

**U.S. Liaison Committee for the International Union of Pure and Applied Physics
(USLC/IUPAP)**

Activities of Working Group 16 – Physics and Industry
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Working Group 16 website: <https://iupap.org/who-we-are/internal-organization/working-groups/wg16-physics-and-industry/>

Background Information

The 29th General Assembly of the International Union of Pure and Applied Physics (IUPAP) at Sao Paulo, Brazil, passed the following resolution:

- To establish a Working Group on Physics and Industry to serve until the close of the 30th General Assembly.
- To charge the Working Group on Physics and Industry to report to the 30th General Assembly with recommendations on how IUPAP can strengthen its connections with physicists working in industry, and with industries which make strong use of physics to develop and deliver their products.
- To delegate to the Executive Council the responsibility of appointing the Chair and the members of the Working Group on Physics and Industry.

The mandates are:

- To assist in the worldwide development of physics, to foster international cooperation in physics amongst academia and industry, and to help in the application of physics toward solving problems of concern to humanity.
- To continue the activity of the WG16 beyond the 30th GA with a specific mandate.
- To identify particular IUPAP Commissions and Working Groups which could benefit from and contribute to close involvement with industry.

The objectives are:

- To explore expanding involvement of the Physics Community outside Academia, in particular Industry, towards existing or new activities of IUPAP;
- To identify mechanisms for the involvement of Multinational Corporations, Small and Medium-Sized Enterprises and Start-ups;
- To co-organize/sponsor (in partnership with other commissions and WGs) suitable international meetings, workshops and prizes that could foster the mandate of WG16.

Summary Report and Recommendations

A working group (WG16) was formed to meet the objectives and mandates above. The group met 11 times between March 2020 and June 2021 and then generated a Summary Report and Recommendations, which was provided to the IUPAP Executive Council. The WG surveyed relevant industry programs including those of IUPAC, APS, AIP, European Physical Society, Canadian Association of Physicists, Agency for Science, Technology and Research (A*STAR

Singapore) and synthesized relevant recommendations and implications for IUPAP. The WG also considered physics for society and grand societal challenges. The report provided 12 summary recommendations, including the initiation of Corporate Associates and associated benefits, the creation of a commission on Physics and Industry, exploring inter-institutional activities such as with IAPS, setting up an international mentoring program, creating a web site with world-wide career resources and opportunities, and creating a web site to inform the public about the contributions of physics to society. Most invitation letters were not answered. Efforts are continuing to make CAMs more attractive to industry and to improve the invitation letter.

Corporate Associate Members (CAMs)

An invitation letter was generated and used in an initial round of solicitation to many international physics-based companies and organizations. The letter included right and benefits of CAMs, which are listed [here](#) and include the ability to hold positions in IUPAP, to sponsor prizes, to submit proposals to other CAMs to collaborate on R&D projects, to have a link to their web site, and to post physics employment opportunities on the careers/Jobs in Physics web site. This far, CERN-Switzerland and Advanced Laser Light Source (ALLS) - Canada have joined as CAMs. In general, it has been difficult to recruit companies to join IUPAP as CAMs. Letters were mailed to 60 members of IUPAP asking for nominations for CAMs. The job posting resource is meant to provide a unique benefit to CAM members.

CAM web site and social media

A CAM web site is being set up. The site consists of a [home page](#), [a list of CAMs](#), [rights and benefits of CAMs](#), and a [link to Jobs in Physics](#) which includes an international list of resources for preparing for careers in industry and applied physics. As noted on this last link: “IUPAP Corporate Associate Members can post jobs in physics on the [Inspire platform](#), a portal that is mainly oriented towards communities in high energy physics, nuclear physics, accelerator physics and astrophysics, but also offer a [general physics category](#).”

An [IUPAP Linked-In account](#) was set up and is now operational with plans to feature resumes of particular interest to companies planning to hire physicists.

Officers

K. S. Narayan chaired WG16 meetings from March 2020 through June 2021. WG16 reconvened in December 2021 with Christophe Rossel as chair. The WG is working on documenting roles for Vice-Chair, Secretary, and Liaison Officer with Other Commissions and then having members take on these roles.

WG16 Meetings

WG16 has been meeting monthly via Zoom since July 2020 to develop and implement goals and plans for the WG. Minutes of each meeting are recorded and approved by the WG.

There will be a roundtable discussion on “Life outside of Academia” at the IUPAP Centenary in Trieste.

Members of Working Group 16

Christophe Rossel (IBM Research-Zurich, Switzerland) (WG16 Chair)

Nisha Holla (Centre for Cellular and Molecular Platforms, India)

James Kneller (International Association of Physics Students)

K.S. Narayan (Jawaharlal Nehru Centre for Advanced Scientific Research, India)

Andranik H. Sarkissian, (PLASMIONIQUE Inc., Canada)
Pablo Garcia Tello (Spain-Belgium-CERN)
Nadia Thalmann (MIRALab, Switzerland)
Cyrus Walther (Vice President, International Association of Physics Students, Technical University of Dortmund, Germany)
Lawrence Woolf (General Atomics Aeronautical Systems, Inc., USA)
Michel Spiro (IUPAP President, France) (ex-officio)
Jens Vigen (IUPAP Secretary-General, Switzerland) (ex-officio)

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