department of the Academic Head of the project.

8. Publication – Information

This Call will be published on the website of ELKE AUTH <https://rc.auth.gr/proskliseis-gia-apasholisi-se-erga> and on the website of "Diavgeia".

For more information and questions regarding the position, candidates may refer to **2310- 995917**. For information on the proposal submission process candidates may contact ELKE AUTH at **2310- 994053, 994052, 994082**.

9. Evaluation

Submitted proposals will be evaluated by a three-member Evaluation Committee in accordance with the procedure provided for in article 244 of Law 4957/2022 and in article 20 of the Funding and Project Management Guide of ELKE AUTH as applicable.

10. Objection

Candidates are informed of the results through the website of the ELKE AUTH (<https://rc.auth.gr/proskliseis-gia-apasholisi-se-erga>) in the online posting of this call, as well as through the program Diavgeia. The candidate has the right to submit an objection against the results of this call (Decision of acceptance of results) within an exclusive period of five (5) calendar days from the day following the posting of the decision of acceptance of results on the website of the ELKE AUTH. The objection must be in writing and legally signed, accompanied by a photocopy of the objector's identity card and must be submitted either electronically at prosk@rc.auth.gr, or in person, or by post to the Special Account for Research Funds (ELKE) of the Aristotle University of Thessaloniki (KEDEA Building, 3rd September - University Campus, Thessaloniki, P.O. Box 54636, 1st floor, Office 101). No objections may be raised on the grounds of interview or skill test.

The procedure for objections is defined by article 245 of Law 4957/2022 and article 20A of the Funding and Project Management Guide of the ELKE AUTH as applicable.

If the objection concerns the qualifications of one or more candidates, it is communicated to the latter by e-mail, at the discretion of MODY. Each of them has the right to submit their opinion by electronic or paper submission to the MODY within three (3) calendar days of the notification. All the above shall be forwarded to the Objections Committee. Candidates who will not submit any opinion in accordance with the procedure as described above, may not submit an objection to the new Decision on the acceptance of results of the Research Committee, which will be issued after the approval of the recommendation of the Objections Committee on the acceptance of the objection.

For the effective exercise of the right to submit an objection, candidates have the right to access the data of their individual candidature file and the evaluation-scoring documents, both of themselves and of their other candidates, upon written request within the objection submission deadline and under the conditions of articles 5 of Law 2690/1999, 42 of Law 4624/2019 and 6 par. 1(f) of the GDPR (EU 2016/679). The application shall be submitted in the same way as the objection.

Taking into account that the data of the candidates' individual files submitted for participation in this Call for Expression of Interest constitute personal data within the meaning of Article 4 of the General Data Protection Regulation 2016/679, the access of the other candidates to these data is possible under the terms of the legislation on personal data and Article 5 of the Code of Administrative Procedure, as well as in accordance with the conditions consistently accepted by the Hellenic Data Protection Authority (decision 28/2018). In any event, by submitting their application, candidates accept that the documents and supporting documents they submit may be issued to their fellow candidates, subject to the above conditions.

Both objections and requests for access to candidate file data must be legally signed, i.e. either with an electronic-digital signature (gov.gr or other legally granted digital signature), or with a handwritten signature. A photocopy of a document with a handwritten signature (scanned pdf file) will be given a same-day incoming file number but will be examined only if the original document will be submitted within five (5) calendar days.

Requests for access to data and objections that do not meet the above requirements will not be examined.

11. Personal data

ELKE AUTH takes all appropriate measures for the protection of personal data during the evaluation process and it is strongly recommended that you read about the data protection policy and your rights on the AUTH website <https://www.auth.gr/gdpr>.

OTHER CONDITIONS

1. From all the proposals submitted according to the above specifications, the one that best meets the project's requirements will be selected and awarded a work contract on the basis of contractual freedom.
2. Only proposals / objections that will be received by the set date and time will be considered. In the case of postal submission, the deadline is judged on the basis of the date mentioned in the shipping file, provided that it will be received by ELKE AUTH no later than the approval of the results. ELKE AUTH bears no responsibility for the content of the candidacy files that will be sent.
3. Changes to the proposals (replacements, corrections or submission of additional documents) are not allowed after the expiration of the deadline.
4. For the employment of teaching, research and scientific staff, the recognition of academic qualifications awarded by foreign institutions that are not accompanied by DOATAP - Hellenic National Academic Recognition and Information Center (Hellenic NARIC) recognition certificates, is based on the National Registry of Foreign Recognized Higher Education Institutes and the National Registry of Foreign Recognized Academic Title Types, <https://www.doatap.gr/anagnorish/mitroa>. If the degree is awarded by a foreign institution included in the list of article 307 of Law 4957/2022 (list of foreign institutions with a franchise agreement with private institutions in Greece), the candidate must submit a Certificate of Place of Study from the foreign institution. If the place of study or part of the studies is confirmed as the Greek territory, the degree is not recognised, unless the part of the studies undertaken in the Greek territory is in a public higher education institution. In addition, if the call for applications has a grading/marketing scale for the degree, candidates must provide a certificate of the Overall Mark from the foreign institution. The matching of marks is carried out according to the system of matching marks of domestic and foreign qualifications as defined by the decisions of the Plenary Board of the DOATAP (Proceedings 144/7.2.2014 and 145/14.2.2014) <https://www.doatap.gr/anagnorish/systima-antistoichias-vathmologisis-imedapon-kai-allodapon-titlon-spoudon/>. In case of failure to provide a certificate of the overall final grade, the proposal will not be rejected, but the specific qualification requested will not be marked.
5. For the employment of administrative, technical and other staff, academic qualifications, if they are required or taken into account and have been awarded by foreign institutions, must be accompanied by certificates of recognition of DOATAP-Hellenic National Academic Recognition and Information Center (Hellenic NARIC). In addition, if the call for applications has a grading/marketing scale for the degree, a certificate of equivalence issued by the DOATAP is required. If the certificate of equivalence of marks is not provided, and only the certificates of recognition issued by the DOATAP are submitted, the candidate's proposal will not be rejected, but the specific qualification requested will not be marked.
6. It is pointed out that the procedure for submitting proposals for the conclusion of a project lease contract is not competitive, while the selection of a contractor has the character of accepting the proposal and not "recruitment". The evaluation process will be completed by compiling a ranking list and / or a list of excluded, while those selected will be notified individually. In case of a tie, the proposal of the interested person is selected in order a) with the longest experience, b) with the highest bachelor's degree mark, c) with the highest master's degree mark.
7. The proposal that is first in the ranking table and has the highest score in all the scoring criteria will be the one that will be selected. In case of obstruction of the person who submitted it, the next proposal is selected until the ranking order is exhausted.
8. Any submitted proposal that does not meet the criteria of the call of the expression of interest will not be examined any further and will be automatically rejected.
9. Throughout the execution of the project and according to the terms of the contract, following a relevant decision of the Research Committee, the selected person may be replaced by the next candidate in the ranking order, either due to his/her resignation or due to improper execution of the contract, following a written notice of termination of the contract that will be duly served on him/her and after the deadline for compliance set in the same document has expired without effect.
10. The contract may be extended without restriction, following a decision of the competent body of ELKE AUTH and if the required budget of the project allows it, without a new invitation, until the end date of the project (and in case of extension of the project until its new end date).
11. ELKE AUTH does not undertake any commitment to conclude a contract, as it is left to its full discretion to conclude or not contracts, as well as their number, excluding any claim of the interested parties.
12. The project assignment will take place in accordance with the provisions of the Program Implementation Guide.
13. The knowledge of foreign languages is certified in accordance with the provisions of the Presidential Decree 85/2022 "Determining the qualifications for appointment to positions of public sector" (A' 232/17.12.2022), especially according to the articles 10, 14 par. 3 and 15 par. 7.
14. Foreign documents must be accompanied by photocopies of their official translation into the Greek language except for English, French, German, Italian and Spanish language certificates which, if they meet the conditions of the P.D. 85/2022, are accepted without requiring their translation.
15. For candidates, computer skills shall be certified according to the Presidential Decree 85/2022 "Determining the qualifications for appointment to positions of public sector" (A' 232/17.12.2022), especially according to the article 9.
16. It should be noted that the project assignment to candidates employed in the Public Sector, in Public and Private Bodies, etc. is subject to the prohibitions/restrictions imposed by national legislation, the regulatory framework of the project management and the Funding and Management Guide of ELKE AUTH.

The acting Rector

Apostolos Apostolidis
Professor of AUTH

SUBMISSION OF PROPOSAL - STATEMENT*
(with consequences of law on false/inaccurate statement)

Name: Surname:

Mobile phone: E-mail: VAT or password number:

Please note in this proposal - statement and outside of the postal file the following

(To be completed by the candidate):

1. The reference number of this call

2. The code of project object you would like to participate (A or B)

I affirm that:

- a. I have read and understood all the terms of this Call, which I accept unconditionally,
- b. the information given in all the forms in this proposal is accurate and true,
- c. I give my explicit and unconditional consent to the collection and processing of my personal data, as indicated in this proposal and in the documents submitted with it, exclusively for the purposes of implementing this Call for expressions of interest, including the posting of the results thereof on DIAVGEIA, in accordance with the provisions of the General Data Protection Regulation (GDPR) and Law 4624/2019.

SIGNATURE

Date : ___/___/_____

Find attached : 1.
2.

****Incomplete filling of the proposal – statement constitutes a criterion for exclusion***

DETAILED TABLE DATA FOR PROOF OF EXPERIENCE

(The person concerned records all relevant experience to the subject of the call **if required**)

| a/a | From | To | (a) | (b) | Institution of Employment - Employer | Employer Category ⁽¹⁾ | Task of Employment |
|-----|------|----|----------------------|--------------------|--------------------------------------|----------------------------------|--------------------|
| | | | Months of Employment | Days of Employment | | | |
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TOTAL **GENERAL TOTAL MONTHS OF EXPERIENCE** ⁽²⁾

(1) Complete as appropriate with 'PR' or 'PU' depending on the category of the Employment Office, where PR: Private sector, individuals or private legal entities (corporations, etc.) • PU: Public sector, government agencies or public entities or local authorities of first and second degree or private entities in the public sector of par. 1 of Art. 14 of Law. 2190/1994 as in force or bodies of par. 3 of Art. 1 of Law. 2527/1997. In the case of self-employed, complete with the indication "SE".

(2) Complete the GENERAL TOTAL MONTHS OF EXPERIENCE. When, in Column (b) shows experience, the total days of employment divided by 25 (if the experience has been calculated as the number of wages) or by 30 (if the experience has been calculated as the period from the start day until the expiration date of employment) and the resulting integer is added to the total months of employment of the column (a).