



# Consiglio Nazionale delle Ricerche

## Istituto di Fotonica e Nanotecnologie

THE ENGLISH LANGUAGE TRANSLATION DOES NOT HAVE LEGAL VALUE IN ITSELF, AND THUS DOES NOT SUPERSEDE THE ITALIAN VERSION OF THE CALL ANNOUNCEMENT (BANDO).

SELECTION CALL N. 126. 247.AR156

SELECTION PROCEDURE FOR N ° 1 (one) FELLOWSHIP (Assegno di Ricerca) FOR COLLABORATION TO RESEARCH ACTIVITIES IN THE EUROPEAN PROJECT: "H2020-SGA-FET-GRAPHENE-2017 GRAPHENE FLAGSHIP CORE 2 G.A. N. 785219" (01.04.2018-31.03.2020) CUP B33C18000000006 – Title of Bando "Electro-optic THz modulators based on graphene and metamaterials" – Type B) "Post-doc" (Assegno di Ricerca Post Dottorale) – CNR-IFN Sede secondaria di Bari.

### THE DIRECTOR

**CONSIDERING** Legislative Decree 4 June 2003, n. 127 on "Reorganization of the National Research Council (CNR)";

**CONSIDERING** Legislative Decree 31 December 2009, n. 213 on "Reorganization of the research institutions to implement art. 1 of Law 27 September 2007, n.165";

**CONSIDERING** the Statute of the National Research Council, issued by order of President n. 000018 on March 10, 2011 published on the website of the Ministry of Education, University and Research on the Official Gazette of the Italian Republic n. 90 of 19 April 2011, entered into force on May 1, 2011;

**CONSIDERING** the Rules of Organization and Functioning of the CNR DP CNR of May 4, 2005 published in the ordinary supplement n. 101 of the Official Gazette of the Italian Republic n. 124 of May 30, 2005, and in particular art. 47 as amended by Decree of the President of CNR n.000017, prot. n.21306 of 8 March 2011 published in the Gazette - General Series - n. 60 of 14 March 2011;

**CONSIDERING** the DPR December 28, 2000, n. 445 on "Consolidated laws and regulations on administrative documentation" and successive amendments;

**CONSIDERING** the Legislative Decree 30 June 2003, n. 196, concerning "Code regarding the protection of personal data";

**CONSIDERING** art. 22 of Law 30 December 2010, n. 240 entered into force January 29, 2011;

**CONSIDERING** the guidelines for the assignment of grants for conducting research activities at CNR, approved by the Board of Directors with order n. 28 on February 9, 2011, subsequently amended by resolutions n. 62, March 23, 2011 and n. 186, September 22, 2011 and n. 189 November 27, 2013;

**CONSIDERING** the Ministerial Decree n. 102 of March 9, 2011, concerning the definition of the minimum amount of research grants;

**CONSIDERING** the Law 11 November 2011, n. 183, and in particular art. 15 (Stability Act 2012);

**CONSIDERING** the directive of the Ministry of Public Administration and Simplification n. 14/2011 to implement the new provisions relating to certificates and affidavits of Article. 15 of Law november 12, 2011, n. 183;

**CONSIDERING** the Law 4 aprile 2012, n. 35 ed in particular art. 8.1;

**CONSIDERING** Legislative Decree 14 marzo 2013, n. 33 on "Reorganization of the regulation concerning public disclosure obligations, transparency and dissemination of information";

**VERIFIED** that costs arising from the assignment of a research grant are covered by funds from the project H2020-SGA-FET-GRAPHENE-2017 (2018-2020) on the topic "Design and fabrication of graphene based structures and metamaterials for modulators operating in the range 2-4 THz" under the scientific responsibility of Prof. Gaetano Scamarcio, GAE P0000048.



## ANNOUNCES

### Art. 1

#### Research Project

There will be a public selection procedure, based on qualifications and an interview, for the assignment of n. **1 (one) "Post-doc" (Assegno di Ricerca post dottorale)** in order to conduct research related to the Scientific Area "Physics Sciences" at the Istituto di Fotonica e Nanotecnologie (IFN), Consiglio Nazionale delle Ricerche, (CNR), Bari, in the scope of the European Project: "H2020-SGA-FET-GRAPHENE-2017 GRAPHENE FLAGSHIP CORE 2 G.A. N. 785219" (01.04.2018-31.03.2020), under the scientific responsibility of Prof. Gaetano Scamarcio.

Research Project: Electro-optic THz modulators based on graphene and metamaterials.

Terahertz modulators based on the electro-optic effect in graphene have been recently demonstrated showing exciting performance. While graphene layers provide an efficient route to fabricate gate-controllable switching devices, larger modulation efficiencies may be achieved by resonantly tuning the graphene response in the THz via metamaterial patterning.

In this project, we will fabricate electro-optic THz modulators operating at frequencies in the range 2-4 THz with modulation efficiencies larger than 50 %. Different periodic subwavelength patterns (e.g. based on exagonal, split-ring or grating like units) will be calculated using differential equation solvers in the framework of an effective-medium response model, and fabricated using either UV photolithography or e-beam lithography. Feedback from modulator testing will be used to further optimize the modulator design in an iterative approach.

### Art. 2

#### Duration and amount of the Research Grant

The research grant will run for **12** months and, as a result of any renewals, may not, however, have a cumulative duration of more than four years, according to art. 22 paragraph 3 of Law 240/2010, excluding the period in which the grant was received in connection with a PhD, not exceeding the legal length of its course.

According to Art. 4, paragraph 2 of the specifications for the assignment of grants, the total duration of fixed-term relationships with the CNR must not be above 10 years, even if not continuous, including all employment relationships, collaborations, research grants and scholarships. These do not include relationships of association, other, not paid, forms of cooperation, and the Ph.D.; the time spent on maternity leave or for reasons of health will not be taken into consideration in the calculation, according to current legislation and the periods prior to 1 May 2011.

Any postponement of the start date of the research activity of the grant for research activities, or any disruption thereof, will be allowed in case of maternity or illness exceeding thirty days. The interruption of the activity part of the assignment of the grant for research activities that is justified under the foregoing provisions, shall entail the suspension of the payment of the amount of the grant for the period in which the interruption itself occurs, excluding the prevision of art. 13 of the disciplinary or other specific rules. The end date of the grant for the research activities will be extended by a period equal to the duration of the interruption.

The amount of the research grant, that will be given by deferred monthly salary, is **€22.000,00** per year (twentytwo thousands/00), net of expenses in charge of CNR.

This does not include any remuneration for travels in Italy or abroad as may be necessary to carry out



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the research activities related to the grant. The emoluments of the travels are determined in proportion to that of employees engaged at the CNR at III professional level.

The grant recipient is covered by an insurance cumulative policy underwritten by the CNR.

The selected candidate will carry out her/his research activities in an autonomous manner, within the limits of the program prepared by the head of the research unit, without predetermined working hours.

### Art. 3

#### Requirements for admission to the selection

To the selection may apply individuals who, whatever their nationality or age, are in possession of the following requirements at the date of expiry of the deadline for submission of applications:

- a) **Degree (or equivalent) in Physics disciplines close to the project research areas required** in accordance with the legislation in force before DM 509/99 or in accordance with the regulations referred to in D.M. 5 maggio 2004 (Laurea Magistrale), with professional resume suitable for the conduct of research according to the specifications given in the following points;
- b) **PhD or doctoral degree in Physics disciplines close to the project research areas.**
- c) All qualifications obtained abroad (bachelor's degree, doctorate, and any other qualification) shall be previously recognized in Italy in accordance with current legislation (information on the website of the Ministry of University and Scientific Research: [www.miur.it](http://www.miur.it)). The equivalence of those diplomas obtained abroad who have not already been recognized in Italy with the expected formal procedure above, will be evaluated, with the only purpose of the present selection, by the Examining Committee constituted according to art. 6, paragraph 1 of the Regulations;

#### Preferential requirements:

- d) Experience in the design of optoelectronic devices;
- e) Experience in the fabrication of optoelectronic devices
- f) Experience in the electrical and optical characterization of devices operating in the far-infrared

The research grant cannot cumulate with scholarships provided by the CNR or other organizations and research institutions, except those granted by the CNR or national or foreign institutions which serve to supplement the research activities of grant holders with visiting periods abroad. The holders of research grants may attend PhD courses that do not result in payment of scholarships.

Employees of the CNR with permanent or fixed term contract and permanent staff employed by other parties as indicated in art. 22, paragraph 1, of Law n. 240/2010 cannot apply, and application involves the placement on leave without pay to the contractor/employee employed by government.

According to Art. 22, paragraph 3, of the aforementioned law, the ownership of this grant is not compatible with participation in the undergraduate or master degree, PhD with scholarship or medical specialization schools, in Italy or abroad.



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### Art. 4

#### Applications and deadlines

##### A) APPLICATIONS

Applications, which must use the attached form (attachment A), should be sent to the **Istituto di Fotonica e Nanotecnologie del CNR – Sede secondaria di Bari – Via Amendola 173 – 70126 Bari, Italia**. Applications and related documents can be sent by e-mail to the e-mail [roberta.bertoli@ifn.cnr.it](mailto:roberta.bertoli@ifn.cnr.it) before the deadline: **07 september 2018**.

**Emails must have as subject:** Notice of selection n. **126. 247.AR156**.

Applications submitted after the deadline and incomplete applications will not be taken into account.

Applicants must produce a form of self-certification curriculum in PDF format to be completed in accordance with Art. 46 and 47 of Presidential Decree 445/2000 and subsequent amendments, and to this end they must use the attached form (attachment B), which testifies the truthfulness of the contents of the Curriculum Vitae, accompanied by a photocopy of a valid identity document (art. 76 DPR445/2000). The same identity document, with readable signature, should be presented at the oral selection. No other documents will be accepted.

In the curriculum the applicant will indicate personal facts and qualities, in particular she/he must analytically indicate studies, qualifications, publications in print and/or patents, services provided, functions performed, the positions held and any other scientific, professional and educational activity, bringing the exact references for each indicated qualification.

The aforementioned declarations have to be analytically detailed and contain all elements needed for the selection, so that the examining commission could evaluate the titles to which they refer. All information furnished in a form different from what stated above will not be evaluated.

Auto-certification foreseen for Italian citizens apply to EU citizens (Article 3, paragraph 1 of Presidential Decree 28 December 2000, n. 445). Non-EU citizens resident in Italy can use the affidavits only in cases where facts and qualifications are certifiable or ascertainable by public or private Italian subjects.

The administration will perform suitable checks on the truthfulness of the declarations furnished under art. 71 of DPR 445/2000.

Applicants with disabilities, in relation to their disability, in the application to the selection must explicitly request the required support.

The applicant's products (e.g., technical reports, monographs, book chapters, and patents) that cannot be found on the internet or those that can be found on the internet but are not access free, should be sent by the applicant by e-mail.

**The applicant must not produce any further documentation in accordance with art. 15 L. 183/2011.**

All the communication regarding this call announcement will be sent to the PEC/email address of the candidates, CNR does not assume any liability for possible disservices of web connection.

### Art. 5

#### Exclusion from the Selection

Applicants are conditionally admitted to the selection.

The exclusion from the selection process for lack of requirements can be arranged at any time with a motivated order by the Director of the Institute. The exclusion will be communicated to the applicant.



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### Art. 6 Examining Committee

The Examining Committee shall be appointed by order of the Director of the Institute and is composed of three components, one of which will be the project manager, who may be internal or external to CNR, with profiles of researchers and experts in the field and two alternate members, internal or external to the Institute; the Director, if deemed necessary to activate the procedure of equivalence of qualifications obtained abroad, as in the last sentence of paragraph 1 art. 3 of the Regulations, may appoint, among the components of the Committee, a university professor. The functions of secretary may also be provided by a member of the Committee.

In the first meeting, the Committee will appoint its own President, and, if necessary, the component who will perform the functions of secretary.

The Committee may carry out the procedure also with the aid of videoconference tools.

The Committee shall conclude its work within sixty days after the deadline for submitting applications, except cases of motivated impossibility.

### Art. 7 Selection procedure and Ranking

The Committee will make its selection by evaluating the qualifications and an interview. The Committee has a total of 100 points, composed by 70 points for the assessment of qualifications and 30 points for the interview.

The Commission will declare the preliminary criteria and parameters which it will adopt, with specific reference to the characteristics of the research project. These criteria and parameters include the requirements for the type of grant of the selection such as assessment of the degree, of Ph.D., of the diplomas and certificates of attendance of post-graduate qualifications, obtained in Italy and abroad, and of the research activities in public or private institutions, under contracts, grants or assignments of collaboration, both in Italy and abroad, in the manner stated in Article. 4.

The interviews will start on **13 September 2018, at Istituto di Fotonica e Nanotecnologie del CNR – Sede secondaria di Bari – Via Amendola 173 – 70126 Bari**. The admitted candidates will be informed via e-mail about the date and time of the interview.

The publication of the present call is valid as a convocation. Only the official communication will be given to the unsuitable candidates following the evaluation of presented documents.

Following appropriate procedures, enabling public interviews, indicated by the CNR's Institute/Structure participants' interview may take place via videoconference.

After the interview, the Committee will compile a list of the examined applicants, giving the score each candidate obtained in the interview; the list, signed by the President and the Secretary of the Committee, is posted on the site of the examination the same day of the interview.

To be eligible to interview applicants must present a valid identity document.

Applicants who are not present at the interview will be declared ineligible.

At the end of its work, the Committee shall prepare a report in which motivated judgments on each applicant are expressed, even in a synthetic form.

The committee forms the merit ranking in descending order with respect to the final score, according to the sum of the scores achieved in the evaluation of qualifications and the interview and indicates the winner/s. In case of equal ratings, the younger candidate is preferred.

The merit ranking will be approved by the Director of the Institute, and will be published by the same Director, to the notice board of the examination site, and on the CNR website: [www.urp.cnr.it](http://www.urp.cnr.it) and with all other forms of advertising provided for this notice of selection.



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Final results of the selection procedure may be verified by all participants on the following CNR website: [www.urp.cnr.it](http://www.urp.cnr.it).

It is not permitted the inclusion of appropriate candidates in the ranking. However, the Director of the Institute, after consulting the head of the research project, can replace one or more winners, who renounce the grant before using it following the order of the merit ranking.

The National Research Council will not reimburse any expenses incurred by candidates for participation in the interview.

### Art. 8

#### Formalization of the relationship and termination of the contract

Within 15 days after publication of the list, the Director of the Institute should submit to the winner/s of the selection, in two copies, the order of assignment of the research grant, in which, among other things, the starting date of the research will be mentioned. By the deadline of 15 days from the date of receipt of said notice, the winner/s of the selection must mandatorily return a copy of the said notice, countersigned for acceptance and a declaration that she/he/they is/are not under any of the impediments of Art. 3, paragraphs 3,4,5 and art. 4 c. 2.3 of the Specifications. Any delay in the beginning of the research can be justified only in cases provided for by art. 2 of this notice of selection or for reasons of force majeure duly substantiated.

The contractor shall submit to the Director, within thirty days from the date of acceptance of the grant, the following documents prepared in accordance with the provisions of Presidential Decree 445/2000:

- a) self-certification, indicating date and place of birth, citizenship, political rights, education;
- b) a declaration in lieu of affidavit, on ordinary paper, of not having been dismissed or retired from the Public Administration for persistent poor performance, and not having been revoked by another state employment for having achieved it through the production of false or invalid documents and that she/he was not disqualified from holding public office on the basis of res judicata;
- c) Photocopy of fiscal code card (codice fiscale);
- d) In case the winner is an employee of Public Administration, before beginning the research activity she/he must submit a copy of the order of placement on leave without pay.

Documents issued by the competent authorities of the State of which the foreign candidate is a citizen must comply with the provisions in force in that State.

The fellow who, after starting the planned activity, will interrupt it without justification, or will not carry it on regularly and continuously for the entire term, or is responsible for serious or repeated misconduct or, finally, proves not to have sufficient attitude, may be revoked, with motivated decision of the Director of the Institute, from the further reception of the payment of the grant.

The measure referred to in the preceding paragraph will be taken on the proposal of the Research Project Manager. If the grant recipient, on the grounds of personal reasons, cannot carry through the planned activities and decides to give up the grant in advance, she/he shall promptly inform the Director of the Institute and the Research Project Manager. It is understood, in this case, that the grant holder must return any amounts received and not due.

### Art. 9

#### Evaluation of the research activity

The research project manager and the grant recipient shall forward to the Director of the Institute before the expiry of the contract, a complete report showing the progress of research.



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The Director will consider the report with reasoned judgment and at his own discretion. In case of positive evaluation, and at the request of the Research Project Manager, the Director will decide on the renewal of the grant and, in case, on the upgrade to the next highest amount for the type of grant referred to in this notice of selection. (Art. 9 c. 5 of the Regulations).

### **Art. 10** **Privacy policy**

Under Article. 13 of Legislative Decree 30 June 2003, n. 196, the personal information provided by applicants will be collected at the Institute for the purposes of organizing the selection and will be processed in an automated database for the management of the relation consequent to such selection. The acts must be retained for a period of at least five years.

Providing such data to CNR is compulsory for the evaluation of the participation requirements and those who will not provide such data will be excluded from selection.

The same data may be disclosed only to Public Administrations directly involved in the selection process or to the legal position of the candidate.

The applicant enjoys the rights under Art. 7 of the said decree, which include the right of access to data concerning her/him and some additional rights including the right to correct, update or delete incorrect, incomplete or not collected in accordance with law data, and the right to oppose their processing for legitimate reasons. These rights may be asserted against the Director of the Institute who is also Head of the procedure and the holder of their treatment.

The right of access to the records of the competition, under the Law of 7 August 1990 n.241 and subsequent additions and modifications shall be exercised in the manner provided for in art. 10 of the measure n. 22 of 18 May 2007, as supplemented and amended by order n. 62, 8 November 2007 (available on the web page of the CNR [www.cnr.it](http://www.cnr.it) under "utilities") and with the limitations of Art. 12 of the same order.

### **Article 11** **Advertising**

The notice of selection shall be made public by the Director of the Institute, by publication on the website of the CNR [www.urp.cnr.it](http://www.urp.cnr.it), and MIUR and later on the website of the European Union, in addition to particular forms of advertising specifically required by the funders of programs.

### **Article 12** **Final Provisions**

Where not explicitly indicated in this notice, for the compatible parts, the provisions of Regulations currently in force, relative to research grants, and, mutatis mutandis, to competitions, apply.

DIRETTORE  
Istituto di Fotonica e Nanotecnologie  
Prof.ssa Roberta Ramponi





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(to be sent on plain paper)

Annex A

Al Direttore dell'Istituto \_\_\_\_\_

Subject: Selection Call n° **126. 247.AR156**

The undersigned \_\_\_\_\_ born in \_\_\_\_\_ (province \_\_\_\_\_)  
 date \_\_\_\_\_ and resident in \_\_\_\_\_ (province \_\_\_\_\_) Street  
 \_\_\_\_\_ n. \_\_\_\_\_ postal code \_\_\_\_\_ Nation \_\_\_\_\_

asks, according to art. 22 of L. 240, 30/12/2010 to be admitted to the public selection, with evaluation of qualifications and interviews, for n. 1 (one) "Post-doc" (Assegno di Ricerca post dottorale) in order to conduct research related to the Scientific Area "Physics Sciences" at the Istituto di Fotonica e Nanotecnologie (IFN), Consiglio Nazionale delle Ricerche, (CNR), Bari, in the scope of the European Project: "H2020-SGA-FET-GRAPHENE-2017 GRAPHENE FLAGSHIP CORE 2 G.A. N. 785219" (01.04.2018-31.03.2020), under the scientific responsibility of Prof. Gaetano Scamarcio.

To this aim, the undersigned declares under her/his responsibility:

- 1) to be ..... citizen;
- 2) to have obtained the laurea degree (or equivalent qualification\*) in \_\_\_\_\_ the \_\_\_/\_\_\_/\_\_\_ at the University \_\_\_\_\_ with mark \_\_\_\_\_;
- 3) to have obtained the PhD (or equivalent foreign qualification) in \_\_\_\_\_ the \_\_\_/\_\_\_/\_\_\_ at the University \_\_\_\_\_;
- 4) to have no prior criminal convictions and have no criminal proceedings pending at her/his own expense (otherwise, please specify);
- 5) to have/have not benefited from other research grants from May 01, 2011 to \_\_\_\_\_ and to have/not have had types of work contracts as indicated in art. 2 of the selection, with \_\_\_\_\_;

The undersigned attaches to the present application:

- 1) self-certification compliant to art. 46 and 47 of the DPR 445/2000 to be filled in by using the form included here as Annex B stating the truth of any part of the included curriculum vitae;
- 2) list of works presented by the participant via email indicated in art.4 of the Selection Call.

Place and date

SIGNATURE \_\_\_\_\_

\* If the qualification has been obtained abroad, documentation showing the equivalence with a qualification obtained in Italy must be presented, according to what established by art. 3, point d) of the present notice.





DICHIARAZIONE SOSTITUTIVA DI CERTIFICAZIONE  
DICHIARAZIONE SOSTITUTIVA DELL'ATTO DI NOTORIETÀ (SELF-CERTIFICATION)  
(art. 46 e 47 del DPR 445/2000 s.m.i.)

DICHIARAZIONE SOSTITUTIVA DELL'ATTO DI NOTORIETÀ (SELF-CERTIFICATION)  
(art. 47 del DPR 445/2000 s.m.i.)

The undersigned \_\_\_\_\_  
(name) (surname)

born \_\_\_\_\_ in \_\_\_\_\_ the \_\_\_\_\_  
(Place) (prov.) (date)

resident in \_\_\_\_\_  
(Place) (prov.)

in Street \_\_\_\_\_ n° \_\_\_\_\_  
(address)

CONSIDERING the DPR December 28, 2000, n. 445 on "Consolidated laws and regulations on administrative documentation" and successive amendments;

CONSIDERING the Law 12 November 2011, n. 183, and in particular art. 15 (Stability Act 2012) (\*);

Aware that, according to art. 76 of the DPR 445/2000, false declarations, falsity in public acts and use of false acts are punished according to the Penal Code and to special laws on the subject, declares under his/her own responsibility:

That what declared in the following curriculum vitae et studiorum including information on the scientific production corresponds to the truth

Curriculum vitae et studiorum



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Studies, qualifications, publications and/or technical reports and/or patents, services executed, functions accomplished, tasks and every scientific, professional and teaching activity (**chronologically ordered starting from the most recent qualification**)

Ex: description of the qualification \_\_\_\_\_

date \_\_\_\_\_ protocol \_\_\_\_\_

delivered by \_\_\_\_\_

period of activity from \_\_\_\_\_ to \_\_\_\_\_

SIGNATURE

\_\_\_\_\_

(\*) According to art. 15, paragraph 1 of the Law 12 November 2011, n. 183, self-certifications released from the Public Administration relative to states, personal qualities and facts are valid and usable only in the private sector; in relations with the Public Administration and providers of public services, certificates are always substituted by self-certifications as in art. 46 and 47 of the DPR 445/2000

### N.B.

- 1) Date and sign all the pages that make up the statement.
- 2) Under Article 38 of Presidential Decree 445/2000 to the declaration the subscriber must attach a photocopy of a valid identification document.
- 3) All provided information with self-certification must be correctly identified with single reference elements (example: date, protocol, title of the publication, etc.).
- 4) The CNR has the right to control pursuant to art. 71 and for the purposes of articles. 75 and 76 of Presidential Decree 445 of 28/12/2000, the veracity of the affidavits produced and signed by the parties concerned.
- 5) The rules on affidavits applies to Italian nationals and European Union.
- 6) Citizens of countries outside the EU, legally residing in Italy, can use the affidavits of Articles. 46 and 47 of Presidential Decree 445 of 28.12.2000 limited to, the personal qualities and facts certifiable or ascertainable by Italian public entities, subject to any special provisions contained in laws and regulations governing immigration and the condition of stranger.  
Outside of the cases aforesaid, the citizens of non-EU authorized who reside in the State may use affidavits in cases where production of the same stems from the application of international conventions between Italy and the country origin of the registrant.