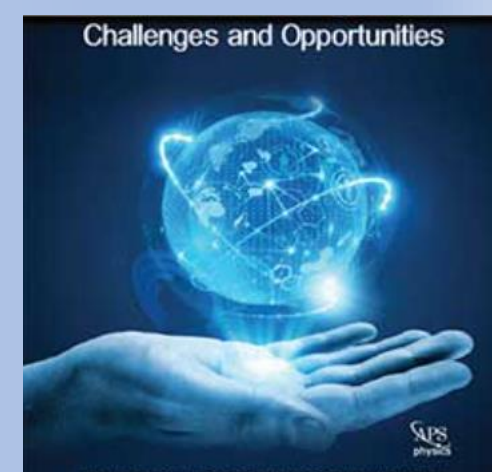


Working Group WG16 “Physics and Industry”



- **History:** 2017: creation of WG16 by 29th GA Sao Paulo but not much action before 2020
2020 July: first WG template draft with mandates and objectives
2021: submission of [report with recommendations](#) to 30th GA (Geneva, virtual)
2022: continuation of WG16 until 2024 approved by 31st GA (Trieste, virtual)
- **Mandate:** - Provide recommendations to GA and Executive Council on how to foster international cooperation in physics between industry and academia
<https://iupap.org/who-we-are/internal-organization/working-groups/wg16-physics-and-industry/>
- **Objectives:** - Acquire new Corporate Associate Members (CAMs)
 - Co-organize inter. meetings, workshops, prizes with IUPAP Commissions and WGs
 - Provide resources of interest to industrial physicists and students interested in industrial careers
- **Actions:** - Invite potential companies and organizations to become CAMs
- Develop a dedicated webpage outlining CAMs’ benefits & rights and providing specific resources
<https://iupap-corporate-associate-members.web.cern.ch/>



Working Group WG16: CAMs webpage

International Union of Pure and Applied Physics—Corporate Associate Members

[Home](#) [List of CAMs](#) [Rights and benefits](#) [Jobs in physics](#) [Benefits of physics to society and the economy](#) [Grand challenges](#)

IUPAP Corporate Associate Members

[The leadership](#) of the [International Union of Pure and Applied Physics](#) (IUPAP) and the [IUPAP Working Group on Physics and Industry](#) welcomes commercial companies or international research organizations working outside academia to easily interact with and influence the world-wide community of physicists by joining the Union as Corporate Associate Members (CAM).

As IUPAP seeks to strengthen the links with and between physicists working outside academia, this new class or membership, CAM, was introduced at the [General Assembly held in 2021](#).

CAMs can create partnerships, sponsor [prizes](#) and initiatives, and can make the international physics community aware of employment opportunities as well as inform that community about their organization via IUPAP. CAMs can fully participate to the life of IUPAP.



Corporate Associate Members – rights and benefits

- CAMs are international or national research organizations and commercial companies
- CAMs can make nominations and hold positions in IUPAP but have no voting rights
- IUPAP will connect CAMs with IUPAP members who represent key stakeholders, industry insiders, and decision makers to create partnerships to address societal challenges and other issues of interest to CAMs
- CAMs will benefit from reduced participation fees at IUPAP conferences or commercial exhibits
- CAMs will be able to submit proposals to other CAMs to collaborate on R&D projects
- CAMs can sponsor prizes, awards, or focused initiatives in their field of interest, which will be publicized to all IUPAP members
- A website provides information for CAMs and **visibility** to all other IUPAP members. The website provides **career guidance** for students and young physicists and a place to post **job opportunities**.
- Examples of **benefits of physics to society and the economy, and grand challenges** are also available on the dedicated webpage as are specific resources of interest for new CAMs.

Working Group WG16's members

- **Membership:** 13 members, 11 males, 2 females from 8 countries

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

Email : rs1@zurich.ibm.com

Cyrus Walther (IAPS, Germany), *Vice-Chair, liaison officer*
for [DPG](#) and [IAPS](#)

Email : cyrus.walther@iaps.info

Nisha Holla (C-CAMP, India) *Secretary*, (parental time-out)

Email : nisha@meridianindia.org

Andranik H. Sarkissian, (PLASMIONIQUE Inc., Canada)

Email : sarkissian@plasmionique.com

Pablo Garcia Tello (Spain-Belgium-CERN)

Email : pablo.garcia.tello@cern.ch

**Lawrence Woolf (General Atomics Aeronautical Systems, Inc., USA),
liaison officer for the U.S. and [APS](#)**

Email : lawrence.woolf@ga-asi.com

K.S. Narayan (JNCASR, India) (former chair)

Email : narayan@jncasr.ac.in

Tariq Ali (University of Liverpool, United Kingdom)

Email : alit@liverpool.ac.uk

James Kneller (IAPS, UK)

Email : james.kneller@iaps.info

Michel Spiro (Ex officio, IUPAP President, France)

Email : mspiro@admin.in2p3.fr

Jens Vigen (Ex officio, IUPAP Secretary-General, France)

Email : Jens.Vigen@cern.ch

Barbora Bruant Gulejova (Switzerland)

Email : barbora.gulejova@cern.ch

Navin Alahari (France) *liaison officer* to WG9

Email : navin.alahari@ganil.fr

Working Group WG16 “Physics and Industry”

- **Status:**
 - As of today IUPAP has 5 new CAMs
 - ALLS:** Advanced Laser Light Source (Varenne, Canada 2022)*
 - CERN:** European Organization for Nuclear Research (Geneva, Switzerland, 2022)*
 - JINR:** Joint Institute for Nuclear Research (Dubna, Russia, 2023) via Grigory V. Trubnikov, WG9 & B. Sharkov*
 - SESAME:** Synchrotron-Light for Experimental Science and Applications in the Middle East (Jordan, 2022)*
 - PARK SYSTEMS Corp.:** (Suwon, South Korea, 2023) via Young Dong Kim, chair of the C8 commission*
 - Ongoing discussion with many interested companies and organizations
 - Invitation letters sent to >30 potential CAMs with some personal online exchange
 - limited success: **IBM, SHELL, QUANTUM DESIGN (USA), COSYLAB (SLO), SIGMAPHI (F), THALES (F) L’OREAL (F), BOSCH (D), ZEISS Research (UK), PSI (CH), ITER, ESRF(F), TRIUMF, CLS, AECL (CAN),...**

- **Activities:**
 - Regular monthly WG16 meetings since 2021
 - WG16 webpage and specific one for CAMs with links to ext. sites such as INSPIRE HEP for job posting
 - New LinkedIn profile <https://www.linkedin.com/company/iupap/> (over 800 followers)
 - Discussion on industrial mentoring program for physicists (like APS)
 - *Memorandum of Understanding* created to be signed by both parties.
 - Letter mailed to all chairs of IUPAP commissions and WGs to develop better collaboration
 - only 2 answers: **Navin Alahari** for WG9 (Angela Bracco chair) – new WG16 member
 - Mei-Yin Chou**, Chair of C20 (Comp. Physics) with list of suggestions

What was done, what needs to be done

- **Future actions/ideas**

- Acquire more female members (Nadia Thalmann (CH), Thian Feng (Singapore) resigned, idem Didier Roux (F))
- New strategy for CAMs (refocus)
- Survey questionnaire to potential CAMs (expectations, needs)
- Organize special workshop or session within IUPAP
- Develop information “newsletter” in relation with Sissa Medialab (<https://medialab.sissa.it/en.>)
- Participate in 3rd meeting of the *Big Science Business Forum* BSBF in Trieste in Oct. 2024. (via S. Fantoni)
- Support *International Year of Quantum Sciences and Technologies IYQST2025*
- Create a Young Industrial Scientist prize? (sponsored by CAMs)

- **General Issues**

- WG16 commitment in taking actions. Many ideas, less follow-up !
- Most contacted CAMs don't respond to invitation letters. Importance of personal contact/network
- CAMs require more concrete benefits and a visible return on investment (... *'IUPAP hasn't produced any successful applications for funding of projects in collaboration with industry to date...'* dixit Cosylab)
- Quo vadis WG16? Budget of 2420€/year, capital of 19'700€ until 2024
- **Should WG16 turn into a Commission in 2024?**

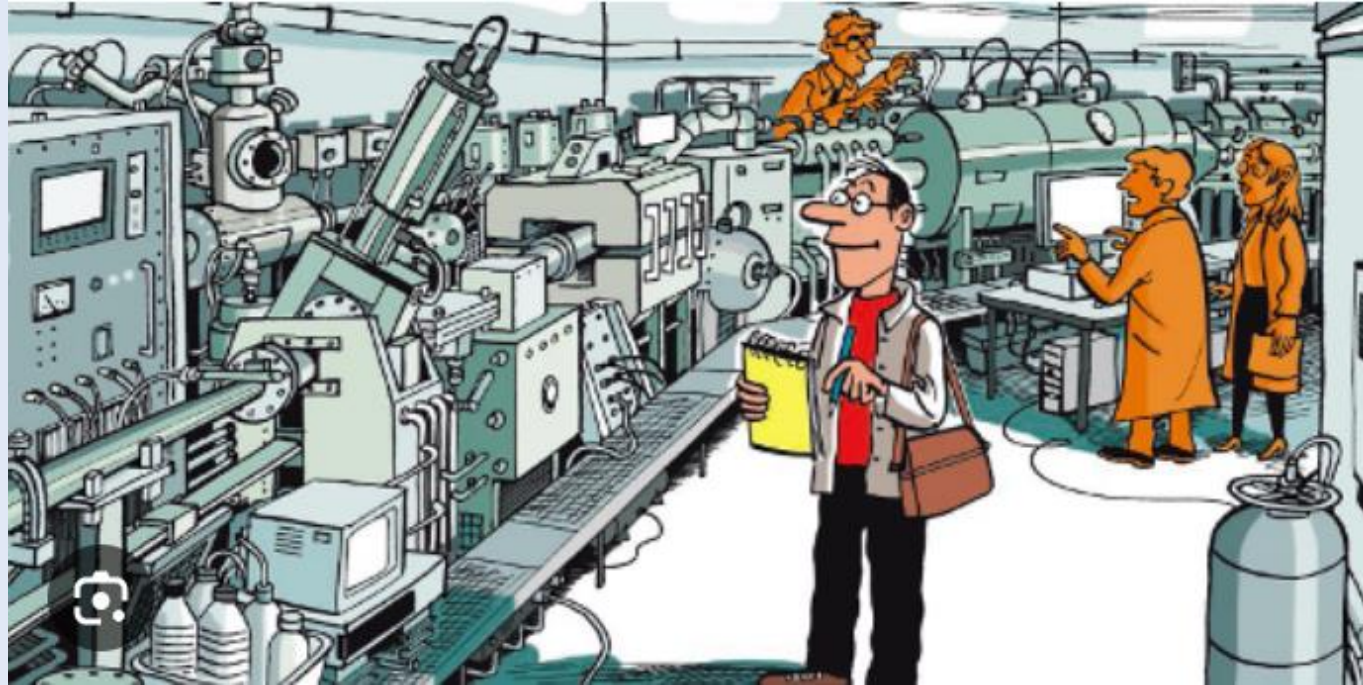
ANNEX 1: Resolution proposal at the next GA in Geneva 9 October 2023

Title: Creation of a Commission on Physics and Industry to replace Working Group WG16

→ The 32nd General Assembly of the IUPAP in Geneva (9 Oct. 2023)

- **Recognizing** the need of expanding the involvement of the Physics Community outside Academia, in particular Industry towards activities of IUPAP, the need of acquiring new Corporate Associate Members (CAM) among national and multinational corporations, industrial companies and research organizations,
 - **Acknowledging** the mandate and mission of the working group WG16 on Physics in Industry established in 2017 by the 29th GA and its continuation until 2024 as approved by 31st GA in 2022,
 - **Expressing its appreciation** for the effort done by the actual WG16 group members,
 - **Emphasizing the importance** of the continuation of its efforts towards acquiring more CAMs,
1. **Establishes a new IUPAP Commission named “Physics and Industry”** in order to pursue the activities of the WG16 and promote the objectives of the Union within its domain of expertise and provide advice to IUPAP in its goals to strengthen its connections with physicists working in industry
 2. **Decides on its starting time, its organizational structure and membership**
 3. **Agrees on the role and function of this new commission**, i.e., provide recommendations on how to foster international cooperation in physics between industry and academia. Organize/sponsor conferences, creates awards or medal to recognize excellence in industrial physics and collaboration, publish feasible newsletters, position papers or articles in journals, maintain liaison with other IUPAP commissions and working groups, etc.

Thank you for your attention



Happy CAM's CEO visiting a Research Lab !

ANNEX 2: Summary of a few notes from the minutes

- **Contacted companies/organizations:** IBM Research (USA, CH), PSI (Paul Scherrer Inst. CH), ITER (F), ESRF (F), SLAC (USA), SKA (sq. km Array), ISA (International Solar Alliance, India), BOSCH (D), SHELL, TRIUMF (CAN), CLS (Can. Light Source), AECL (Atomic Energy Canada), QUANTUM DESIGN (USA), COSYLAB (SLO), SIGMAPHI (F), L'OREAL (F), ZEISS Research (UK)
- **Suggested contacts:** *CAEN (Italy), iThemba (South Africa), RIKEN Research, SUMITOMO Heavy Industries (accelerators), TOSHIBA, MITSUBISHI Corp. (Japan), ALMA Observatory, Huawei, Infineon, ST, Sony, Synopsys, Osram, Analog Devices, Inventum, Kioxia, Knowles, Melexis, Power integrations, RedCat Devices Samsung, SEERMA Microelectronics, TDK, Cadence, Europractice, GlobalFoundries, Innatera, Photeon Techn. Springer Nature, Xfab, THALES, NOVITOM, SOITEC, ST in Grenoble (Yves Petroff), Elettra, Generali Insurance, the ship building group Fincantieri and the coffee producer ILLYcaffè (Stefano Pantoni)*

-
-