

COMMISSION CHAIR NOMINATIONS FOR THE TERM 2021-2023

Commission on Symbols, Units, Nomenclature, Atomic Masses & Fundamental Constants (C2) – Peter Mohr

My recommendation for the next chair of Commission C2 is **Marc Himbert** (2014)(2017)

He is currently the vice-chair and is serving his second term as a commission member. He has been actively involved in the business of C2, is supportive of the majority views of the commission, and has been responsive to various requests that have been put before the commission members. He is a member of the IUPAP Red Book drafting committee, work that may need to continue into the next term. He is also active in work of the BIPM Consultative Committee on Units (CCU), a committee with strong ties with IUPAP and C2. For example, he was a member of the Drafting Committee for the most recent revision of the SI Brochure that provides the documentation for the "revised" SI.

I strongly support his choice. There is no other member of Commission C2 with qualifications that come close to his.

CV: <http://www.rfqm2019.com/speakers/marc-himbert/>

Commission on Statistical Physics (C3) – Rahul Pandit

New members of the C3 Commission were discussed in the meeting of the Commission that was held during the StatPhys 27 meeting in Buenos Aires in July this year.

In particular, all the members suggested that **Professor Lucilla de Arcangelis** (2014)(2017), the current Secretary of the C3 Commission, be nominated to be the next Chair of this Commission.

Professor Lucilla de Arcangelis served as a member of the C3 Commission during the term 2015-17 under the Chair Professor Itamar Procaccia. During this period she participated to the email discussions, the voting procedures for Boltzmann medalists and Young Scientist awards, and the C3 meeting during the StatPhys26 in Lyon.

She was then nominated Secretary of the C3 Commission, for the term 2018-20 under the current Chair Professor Rahul Pandit. As the Secretary of the C3 Commission during this term,

she took care of a number of tasks related to the initiatives of the governance of the C3 Commission:

- (a) The C3 Commission nominated Professor Itamar Procaccia for the Governing Board of the ISC;
- (b) She participated in the meeting of the steering committee of the StatPhys27 Conference in Buenos Aires in April 2018;
- (c) She proposed and supervised the voting procedure for Boltzmann Medalists and Young Scientist Awards.

The C3 Commission also held their meeting during StatPhys27 in Buenos Aires in July 2019. They proposed new C3 members and identified the venue of the next conference in this series, StatPhys28.

CV: <http://iupap.org/wp-content/uploads/2019/09/C3-Lucilla-de-Arcangelis.pdf>

Commission on Astroparticle Physics (C4) – Sunil Gupta

We would like to nominate **Prof. Takaaki Kajita** (Associate Member 2018-2021) as the next Chairman of C4. Prof. Kajita had shared the 2015 Nobel prize in physics for the discovery of neutrino oscillations. A brief account of his contributions may be found here. He is currently a Professor at the University of Tokyo and is the Director of the prestigious Institute for Cosmic Ray Research (ICRR) located near Tokyo for past 20 years. The ICRR was recently recognized as one of the six premier research institutes by the Government of Japan.

He leads the Super-K experiment located in Kamioka mines that led to the neutrino oscillation discovery. He is also the PI of the much bigger Hyper-K as successor of the Super-K experiment which has just been approved for construction. He is also Co-chair of the neutrino panel setup this year by the IUPAP. He also is the leader of the KAGRA, superconducting gravitational wave detector in Japan. He was the Vice-Chairman of the Local Organizing committee for the IUPAP sponsored 28th International Cosmic Ray Conference held in Tsukuba, Japan during 31 July - 7 August 2003. Currently, Prof. Kajita is serving as an associate member of C4 and is an active participant in our meetings. Despite his myriad commitments Prof. Kajita remains actively

engaged in the affairs of C4 and is very widely respected in our community for his wise counsel and collegial interactions.

CV: <http://iupap.org/wp-content/uploads/2019/09/C4-Takaaki-Kajita.pdf>

Commission on Low Temperature Physics (C5)– William P Halperin

The commission chair for the next cycle will be **Naoto Nagaos** (2014)(2017) who has been a member of C5 for the previous cycle 2014-2017 and currently is the secretary of C5 (2018-2021). He is a condensed matter theorist and expert in strongly correlated electron physics including superconductivity, quantum spin systems, and topological states of matter. He is the Group Director of the Strong Correlation Theory Research Group and former Division Director at RIKEN in Japan. In addition to his responsibilities as secretary of C5 he is the co-chair of the type A conference scheduled for August 2020, which has been approved for support from IUPAP by both C5 and the IUPAP administration. It is the tradition in C5 that the secretary moves to the position of chair. Naoto Nagaosa is the appropriate choice.

CV: <https://www.cems.riken.jp/en/laboratory/sctrng>

Commission on Biological Physics (C6) – Ramin Golestanian

We discussed the nominations at length in our last commission meeting in Madrid on 23/07/2019. We proposed the position of Chair to Prof. Françoise Brochard from France but she preferred to stay in the executive team of the C6 commission in a more supporting role, so in the end she will be our proposal for Vice-Chair, as per her own preference.

Our proposed Chair will be **Prof. Masaki Sasai** (2014)(2017) from Japan. He has had experience of being officer of C6, and was unanimously supported for the role. He agreed to take the job on. He is a highly respected and accomplished biological physicist and he has many good connections in the south east Asia communities. Since our next ICBP will be held

in Seoul in tandem with STATPHYS that will be a suburb of Tokyo (Yokohama), his leadership position will be key to achieving our goals for the organization of this important event.

We are going to propose Prof. Jeff Gore from the USA for the post of secretary.

CV: <http://www.tbp.cse.nagoya-u.ac.jp/~sasai/eindex.html>

Commission on Semiconductors (C8) – Rolf Haug

I would like to nominate the present secretary of C8 to become the future chair of C8.

Prof. Young Dong Kim(2014)(2017) served one term (2014) as a member of C8, in the present term he is serving as secretary of C8, so he will be ideally suited to be the future chair (he is helping me also quite a lot).

CV: <http://iupap.org/wp-content/uploads/2019/09/C8-Young-Dong-Kim.pdf>

Commission on Magnetism (C9) – Burkard Hillebrands

Regarding Commission C.9, we have installed a well-defined procedure for the nomination of the next Chair. We nominate the current Secretary, that is **Prof. Kai Liu** (2014)(2017).

The commission meets in person every three years on the occasion of the International Conference on Magnetism (ICM), the main conference of the commission. At the last meeting in July 2018 in San Francisco, we have elected Prof. Kai Liu as Secretary. In this function he is foreseen to advance to Chair. His election will take care during the 2021 ICM in Shanghai, when the Commission will meet next time. So please put his name on the list for the preferred Chair for the term 2021-2023.

We are currently discussing several proposals for the next Secretary. The next Secretary will be elected at the 2021 ICM in Shanghai.

CV: <https://gufaculty360.georgetown.edu/s/contact/0033600001KoaOaAAJ/kai-liu>

Commission on Structure and Dynamics of Condensed Matter (C10) – Laura Greene

Please find my write-up for the nomination of **Professor Tai Won Noh** (2014)(2017) for C10 Chair.

Professor Tae Won Noh has served as an associated member (2012-2013), a regular member (2014-2016), and a secretary (2017-2019) of C10. He also held successfully IMF-9 (The Ninth International Meeting on Ferroelectricity: August 24-29, 1997, Seoul, Korea), which was sponsored by Commission on the Structure and Dynamics of Condensed Matter (C10), IUPAP.

CV: <http://iupap.org/wp-content/uploads/2019/09/C10-Tai-Won-Noh-.pdf>

Commission on Particles and Fields (C11) – Heidi Schellman

C11 has had some difficulty, as our first recommendation for Chair, Mihoko Nojiri, is unable to serve.

We do not have other candidates from Asia who have participated actively in our meetings, so may need to move away from regional rotation.

After much consultation, we suggest **Prof. Florencia Canelli** (2014)(2017) from Switzerland as Chair, she has served with distinction as Secretary. Prof. Canelli is originally from Argentina and would also bring some North-South balance to our committee. She is also the winner of the

2010 IUPAP Young Scientist Award among many other distinctions.

CV: <http://iupap.org/wp-content/uploads/2019/10/C11-Canelli-long.pdf>

Commission on Nuclear Physics (C12) – Claes Fahlander

From January 2021 C12 will need a new Chair. This issue was discussed at the C12 annual meeting in Glasgow in July 2019, and it was unanimously decided to suggest to IUPAP that

the next chair should be **Professor Ani Aprahamian** (2014)(2017) of Notre Dame University, USA. She has been a member of C12 since 2014, and presently serves as its secretary.

Recently, since beginning of 2019, she has become the director of A. Alikhanyan National Laboratory of Armenia while she is simultaneously the Frank M. Freimann chair professor of Physics at the University of Notre Dame.

She is an experimental nuclear scientist interested in the origins of the heavy elements in the universe and the evolution of structure in neutron rich nuclei. Over 50% of the heavy elements are believed to be created in the rapid neutron process (r-process). The site of this process has remained as one of the challenging open questions in all of science today. The question was one of *eleven greatest unanswered questions* of Astrophysics, Astronomy, and Physics. The recent thrust of her work has been towards using nuclear properties to constrain the site of the r-process from various proposed astrophysical scenarios. The topic is crucial for setting new priority agendas for measurements of nuclear properties far from stability at new facilities that have just been built or soon coming on-line. Facilities include FRIB at Michigan State University, RIKEN in Japan, CERN in Switzerland, GSI-FAIR in Germany, and GANIL in France.

Ani Aprahamian is splitting her time in Yerevan as the director of the national laboratory of Armenia as she initiated the operation of a new cyclotron and the production of ¹⁸F isotopes as a first step to introducing nuclear medicine as a diagnostic tool in the Republic of Armenia. The WHO reports one of the largest morbidity rates for Armenians from six major types of cancer and the implementation of diagnostic nuclear medicine is bound to have a profound effect on the country.

She has experience with setting science priorities in the USA and at international nuclear physics laboratories. She has served as a program director at the US National Science Foundation's Mathematical and Physical Sciences Division in Nuclear and Particle Astrophysics, and Nuclear Physics. She has been a member of the Nuclear Science Advisory Committee and a member of several Long Range Plan Committees. She has served as American Physical Society's Division of Nuclear Physics chair, and as a member of the APS Policy Committee. She has been the elected representative of the USA on the International Union of Pure and Applied Physics Commission on Nuclear Physics (C12).

She has also served on various committees of the United States National Science Academies, most recently, as co-chair of the Academies study of the Science of the EIC (2018), the decadal review of nuclear physics (NP2010: released in 2012). She is a fellow of the APS (1999), and the AAAS (2008). She is an elected foreign member of the science academy of the republic of Armenia. She is a member of the national physics honor society of Sigma Pi Sigma, and the American Chemical Society's Division of Nuclear Chemistry and Technology. She is a frequent reviewer of Physics Departments across the USA in evaluating academic excellence, diversity of physics disciplines, and the climate for women. She serves as a reviewer of science and scientific priorities outside of USA in Canada, United Kingdom, France, Germany, Italy, Russia, and Armenia. She is presently the chair of the Science Advisory Committee of FRIB (Facility

for Rare Isotope Beams), She is a member of GSI-FAIR Science advisory committee in Darmstadt, Germany, and a member of the GANIL science council in France.

She has mentored 19 graduate students and 10 postdoctoral fellows. To date, she has published over 185 peer-reviewed papers and given over 200 invited addresses at national and international conferences. Outside of her research, she has strong interests in the ***applications of nuclear science to energy and medicine*** and the dissemination of modern science techniques to medicine, agriculture, mining, and the use of physical non-destructive methods in preserving and studying objects for cultural heritage.

CV: <http://iupap.org/wp-content/uploads/2019/09/C12-Ani-Aprahamian.pdf>

Commission on Physics for Development (C13) – Sekazi Mtingwa

I nominate **Kuijuan Jin** (2017) for the following reasons:

She has shown tremendous enthusiasm on many issues in which C13 has undertaken.

Kuijuan has served admirably as Vice-Chair of C13 for the past year and substituted for me at the last C&CC Meeting in Vilnius. Her report on that meeting at the recent August C13 Annual Meeting was extremely well delivered and received. She captured all the main highlights from the C&CC Meeting.

The next IUPAP General Assembly will be in Beijing next year, and Kuijuan works at the Chinese Academy of Sciences in Beijing. I think that she will play a major role in the arrangements of that meeting, and following that up with being named Chair of C13 would greatly heighten C13's visibility in China.

CV: <http://english.iop.cas.cn/pe/?id=399>

Commission on Physics Education (C14) – Roberto Nardi

We present below the names and positions of the officers for the next ICPE - International Commission on Physics Education, C14 - 2021-2023 period.

We understand that the chosen names are the result of consultation amongst all commissioners and will help ICPE and IUPAP to accomplish their main objectives since the

colleagues, besides having already been chosen by their physics societies, have made important contributions for the C14 Commission over the last years.

They are a young generation of researchers and have good contributions for physics education. They will renew the Commission and, in that sense, C14 will have enough energy to increase the contact with other new cooperation bodies.

The names also balance the gender issue that C14 are always aware of, so the Commission is formed exclusively by women.

We add that the fact that these colleagues come from three different continents means that the new officers are in line with the main mission and vision that IUPAP searches for: to be present all over the world. This is very important, especially for the improvement of physics education.

We hope that, with the other Commissioners that will be chosen for the next period, C14 will continue to help IUPAP to make the difference in its academic and social commitments.

Tetyana Antimirova (2017) - Canada – Chair

Dr. Tetyana is currently a member of the C14 Commission; she was nominated by The Canadian Association of Physicists for C14 after being member of the IUPAP C13 Commission – Physics for Development (2014-2017). This former experience seems to be very important in her presence in the Physics Education Commission since 2018, since she showed to be very active member, responding to the all demands and participating in person or via skype in the events and meetings carried out in the last years. Her presence in the C14 Commission has been very important since, besides the former cited experience, she has brought to us other important experiences, as:

Member of the Committee on Undergraduate Student Affairs, Canadian Association of Physicists (CAP) (2008-2011); Vice-Chair, Division of Physics Education, Canadian Association of Physicists (CAP) (2007-2009); Chair, Division of Physics Education, Canadian Association of Physicists (CAP) (2009-2011); Member, International Committee on Physics Education, American Association of Physics Teachers (AAPT) (2009-2013);

Vice Chair, International Committee on Physics Education, American Association of Physics Teachers (AAPT) (2011-2013); Chair, International Committee on Physics Education, American

Association of Physics Teachers (AAPT) (2012-2013). Since 2009, she also belongs to the Ontario Association of Physics Teachers (OAPT) as Section Representative in the American Association of Physics Teachers.

Manjula Devi Sharma - Australia - Vice Chair

Dr. Manjula Sharma is member of the C14 Commission since 2018, after staying as associated member since 2015. Her experience as associated member and, afterwards as a commission member, led her to assume the role of editor of the ICPE Newsletter since 2018. The Newsletter has an important role in the C14 Commission since it spreads all over the world the news on the Commission and several issues on physics education, reports of physics events carried out in many countries, and PhD theses recently concluded. Dr. Sharma is currently Professor of Science Education, School of Physics, The University of Sydney, since 2017. Her curriculum shows also important projects on physics education, with financial support, carried out in the last years and positions held in her country and abroad such as: Building leadership capacity in undergraduate science teaching in India (2012-2013); More active lecture approaches in science and mathematics (2013-2014);

Advancing Science and Engineering through laboratory learning: ASELL for Schools (2014-2017); Developing Collaborative Interdisciplinary Teaching and Research Capacity around STEM MEd and e-learning at UNE and with USyd (2015). She is also reviewer of important international science education journals. Besides all the above experience, her importance as Newsletter's editor and the presence in all the recent events in IUPAP such as WCPE and ICPE was decisive for her nomination as vice chair for the next period (2021-2023).

Eilish McLoughlin - Ireland - Secretary.

Dr. McLoughlin is Associate Professor, School of Physical Sciences, Dublin City University. She has been in the ICPE Commission for two terms. Among other activities related to physics teaching, her curriculum shows participation as: Member of National Gender Balance in STEM Education Expert Advisory Group, 2019-present; External Examiner MSc STEM Education, Mary Immaculate College Limerick, 2018-present; Member of National Science Gallery Expert Advisory Group, 2017-present. Member of Centre for Talented Youth in Ireland (CTYI) Expert advisory Group, 2012-present. She is today also nominated for other societies: GIREP Physics Education Research Board 2019-2023 and National Expert on the H2020 Science with and for Society Working Group, 2016-present. AT local level she works in project like: Programme Chairperson DCU BSc Science Education, 2016-present. DCU Coordinator of SciFest, 2016-present; Member of DCU Faculty of Science and Health Research committee, 2017-present; Coordinator of Graduate Training in the School of Physical Sciences, 2015-present. Director of DCU's CASTeL Research Centre, 2008-present.

We are proud that these names and positions are a consensus among the current Officers and Commissioners.

We are sure that future ICPE commissioners will be able to help Tetyana, Manjula and Eilish make IUPAP maintain its commitment to countries where Physics Education can significantly change citizens' lives.

CV: <http://iupap.org/wp-content/uploads/2019/09/C14-Tetyana-Antimirova.pdf>

Commission on Atomic, Molecular and Optical Physics (C15) – Roberto Rivarola

It is for us a pleasure to nominate **Prof. Rosario González Férez** (2017) for the Chair position of Commission C15 for the term 2021-2023. Rosario is at present Professor at the University of Granada in Spain.

She is an elected member of C15 for the period 2018-2020, collaborating with all activities and decisions taken in this Atomic, Molecular and Optical Commission. Rosario has participated in the two C15 meetings held in Barcelona (Spain, 2018) and Deauville (France, 2019). She is at the same time Chair of the European Group on Atomic Systems (EGAS) since July 2018 and has been a member of an important number of international Conference Committees.

Her research interests cover the subjects of the two main conferences in our area, the International Conference on Atomic Physics (ICAP) and the International Conference on Photonic, Electronic and Atomic Collisions (ICPEAC). Thus, she normally participates in both conferences and has been invited to give Plenary Reports in both of them, which is an indication of the impact of her research.

CV: <http://iupap.org/wp-content/uploads/2019/09/C15-Rosario-González-Férez.pdf>

Commission on Plasma Physics (C16) – Minh Quang Tran

We have the natural candidate: **Sylvie Jacquemot** (2014)(2017) the present Vice Chair.

However should for any reason this will not work out I am ready to propose new names.

CV: <http://iupap.org/wp-content/uploads/2019/09/C16-Sylvie-Jacquemot-.pdf>

Commission on Laser Physics and Photonics (C17) – Tsuneyuki (John) Ozaki

After consultation with the members of our commission, we would like to nominate **Dr. Roberto Pini** (2014)(2017) the current Secretary, as the next Chair of C17 for the 2021-2023 triennial.

Please find attached a short CV of Dr. Pini, as well as his motivation of becoming Chair and past experience with IUPAP.

Motivations for my candidacy to Chair of C17

I would like to promote the commission as an international hub to share significant scientific results and innovative applications related to the C17 topics, as well as information on public and private initiatives, in memoriam of great scientists, tributes, anniversaries, announcements of conferences and prizes.

I would like to promote effective collaborations with other international organizations dedicated to the promotion of themes similar to those of interest of C17, such as Photonics, Optics, Optoelectronics, Biophotonics.

I would like to open a discussion within C17 members on specific actions we may carry out according to our mandate, in order to support studies and applications in the fields of Laser Physics and Photonics. E.g.: encourage regional, national and international research and investment programs on C17 topics with support letters addressed to the involved institutions; propose actions to improve the participation of women in researches and studies and better recognize their work; report on problems limiting the free circulation of scientists and promote initiatives to resolve such problems.

Brief statement of my IUPAP experience

I served since 2014 as a member of C17 and then since 2017 as the secretary of the same Commission, contributing to periodical reports for newsletters, evaluation activities, proposal and support of initiatives to promote the main topics of C17. Recent activities: at the beginning of 2018, I reported to the IUPAP Organization the calendar and list of #IDL2018 (International Day of Light, May 16th) activities and events planned in my country. From November 2018 to March 2019, I participated to the commission for the organization and the evaluation of the biennial C17 Young Scientist Prizes 2019. Since February 2019 I have been a member of the Advisory/Program Committee of the conference “ICO & IUPAP-C17 Topical Meeting on OPTics and Applications to SUsustainable Development” (OPTISUD –2019), which will include the in-person meeting of C17 members. In September 2019 I will attend this conference as an invited speaker.

CV: <http://iupap.org/wp-content/uploads/2019/09/C17-Roberto-Pini.pdf>

Commission on Mathematical Physics (C18) – Bruno Nachtergaele

I would like to propose the current Vice-Chair of C18 (Mathematical Physics), **Alain Joye (Grenoble)** (2014)(2017) for the position of Chair for the period 2021-2023.

Of the current members of C18, only 4 are serving their second term. Of those, Alain Joye is the most engaged with the business of the Commission. I can rely on him every time for action or comment when needed. He is a highly respected and active mathematical physicist who is well connected internationally. He serves as an organizer or advisor for national and international schools and conferences on a regular basis. In my view, he is clearly the best choice for the next chair of C18.

CV: <http://iupap.org/wp-content/uploads/2019/09/C18-Alain-Joye-Grenoble.pdf>

Commission on Astrophysics (C19) – Gerry Gilmore

I attach a CV for **Pietro Ubertini** (2014)(2017).

He is the member of C19 happiest to become the next Chair.

Julie McEnery, the current secretary, is also a possible candidate.

CV: <http://iupap.org/wp-content/uploads/2019/09/C19-Pietro-Ubertini.pdf>

Commission on Computational Physics (C20) – David Landau

I recommend **Prof. Mei-Yin Chou** (2017) of the Academia Sinica, Taiwan as the new C20 Commission Chair. She is an accomplished computational materials physicist with a Ph.D. from U. of California at Berkeley. Mei-Yin has won multiple fellowships and awards for her research. She also has extensive administrative experience as a past Department Head at the Georgia Institute of Technology and now as Vice-President at the Academia Sinica. She is currently Vice-Chair of the C20 Commission.

CV: <https://www.sinica.edu.tw/en/articles/16>