



Patras, 9.12.2021

Ref. No.: 67698

Invitation for Expression of Interest:

Research Scientist Assignment on “Design, production and characterization of graphene-related materials and structures for multi-functional applications”

The Institute of Chemical Engineering Sciences, Foundation of Research and Technology - Hellas, (FORTH/ICE-HT) is seeking applicants for one research scientist assignment in the context of the research project “Graphene Flagship Core Project 3 – SGA 881603”, which is implemented under the Horizon 2020 Research Framework Program.

Job Description

To conduct research under a work or an employment contract in the aforementioned project “Graphene Flagship Core Project 3 – SGA 881603”. The aim of this research is the development and characterization of multi-functional graphene-based structures suitable for sensing, corrosion, and superlubricity applications. This includes the fabrication of graphene-related materials (GRMs) and the development of the multi-functional structures, as well the characterization of them by a wide range of experimental techniques by means of microscopy, spectroscopy, electrochemistry, electrical and mechanical testing, etc.

In particular, the job consists of the following main tasks:

- a) Production, manipulation and characterization of graphene-related materials by using several experimental techniques (such as AFM, Raman spectroscopy, etc.)
- b) Fabrication and manipulation of thin and ultra-thin coatings of GRMs and GRMs/polymer nanocomposites by using several coating techniques (i.e. electrophoretic deposition, spray coating, etc)
- c) Design and fabrication of GRMs based pressure, strain and humidity sensors
- d) Characterization of structural and functional properties of the produced materials and structures by using a wide range of experimental techniques (such as AFM, LFM, EIS, potentiostatic and potentiodynamic corrosion testing, electrical capacitance/impedance testing, electrical and mechanical testing in conjunction with Raman spectroscopy, etc.)
- e) Prepare the corresponding reports (technical and economical) for project’s evaluation.
- f) Research activities related to graphene and other 2D related materials, such as the development and characterization of conductive coatings

The potential candidate should also be responsible for the following main tasks:

- a) Organization of activities and national and international meetings.
- b) Identification of requirements for the research and develop tactics for future challenges.

Location: FORTH/ICE-HT, Patras, Greece

Duration: 3 months with the potential of renewal or extension according to the needs of the project

Salary: up to 2000€ per month depending on the qualifications (total cost of the employer, including social security and taxes)

Envisaged starting date: 01/02/2022



www.iceht.forth.gr

Stadiou str., Rio
P.O. Box 1414
GR 265 04 Patras, Greece
Tel. +30 2610 965300
Email: admin@iceht.forth.gr

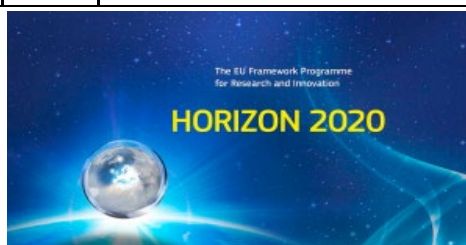
Requirements and Qualifications

Candidates are required to hold an Engineering Diploma or a degree in Materials Science and a Master in Polymer Science and Technologies, preferably on functional structures of GRMs/polymer nanocomposites, with experience in reporting, in tandem with strong expertise in characterization techniques such as Raman spectroscopy, Atomic Force Microscopy, electrochemical corrosion testing, electrical and mechanical testing. Moreover, the candidate should have knowledge of the Greek and English language (level B1). The appropriate candidate must have:

- a) A great scientific background in 2D materials and their multi-functionality, especially in graphene-based materials and their polymer nanocomposites
- b) Proven expertise in the preparation and characterization of graphene and other 2D related materials (such as graphene nanoplatelets, graphene oxide, reduced graphene oxide, etc)
- c) Proved expertise in the fabrication and characterization of graphene-based coatings for anti-corrosion and friction applications
- d) Strong expertise in the production and characterization of GRMs based sensors (must be capable to design and fabricate a wide range of sensors for monitoring pressure, strain and humidity)

The evaluation of the candidacies will be based on the following criteria and qualifications:

Qualifications	Weight	Evaluation criteria
Proven research and lab experience (minimum 4 years): (i) Study of graphene or other 2D related materials or nanomaterials (ii) Production and characterization of graphene-related materials (iii) Fabrication and characterization of graphene-based nanocomposites and coating (iv) Fabrication and characterization of graphene-based multi-functional structures (v) Characterization techniques such as Raman spectroscopy, AFM, electrochemical corrosion testing, electrical and mechanical testing	20	Duration of proven research experience in research labs and projects (5 points/year, max 20 points)
Experience in relevant projects (as postgraduate student or external partner)	20	Duration of proven experience in relevant projects (5 points/year, max. 20 points)
Publications in refereed journals and conference proceedings	20	Number of relevant publications (2 points/publication, max 20 points)
Interview	20	(a) Background in the objective of the assignment (5 points). (b) Organizational and communication skills (5 points). (c) Team-spirit and self-motivation (5 points). (d) Commitment to achieving the goals (5 points).
Master in Polymer Science and Technologies	10	Master dissertation relevance to functional structures of GRMs/polymer nanocomposites (weak relevance: 5, strong relevance: 10)
Degree in Materials Science or Diploma in Engineering	10	Degree/Diploma grade X 1
Overall	100	



Application Submission

Interested candidates who meet the aforementioned requirements should submit their applications, no later than 24/12/2021, 16:00h, by email to Kleanthi Zacharopoulou: kleanthi@iceht.forth.gr.

In order to be considered, the application must include:

- Application letter
- CV
- Scanned copies of academic titles & foreign language certificate
- Certificates of previous experience
- Any document to support the aforementioned required qualifications

Any application received after the deadline will not be considered for the selection.

Selection Procedure

Applications that are received on time will be evaluated by a scientific committee using the criteria mentioned above.

Selection Announcement

The result of the selection will be announced on the website of: FORTH/ICE-HT as well as on the website of "DIAVGEIA".

Candidates have the right to appeal the selection decision, by addressing their written objection to the FORTH/ICE-HT Research Secretariat, e-mail: kleanthi@iceht.forth.gr, within five (5) days after the results announcement on the web.

Contact

For information and questions regarding the application and selection procedure, candidates are asked to contact the FORTH/ICE-HT Research Secretariat, e-mail: kleanthi@iceht.forth.gr, tel.: +30 2610 965278.

For information and questions about the advertised position and the research activity of the group or the Institute, candidates are asked to contact Professor Costas Galiotis, tel: +30 2610 965255, e-mail: c.galiotis@iceht.forth.gr.

General Protection Data Regulation

FORTH is compliant with all legal procedures for the processing of personal data as defined by the Regulation EU/2016/679 on the protection of natural persons with regard to the processing of personal data.

FORTH processes the personal data and relevant supporting documents that you have submitted to us. Processing of that data is carried out exclusively for the needs and purposes of this specific call. Such data shall not be transmitted to or communicated to any third party unless required by law.

FORTH retains the above data up to the announcement of the final results of the call, unless further process and reservation is required by law or for purposes of exercise, enforcement, prosecution of certain one's legitimate legal rights' as defined in the Regulation EU/2016/679 and/or in national law.



We inform you that under the Regulation EU/2016/679 you have the rights to be informed about your personal data, access to, rectification and erasure, restrictions of process and objection to as provided by applicable regulation and national laws.

We acknowledge also to you, that you have the right to file a complaint to the national Data Protection Authority. For any further information regarding exercise of your personal data protection rights, you may contact the Data Protection Officer at FORTH at dpo@admin.forth.gr.

You have the right to withdraw your application and consent for the processing of your personal data at any time. We inform you that, in this case, FORTH shall destroy such documents and/or supporting documents submitted and shall delete the related personal data.

For FORTH/ICE-HT,
Vasilis Burganos
Director

