"ENDONANO: Quantitative detection of bacterial ENDOtoxin by novel NANOtechnological approaches "
Funded by European Industrial Doctorates (EID) funded by H2020 Marie Skłodowska-Curie ITN programme G.A. n. 812661

Call for Applications

for the assignment of **2 PhD** positions (Early Stage Researcher - ESR) to be enrolled into the industrial training-by-research programme, within the **ENDONANO** EID network project (grant agreement n. 812661) funded by HORIZON 2020/ Marie Sklodowska-Curie Action, in the field of new concepts and methods for the unbiased and quantitative evaluation of bacterial endotoxin (LPS) in complex matrices.

The ENDONANO consortium encompasses three academic institutions with strong expertise in inflammation, advanced biosensing, and top expertise in nanotechnology and use of nanoparticles for modulating bacterial functions (CNR, National Research Council, Italy; PLUS, Paris-Lodron University of Salzburg, Austria; ICN2, Institut Català de Nanociènca i Nanotecnologia, Spain), two SMEs expert in development and commercialisation of diagnostic detection assays (Diagnosticum-DIAG, Hungary; Blusense-BSD, Denmark) and one biotech company specialised in (magnetic) microbead technology (Milteyi, Germany).

The 2 selected ESRs at CNR will experience an intersectoral training programme encompassing 18-month internship in a company, and 18 months in academic institute. Secondments to the associated partners are planned during the fellowships. Students will be enrolled in the PhD programme of PLUS, will engage in training-by-research, and will participate in a series of scientific, technical and complementary skills training events. They will also gain experience in transferring their technology to relevant industry sectors.

Research projects

The 2 ESRs' projects are the following:

ESR1: "Human monocytes and macrophages as detectors of bacterial endotoxins"

ESR1 will be employed by CNR (National Research Council - Institute of Biochemistry and Cell Biology, Napoli, Italy; Dr. Paola Italiani) for the first 18 months and then by DIAG (Diagnosticum-DIAG, Hungary; Dr. József Prechl) for the final 18 months

ESR3: "Innovative fluorescence and optomagnetic assay for LPS detection"
ESR3 will be employed by CNR (National Research Council - The Institute of Food Sciences, Avellino, ITALY; Dr. Sabato D'Auria) for the first 18 months and then by BSD (Blusense-BSD, Denmark; Dr. Marco Donolato) for the final 18 months.

1. Eligibility criteria

In order for applicants to be considered eligible, the below mentioned requirements must be met at the time of the call deadline.

Mobility

The applicants must not have resided in the country where the research training activities will take place for more than 12 months in the 3 years immediately prior to the recruitment date (i.e. at the signature of the contract), and must not have carried out their main activity (work, studies, etc.) in that country.

Exceptions International Organisations: Eligible researchers must not have spent more than 12 months in the 3 years immediately prior to the date of selection in the same appointing international organisation.

Experience

The fellows must have less than 4 years' research experience (Early Stage Researcher) at the signature of the contract (measured from the time the Master's degree has been obtained).

Eligible applicants must not have a PhD

The CV must be without gaps, in order to easily check the mobility and experience rules. CVs that either do not clearly show the past experiences or have gaps will be considered ineligible.

Qualifications: Applicants shall have a master degree or equivalent in Life or Natural Sciences (e.g. Biology, Biochemistry, Biotechnology, Molecular Biology), Physics and Chemistry or related fields

Foreign language: the candidate shall be fluent in written and spoken English.

ENDONANO supports equal opportunity and encourages female researchers to apply for positions.

2. Information related to the supervision and the contract

The employment contract offered is a full time, temporary contract with full social security coverage.

The duration of the contract is 18 months at the CNR and the following 18 months in the industry. A new employment contract will be offered by the industry.

Benefits (English, parental leave, vacation days, etc.)

Both employment contracts (with Academia and Company) will be in accordance with the rules of the European Commission (http://ec.europa.eu/research/mariecurieactions/careers_en.htm).

ESRs will receive a Monthly Living Allowance plus a Mobility Allowance compliant with the applicable EC Marie Skłodowska - Curie Actions – ITN (https://ec.europa.eu/research/participants/data/ref/h2020/wp/2018-2020/main/h2020-wp1820-msca_en.pdf)

3. Evaluation criteria and selection procedure

After finding the candidate's eligibility, the evaluation will consist of two selection steps: the first based on the documentation provided by the candidates and the second based on the interview. Within each step, the marks given for each criterion by the reviewers will be used against an established pass/fail threshold.

The following evaluation criteria will be applied respectively in the first and second selection step:

First selection step

Criteria	Mark (min/max)	Comments
Education and previous training	0/5	Points will be assigned based on: level and relevance of their educational and scientific pathway, including participation to congresses and publications (CV). Evaluation of the marks obtained for each exam and of the relevance of the study plan with respect to the ENDONANO research topics proposed.
Aptitude to carry out an individual project	0/5	Points will be assigned based on: research work and research experiences (CV), active participation in research projects.
Scientific quality and potential for excellence	0/5	Points will be assigned based on: degree of interest in research and in the research topic, determination in following a research career (from the candidates' motivation letters and CV).
Impact/benefit of training on candidate's individual research career	0/5	Points will be assigned based on: (1) competence on the research topics (CV); and (2) how important could be this position for the development of the students' career.
Reference letters	0/5	Points will be assigned based on the following elements: 1) level of detail, 2) specific information about the candidate, 3) knowledge about the candidate, and 4) profile of the candidate.
Overall Threshold to pass this evaluation step is **3/5**		

Second selection step

Criteria	Mark (min/max)	Comments
Scientific knowledge in the field of interest	0/5	Applicants will be invited to describe their scientific profile with respect to ENDONANO research topics.
Research experience in the field of interest	0/5	Applicants will be invited to talk about their research experience /subject of the thesis.
Motivation	0/5	Interest in the research topic will be evaluated.
English	0/5	Fluency in English will be evaluated.
Overall vision	0/5	Applicants will be evaluated based on organization, sequencing, content, motivation, vocabulary and word choice, logical and critical thinking, originality and creativity, capacity to work in team emerged during the interview.
Overall threshold to be included in the final ranked list is **3/5**		

4. Criteria for the composition of the evaluation commission

The evaluation procedure will be carried out by Endonano project's coordinator, dealing with the administrative and formal requirements of the applications; 2) a Scientific Evaluation Committee (SEC), reviewing the scientific quality of the applications (step 1 and 2).

Each scientific panel will be composed of 4 to 8 members according to the number of applications received. It will include representatives of the CNR institutes.

5. Deadline and procedure for the submission of the application

Deadline for application is 30 August 2019.

All the documents must be sent through e-mail to: paola.italiani@endonano.eu before the 30th August.

The following information and documents will be required in the application:

- A detailed CV;

- Proof of nationality (copy of passport or identity card);

- Copy in English or Italian of University diploma;

- Copy in English or Italian of study results (i.e. grades of university exams);

- Motivation letter (Nota bene: the motivation letter has also to include the preferred research topic);

- A reference letters.

6. Indicative date for the interview

The interview of candidates passing the first step of the evaluation procedure will be carried out via Skype starting from mid September 2019.

APPOINTMENT CONDITIONS

The candidates with the highest scores will receive a notification of appointment and will be asked to accept the offered position within 15 days of notification.

The selected candidates will have to start their research activity by the 1st of November.

CNR will stipulate a fellowship grant contact.

The overall gross remuneration, will include:

− a living allowance of 3,413.88 €/month that will be paid in monthly installments

− a mobility allowance of 600 €/month

- a family allowance 250,0€/month

7. For any further information please visit www.endonano.eu **or contact** paola.italiani@endonano.eu

Dr. Alessandro Soluri

Acting Director