



Dear colleagues,

In the framework of EPS Forum “Physics and Society activities within the period 2018 – 2019”, some perspectives were developed. They address to the social dimension of science and the grand challenges in Physics to bring radical changes in developed societies, to raise standards of living on the global scale and provide basic understanding the nature due to the program Horizon 2050.

Recent advances have concerned novel types of charge and spin ordering, new magnetic and superconductive systems, multiferroic systems, switching between different orders by tuning the respective parameters (*e.g.*, pressure, density, electronic excitation by radiation) but also the absence of ordering in a number of key systems. The advent of new states of matter will open the way to

novel applications in the field of electronics, thermodynamics, sensorics, biology, health, and medicine.

We could mark some important areas for our journal:

- search for new materials (ultra-thin, two-dimensional materials, molecular electronics, polymer systems, self organization; auto-assembly, materials growth, clean and sustainable fabrication techniques);

- manipulating photons and atoms: photonics and nanophysics (phenomena in materials having one, two or three dimensions reduced to the nanoscale, nano-electronics, nanooptics, nanophotonics, carbon nanotubes, magnetic nanoparticles, nano-magnetism and spintronics, quantum transport, metamaterials, energy generation and storage);

- extreme light parameters (interaction of light and matter at extreme light energy and power densities; their interaction, attosecond science, UV and XUV generation, nonlinear optics);

- energy conversion and storage (development of massive energy sources, like to solar panels);

- sensors and their applications (climate change, sensing composition of atmosphere and clouds, forest detection, water quality, health care sensors, SERS, organic electronics, industrial monitoring, *etc*).

And one of the main challenges and opportunities is improvement of public understanding and perceptions through education and communication.

We invite all of you for cooperation and collaboration both as readers and authors, as well as reviewers.

Sincerely yours,  
Alexander Belyaev.