

[News](#)

[Our new paper in physica C](#)

Posted: March 9, 2018

Congratulations for the publication of paper "Sensitivity optimization of Bell-Bloom magnetometers by manipulation of atomic spin synchronization", in journal of Physica C, by Malihe Ranjbaran, Mohammad Mehdi Tehranchi, Seyedeh Mehri Hamidi, Mohammad Hossein Khalkhali. Read more at: <https://www.sciencedirect.com/science/article/pii/S0921453417302460>

[0 comments](#)

[Our new paper in Applied Physics A](#)

Posted: February 16, 2018

Congratulations for the publication of paper "New generation of α -MnO₂ Nanowires @PDMS composite as a Hydrogen gas sensor", in journal of Applied Physics A, by Seyedeh Mehri Hamidi¹, Alireza Mosivand¹, Mina Mahbobi¹, Hadi Arabi, Narin Azad, Murtada Riyadh Jamal. Abstract—New hydrogen gas sensor has been prepared by α -MnO₂ nanowires in polydimethylsiloxane matrix. For this purpose, the high [...]

[0 comments](#)

[Scientists develop ultra fast method of changing fundamental property of light](#)

Posted: February 13, 2018

Researchers from the Reactive Plasmonics team at King's

College London have developed a new method for rapidly changing the polarisation of light, one of its fundamental properties. The research, published in Nature Photonics, could lead to much faster data transfer and advance research into nano-materials. A light wave undulates in different ways – known as its [...]

[0 comments](#)

[Unusual scaling laws for plasmonic nanolasers beyond the diffraction limit](#)

Posted: January 16, 2018

Fig. Schematic of plasmonic and photonic lasers and their cavity modes. a Top: schematic of the plasmonic nanolaser devices consisting of a nanosquare gain material on top of metal separated by a few nanometers of dielectric. Bottom: top and side views of electric field ($|E|$) profiles of a cavity mode in a 700×700 [...]

[0 comments](#)

[thesis defense](#)

Posted: January 8, 2018

congratulations to Ms. Asgari , Ms. Mahboubi, Ms. Gachilou and Mr. kouhestanian, for defending your dissertation at approved times.

[0 comments](#)

[Orientation-Dependent Exciton-Plasmon Coupling in Embedded](#)

[Organic/Metal Nanowire Heterostructures](#)

Posted: January 7, 2018

Organic/metal nanowire heterostructures for the study of orientation dependent exciton-plasmon coupling. (A) Numerically simulated $|E|^2$ distribution of SPPs at the end of a 200-nm-diameter and 6 μm -long AgNW, where SPPs are launched by a dipole oriented along three coordinate axes x , y , and z , respectively. The dipole is positioned at the middle of [...]

[0 comments](#)

[Selectively Plasmon-Enhanced Second-Harmonic Generation from Monolayer Tungsten Diselenide on Flexible Substrates](#)

Posted: January 7, 2018

. Pump-laser-polarization dependent SHG mapping. (a) SEM image of single-crystalline monolayer WSe₂ flake on trenches with a pitch of 910 nm. (b) Simulated electric field distribution at a plane 1 nm above the surface of gold substrate with pump laser polarized perpendicular (left panel) and parallel (right panel) to the trench. The dotted line outlines [...]

[0 comments](#)

[Is metal a friend or foe?](#)

Posted: January 6, 2018

A long-standing question debated among the nanophotonics community is whether size matters and helps to reduce the threshold of micrometre- and submicrometre-sized lasers, and whether the presence of metal interfacing the gain medium

harms or improves the laser performance. In a work published in Nature Communications, Ren- Min Ma and colleagues¹ address this issue through a [...]

[0 comments](#)

[Developing Gold Nanoparticle-Embedded Dielectric Thin Films](#)

Posted: December 18, 2017

research on noble metal nanoparticles has always remained interesting because of their optical and electronic properties. Gold nanoparticles (AuNPs), in particular, have been intensively studied for their fascinating localized surface plasmon resonance (LSPR) peak in the visible region of electromagnetic spectrum. The tunable nature of LSPR of AuNPs leads to a large number of applications [...]

[0 comments](#)

[Nano aluminium offers fuel cells on demand – just add water](#)

Posted: December 10, 2017

The accidental discovery of a novel aluminium alloy that reacts with water in a highly unusual way may be the first step to reviving the struggling hydrogen economy. It could offer a convenient and portable source of hydrogen for fuel cells and other applications, potentially transforming the energy market and providing an alternative to batteries and [...]

[0 comments](#)