

## CALL FOR APPLICATIONS

### Job:

<b>Job reference:</b>	AE2019-0349 ( INESC TEC LA - CAP)
	INESC TEC - Instituto de Engenharia de Sistemas e Computadores, Tecnologia e Ciência
<b>Position:</b>	Investigação (BI)
<b>City:</b>	Porto
<b>Research field:</b>	Main: CHEMISTRY
	Sub: Analytical chemistry, Instrumental techniques, Organic chemistry

### Job summary:

**INESC TEC is accepting applications to award 1 Research Grant for MSC .**

<b>Project:</b>	INESC TEC-UID/EEA/50014
<b>Scientific Advisor:</b>	Pedro Jorge
<b>Duration Grant:</b>	from 2020-04-01 to 2021-03-31 ( 12) eventually renewable.
<b>Location:</b>	INESC TEC, Porto, Portugal

### Job description:

**Work Area:** Optical Sensors, NPK Sensors, Spectroscopy, Photonics, Artificial Intelligence (AI)

**Project overview:** Objective: development of an NPK monitoring system in leachate vats. Work to be performed: tests for optimizing an existing photonic system and artificial intelligence algorithms to extract the NPK spectral information from manure tanks for precision organic fertilizing system. Tasks: sampling, chemical determination and quantification of NPK, chemometrics data analysis and AI, participation in patent and research papers writing, organization of live demos and production of final reports/deliverables.

**Objectives:** Validation of the methodology of Nitrogen, Phosphorus and Potassium (NPK) determination in leachate, resorting to UV-Vis measurements in combination with Artificial Intelligence. Live demonstration protocols and technology validation. Production of a report and road map.

<b>Academic Qualifications:</b>	Degree in Chemistry, Biochemistry or Pharmacy
<b>Minimum Profile required:</b>	Experience in the related areas. Experience in spectroscopic and photonic analysis applied to NPK detection/determination. Experience in the development of analytical methodologies
<b>Preference factors:</b>	Experience in advanced chemical analysis, R statistical package, chemometrics and AI. In context of optical sensors: experience in absorption and emission spectroscopy and optical sensor validation.
<b>Monthly Grant:</b>	€ 989,70 (MSC) according to the Stipends values of the grants awarded directly by the FCT, paid by bank transfer. The grant holder may also benefit from additional incomes in the sequence of a quarterly evaluation process (Clauses 12 and 13 of INESC TEC Grants Regulation and Annex II), up to a maximum of 50% of the monthly grant.

<b>Project duration:</b>	- 2015-01-01 a 2017-12-31
<b>Funding Entity:</b>	Funded by National Funds through FCT - Portuguese Foundation for Science and Technology, I.P., in the scope of the project INESC TEC-UID/EEA/50014
The grant contract shall be submitted to the legislation concerning the Research Grant Holder Statute , approved by Law n 40/2004, dated 18 August, amended and republished by Decree-Law No. 202/2012 of 27 August and amended by Decree-Law No. 233/2012 of 29 October and by Law No. 12/2013, of January 29, and Decree-Law No. 89/2013 of July 9 as well as by INESC TEC Grant Regulation , approved by FCT - Fundação para a Ciência e a Tecnologia (Science and Technology Foundation) in 12 January 2011 and FCT current Grant Regulation. Additional information about <a href="http://www.inesctec.pt/grants">INESC TEC Grants Regulation</a> and relating annexes may be found at <a href="http://www.inesctec.pt/grants">www.inesctec.pt/grants</a>	

**Selection Criteria:** Curriculum evaluation based on the criteria referred to in Clause 7 [INESC TEC Grants Regulation](http://www.inesctec.pt/grants) and will include individual interviews in the final stage of the selection process, with its valuation: 80% curriculum evaluation ( 35% CV, 25% scientific domains and 20% Expertise) and 20% interview . Only those candidates who obtain at least 70% in the curricular evaluation (CV + Scientific Domain + Experience) will be called for the interview.

<b>Selection Jury:</b>	President of the Jury: Prof. Rui Miguel Costa Martins; Member: Prof. Pedro Jorge; Member: Prof. Filipe Neves Santos;
<b>Notification of results:</b>	The results of the selection process will be disseminated to interested parties by mail, as referred to in Clause 8 of <a href="http://www.inesctec.pt/grants">INESC TEC Grants Regulation</a> .
<b>Application period:</b>	From 2019-12-04 to 2020-01-31
<b>Application submission:</b>	Fill in the electronic form in the section <a href="http://www.inesctec.pt">Work with Us</a> at <a href="http://www.inesctec.pt">www.inesctec.pt</a> , , attaching the Curriculum Vitae, certificate of qualifications and other supporting documents relevant to the final assessment.