

PLASMONICA and JEOS-RP: A new partnership for European nanophotonics

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PLASMONICA (<https://www.plasmonica.it>) is the Italian community of researchers in nanophotonics. It was founded in 2013 by a collective of young physicists, when nanophotonics still was a niche endeavor in Italy. In 2015, PLASMONICA joined the Italian Society of Optics and Photonics (SIOF, the Italian branch of EOS) and since then has been active within it as the *Plasmonics and Nano-Optics Working Group*. Over the past decade, this community has flourished and earned recognition also beyond the national borders. Throughout this evolution, its mission has not changed: organizing events and other initiatives aimed at gathering the Italian nanophotonics community, whose research interests are spread across different disciplines such as physics, engineering, chemistry, and biology; and fostering its connections to wider European research networks. PLASMONICA is also particularly committed to supporting early-stage researchers by encouraging their scientific development through doctoral schools, and by providing them with a platform to showcase their work to broad academic audiences.

This Special Issue is linked to the 2023 edition of the annual workshop of PLASMONICA – a special occasion to mark the tenth anniversary of the foundation of the community – which was held in Politecnico di Milano, Italy. The selection of manuscripts we received from the participants of the workshop spans across the whole breadth of the scope of PLASMONICA, ranging from the fabrication and study of the optical properties of plasmonic materials [1] and dielectric nanoresonators [2] to the enhancement and control of nonlinear [3] and chiral [4] light with nanostructures, and including examples of plasmon-enhanced sensing [5] as well as demonstrations of plasmonic biosensors based on surface-enhanced Raman scattering [6, 7] which are closer to the prototype stage.

We sincerely thank Prof. Paolo Biagioni of Politecnico di Milano, Italy (co-founder of PLASMONICA, past president of SIOF, and presently in the EOS Board of Directors) and Prof. Emiliano Descrovi of Politecnico di Torino, Italy (EOS President Elect). They conceived this Special Issue which, without their coordination activity between EOS and SIOF and their promotional efforts within the PLASMONICA community, would not have seen the light. Finally, we wish to acknowledge the generous contribution towards the article processing charges offered by SIOF – particularly thanks to the commitment of Prof. Alessandro Belardini of Sapienza University of Rome (SIOF secretary and member of the EOS Board of Directors).

Let us conclude this Editorial with an announcement concerning the future of the collaboration between PLASMONICA and JEOS-RP. This Special issue was initially intended as a one-off initiative, but its warm reception encouraged the Steering Committee of PLASMONICA to continue and expand it in the form of an open-ended Collection. Its goal is to establish a go-to venue for gathering and highlighting the ongoing research of the PLASMONICA community, so as to progressively make JEOS-RP a more visible and attractive outlet for researchers in plasmonics and nano-optics throughout Europe. Indeed, much like this Special Issue, the upcoming Collection is motivated by the intent of PLASMONICA to tangibly support a scientific society-based publication model – that is, made by scientists and for scientists. Moreover, it strives to leverage the synergy between SIOF and EOS to redress a bit the current imbalance of the publishing ecosystem, by trying to tilt the scale back towards European-based scholarly circuits. Indeed, most of the output of the European research in optics is currently published in journals which are commercially owned and/or based overseas, with a significant portion of research funding thus drained with little return to the European research environment. We hope that the successful realization of editorial initiatives like this Special Issue and the PLASMONICA Collection will contribute to spread within the European optical community the awareness of being an actor fully capable of self-determining its own publishing and research policies.

References

- 1 Celebrano M, Savoini M, Biagioni P, Della Valle G, Pellegrini G, Cantoni M, Rinaldi C, Cattoni A, Petti D, Bertacco R, Duò L, Finazzi M, Towards the epitaxial growth of Au thin films on MgO substrates for plasmonic applications, *J. Eur. Opt. Society-Rapid Publ.* **20**, 1, 12 (2024). <https://doi.org/10.1051/jeos/2024011>.

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- 2 Mignuzzi S, Wu X, Hecht B, Frigerio J, Isella G, Celebrano M, Finazzi M, Sapienza R, Biagioni P, Germanium Fabry-Perot nanoresonators investigated by cathodoluminescence spectroscopy, *J. Eur. Opt. Society-Rapid Publ.* **20**, 1, 14(2024). <https://doi.org/10.1051/jeos/2024012>.
- 3 Petronijevic E, Sibilia C, Tailoring second harmonic emission by ZnO nanostructures: Enhancement of directionality, *J. Eur. Opt. Society-Rapid Publ.* **20**, 1, 11 (2024). <https://doi.org/10.1051/jeos/2024009>.
- 4 Skubisz C, Petronijevic E, Leahu G, Cesca T, Scian C, Mattei G, Sibilia C, Belardini A, Photo-acoustic technique with widely tuneable laser: Metasurface circular dichroism response, *J. Eur. Opt. Society-Rapid Publ.* **20**, 1, 20 (2024). <https://doi.org/10.1051/jeos/2024016>.
- 5 Polito R, Sotgiu S, Sohrabi F, Ferrando G, Berkmann F, Temperini ME, Giliberti V, Buatier de Mongeot F, Ortolani M, Baldassarre L, Giordano MC, Polarization-resolved surface-enhanced infrared spectra with nanosensors based on self-organized gold nanorods, *J. Eur. Opt. Society-Rapid Publ.* **20**, 1, 15 (2024). <https://doi.org/10.1051/jeos/2024015>.
- 6 D'Andrea C, Banchelli M, Amicucci C, Polykretis P, Micheletti F, de Angelis M, Hwang B, Matteini P, Development of a wearable surface enhanced Raman scattering sensor chip based on silver nanowires for rapid detection of urea, lactate and pH in sweat, *J. Eur. Opt. Society-Rapid Publ.* **20**, 1, 10 (2024). <https://doi.org/10.1051/jeos/2024013>.
- 7 Montesi D, Bertone S, Rivolo P, Geobaldo F, Giorgis F, Novara C, Chiadò A. Towards a portable setup for the on-site SERS detection of miRNAs, *J. Eur. Opt. Society-Rapid Publ.* **20**, 1, 28 (2024). <https://doi.org/10.1051/jeos/2024028>.