



Consiglio Nazionale delle Ricerche

To Photonics21 Secretariat
eMail: secretariat@photonics21.org

Dear Photonics21 Secretariat,

We herewith submit the nomination of the following Photonics21 Board of Stakeholders candidate [organisation] / [representative].

**- Letter of Nomination -
Photonics21 Board of Stakeholders
Election 2024**



Consiglio Nazionale delle Ricerche

Photonics21 Board of Stakeholders - Letter of Nomination

1. Full legal name of the affiliation nominated as BoS Member (candidate's organisation):

Consiglio Nazionale delle Ricerche - CNR

2. Full contact details of the affiliation (street, postal code, country) nominated as BoS Member and invoice address *(In accordance with the Terms of Reference §5, which the Affiliation acknowledges having received, an Annual Service fee will be invoiced every year during the first quarter to the BoS Member. By signing the present letter, the BoS candidate agrees to pay this Membership Fee. The Fee will be considered an asset of the Photonics 21 AISBL in accordance with its statutes (article 12b).)*

Piazzale Aldo Moro, 7 - 00185 Roma, Italia

protocollo-ammcen@pec.cnr.it

segreteria.presidenza@cnr.it

Codice Fiscale 80054330586 - Partita IVA 02118311006

3. Name of the suggested BoS Representative (the personal candidate)

Silvia Maria Pietralunga, Ph.D.

4. Information about the BoS candidate and the BoS representative

a) Description of the activities and information about the expected contribution and value added the nominated BoS member (candidate's organisation) will bring to the BoS¹

Founded in 1923, the National Research Council (CNR, www.cnr.it) is the largest public research institution in Italy. It is funded by the Ministry of Research and it counts more than 8500 employees, 70% of which full time researchers, in addition to some 4.000 young researchers engaged in postgraduate studies and research trainings. CNR is organized in 7 thematic Departments and 88 Research Institutes, widely distributed across Italy and covering a large transversality of disciplines, from humanities to medicine, from natural sciences to chemistry, physics and engineering. With a specific mission to support the national industrial system by promoting innovation and competitiveness and to provide technological solutions to emerging public and private needs, CNR is devoted to both basic and applied science. Being a central ministerial research body, CNR has the numbers to coordinate big research initiatives and to officially represent the Italian research and innovation ecosystem in international partnerships and framework agreements. The coordination of Pilot Line 4 under the EU Chips-JU is just one recent example of that. The CNR has both a strong connection with the Italian Government, being a unitarian ministerial institution, and close partnership relations with regional and local administrations, thanks to its geographical deployment on the territory. Research & Innovation Framework Programmes have been established over years between CNR and more

¹ The candidate is aware and accepts that according to the Photonics21 Terms of Reference (§ 5 (10) a membership fee - as determined by the General Assembly of the Association - needs to be paid to the Photonics21 association.



than one Italian regions, and representatives of CNR are presently members of the board in several regional and national technological clusters.

In this scenario, CNR is one major Italian photonics stakeholder and worldwide recognized for its excellence in photonics research and related applications. Institutes exist within CNR that have optics and photonics research as their *raison d'être* and intrinsic mission, such as the "Institute for Photonics and Nanotechnologies-IFN" and the "National Institute of Optics-INO". Many others contribute to photonics with research in material science, nanotechnologies and quantum science. Other Institutes benefit from photonics as a key-technology to innovate disciplines that might look distant, through novel analytical techniques and digitization: from biomedical sciences to agriculture, from sustainable economy to advanced manufacturing and even to cultural-heritage. This proper character of CNR is well represented visually by the core photonics WorkGroup in Photonics21, positioned centrally with respect to various possible application sectors and empowering innovation opportunities in all of them, without being restricted to any.

To have CNR in the BoS means to take onboard the largest public Italian research body and an important counterpart of the Research Ministry. In principle this may involve one added advocating path to the Italian government and national industrial associations. Besides indirectly reaffirming the consideration of the Italian country system for the role of Photonics21 regarding the EU Commission, from within the BoS the CNR will also bring additional possible ways to effectively reach Italian regional authorities. This applies to both regional policy makers and local industrial associations and technological clusters. This can be made effective through the internal network of Institutes in CNR, which are spread over the country and active in diverse photonics application fields and many of which have typically established effective collaborations with the local bodies.

- b)** Description of the activities and information about expected contribution and value added the BoS Representative (candidate / person) will bring to the BoS.

Silvia Maria Pietralunga graduated in Electronics Engineering (cum Laude) in 1993 from Politecnico di Milano, with a specialization in Optoelectronics, and got her Ph.D in Electronics and Communication Engineering in 1998 (joint Ph.D school of Politecnico di Torino and Politecnico di Milano).

From 1995 to 2008 she was with a private research body, active in the field of optical signal processing for ICT, where she eventually became Head of the Optical-physics Lab and Head of the Materials and Devices Area. Her activity concerned the study of photonic materials and phenomena for long-haul fiber-optics communications, photonic-integrated-circuits and photonics in semiconductors. Upon closure of the ICT company, she moved to research in photovoltaics (2009-2011). Since 2011 she is permanent researcher at CNR-Institute of Photonics and Nanotechnologies (Senior Researcher since 2023). With CNR she has had roles of responsibility in projects on photonic technologies for energy and photovoltaics and for the agrifood sector. She is also involved into projects and activities for the development of photon-assisted advanced electron-microscopy techniques. She holds a record in Academic teaching in photonic engineering and experimental physics at Politecnico di Milano (from 2006 to present), as well as teaching optical communications and related subjects at Master Level and Industrial courses.

She is Past-President of IEEE Photonics Society Italy Chapter (2017-2020) and member of the Executive Committee. She is in the CNR team of the Regional (Lombardy region) Cluster Smart Cities & Communities (SCC) and of the Lombardy Energy Cleantech Cluster (LE2C) and she is



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the CNR representative in the Scientific Committee of the Italian National Technological Cluster SmartCommunitiesTech.

Since 2015 she has been key-person for CNR in the Photonics21 CSA projects (Europho21, Nextpho21, BestphoRM21 and Phorwards21) as third-party/affiliated entity of the Italian partner AEIT-CORIFI and working in close collaboration with the President of AEIT-CORIFI, Prof. Roberta Ramponi.

As the BoS Representative for CNR, she will put her wide comprehension of photonics phenomena, from fundamental physics to the various possible contexts of application, at the service of the transversality of CNR itself.

Having been in the Italian team of the Photonics21 international CSA projects for four mandates, she has experience with supporting activities carried out at national level and wherever the contribution of national representatives is required, and she has developed a habit of collaborating with the international team of colleagues from other EU countries in CSA consortia. From the point of view of membership, up to now she has associated to Photonics21 as a private member and as a participant at the WorkGroup level. In a whole, she is not new to Photonics21 environment, and this fact represents a promising asset for effectively representing CNR as a stakeholder of the Association.

CNR President
Prof. Maria Chiara Carrozza