Photonics: from a niche activity to a Key Enabling Technology to a driving economic force -
The National Institute of Photonics Activities

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The National Institute of Photonics - INFO is one of the National Institutes approved under the INCTs program supported by the MCTIC/CNPq/CAPES/FAPs in Brazil, now in its second phase (2016-2022). As already recognized, photonics is everywhere around us: from sunlight based photovoltaics to optical communications and health; from materials processing to everyday products like DVD players and mobile phones. More than 34 Nobel Prizes were given to Optics and Photonics related scientific and technological achievements. To raise global awareness of how light-based science and technologies promote sustainable development and provide solutions to global challenges in a variety of themes, 2015 was declared as the International Year of Light by the United Nations and May 16th was declared the International Day of Light. Worldwide initiatives, like the American NPI (https://www.lightourfuture.org/home/), the European Photonics 21 (https://www.photonics21.org) and the Australian Photonics SA (https://www.adelaide.edu.au/ipas/) demonstrate the awareness of its important and upcoming economic impact. Photonics in Brazil has recently gained a potential ally: The Ministry of Science, Technology, Innovation and Communications (MCTIC) constituted a Photonics Advisory Committee with the objective of advising and defining macro-objectives, priority areas, guidelines, resource allocation, evaluation of initiatives, actions, programs and projects in photonics. A Brazilian Photonic Society (SBFOTON) has recently been created, and the SBF maintains an Optics Group for many years, which acts during some of its annual meetings. There is at least one specific conference, the Latin America Optics and Photonics Conference, which was created by Brazilian researchers and is now going to its fourth edition (biannual, sponsored by the Optical Society of America). Within this framework, the INFO, now in its second phase, has been gathering together Brazilian researchers and students to develop science, technology and innovation whose main driving force is photonics. The INFO scientific program is based on three themes: nonlinear photonics, biophotonics and optomicrofluidics. In this talk, I shall review the INFO scientific program and its recent activities in this second phase, and point out potential for interaction with other INCTs, besides the Brazilian and international scientific community.