

INTERNATIONAL UNION of
PURE and APPLIED PHYSICS

GENERAL INFORMATION

REPORT
On the
28th GENERAL ASSEMBLY

Singapore, 2014

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I – ORGANISATION

IUPAP was established in 1922 at Brussels with 13 Member countries. An outline of the history of IUPAP is given on the website (<http://iupap.org/about-us/the-history-of-iupap-1922-1992/>)

The Union is composed of Members representing identified physics communities. Adhering bodies act through their Liaison Committees. Delegates from these Committees meet in the General Assemblies of the Union which are held every three years. The General Assembly appoints the Members of the Executive Council and various International Commissions, and nominates representatives to serve on various inter-union bodies. The Council usually meets once each year.

General Assemblies were held:

1923 - Paris	1925 - Brussels	1931 - Brussels	1934 - London
1947 - Paris	1948 - Amsterdam	1951 - Copenhagen	1954 - London
1957 - Rome	1960 - Ottawa	1963 - Warsaw	1966 - Basle
1969 - Dubrovnik	1972 - Washington	1975 - Munich	1978 - Stockholm
1981 - Paris	1984 - Trieste	1987 - Washington	1990 - Dresden
1993 - Nara	1996 - Uppsala	1999 - Atlanta	2002 - Berlin
2005 - Cape Town	2008 - Tsukuba	2011 – London	2014 - Singapore

The Union adheres to the International Council for Science (ICSU), which is a non-governmental organisation with a global membership of 120 national scientific bodies and 31 International Scientific Unions. The President of ICSU (2014-2017) is Gordon McBean (Canada) and the Secretary-General is David Black (Australia). See the website: www.icsu.org

ICSU has a small grants system, and its 25 Union Members may apply for a grant. Preference is given to projects which build scientific capacity in the ICSU regions (Africa, Latin American and the Caribbean, and Asia and the Pacific). In 2012, IUPAP received an ICSU small grant in support of the African School of Electronic Structure Methods and Applications (ASESMA) held in Eldoret, Kenya, in June 2012. Strengthening networking, collaborations and

mobility of African scientists during the period between the 2012 and 2014 schools was one of the main aspects of the project that is supported by the ICSU grant.

IUPAP CONTACT INFORMATION

For policy issues, please contact the Secretary General. For administrative or any other matters, please contact the Secretariat. Details for both are below.

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AWARDS FOR EXCELLENCE

IUPAP-Sponsored Awards

The Union sponsors 11 awards for excellence.

The IUPAP-TIFR Homi Bhabha Award:

2013 - **Heinz Völk**, Max-Planck-Institute for Nuclear Physics,
Heidelberg, Germany (C4)

The Young Scientist Prize

2014

- 2014 - Samuel Lara-Avila (C2)
- 2014 - Stefan Ulmer (C2)
- 2014 - Cory R Dean (C5)
- 2014 - Mathieu Le Tacon (C5)
- 2014 - Leonardo DiCarlo (C5)
- 2014 - Yi Cao (C6)
- 2014 - Xiaodong Xu (C8)
- 2014 - Rahul Nair (C8)
- 2014 - Clarina de la Cruz (C10)
- 2014 - Claude Duhr (C11)
- 2014 - Kerstin Tackmann (C11)
- 2014 - Jacob M Taylor (C15)
- 2014 - Wei Lu (C16)
- 2014 - Albert Schliesser (AC1)
- 2014 - Jorge Santos (AC2)
- 2014 - Jan-Bernd Hövener (AC4)

2013

- 2013 - Aya Ishihara (C4)
- 2013- Daniel Mazin (C4)
- 2013- Kazumasa Takeuchi (C3)
- 2013- Takahiro Sagawa (C3)
- 2013- Dr Marina Kuimova (C6)
- 2013- Claudio Castelnovo (C10)
- 2013- Bjorn Peter Schenke (C12)
- 2013- Stefano Gandolfi (C12)
- 2013- Rabia Burcu Cakirli (C12)
- 2013- Till Jahnke (C15)

2013- Peter Bruggeman (C16)
2013- Nickolas Vamivakas (C17)
2013- Kin Fai Mak (C17)
2013- Alicia Soderberg (C19)
2013- Lisa Barsotti (AC2)
2013 -Ferdinand Schweser (AC4)

2012

2012 - Pierre Cladé (C2)
2012 - Ryan Ringle (C2)
2012- Dr Tuomas Knowles (C6)
2012 - Alberto Amo (C8)
2012 - Suchitra Sebastian (C9)
2012 - Andrew D. Christianson (C10)
2012 - Teppei Katori (C11)
2012 - Phillip Urquijo (C11)
2012 - Ian Spielman (C15)
2012 - Ian Chapman (C16)
2012 - Ivan Corwin (C18)
2012 - Wojciech de Roeck (C18)
2012 - Alessandro Giuliani (C18)
2012 - Alexander J. van der Horst (C19)
2012 - Roger G. Melko (C20)
2012 - Nirit Dudovich (AC1)
2012- Magdalena Stoeva (AC4)

2011

2011 - Jose Alfredo Bellido Ceceres (C4)
2011 - Viviana Scherini (C4)
2011 - Eunseong Kim (C5)
2011 - Max Hofheinz (C5)
2011 - Mika Sillanpää (C5)
2011 - Young-Woo Son (C8)
2011 - Marcos Rigol (C10)
2011 - Ian Spielman (C15)
2011 - Ilya Dodin (C16)
2011 - Pavlos Lagoudakis (C17)
2011 - Daisuke Nagai (C19)
2011 - Stefano Curtarolo (C20)

2011 - Goëry Genty (AC1)

2010

2010 - Till Rosenband (C2)
2010 - Davide Marenduzzo (C3)
2010 - Pablo Jarillo-Herrero (C8)
2010 - Yuanbo Zhang (C8)
2010 - Feng Wang (C10)
2010 - Florencia Canelli (C11)
2010 - Jose Santiago (C11)
2010 - Kenji Fukushima (C12)
2010 - Peter Mueller (C12)
2010 - Lijuan Ruan (C12)
2010 - Jeremy O'Brien (C15)
2010 - Matthew Hole (C16)
2010 - Poonam Chandra (C19)
2010 - Thomas Schweizer (C19)
2010 - Philipp Werner (C20)
2010 - Shuang Zhang (AC1)

2009

2009 - Gang Li (C4)
2009 - Michael Unger (C4)
2009 - Sergio O. Valenzuela (C9)
2009 - Eiji Saitoh (C9)
2009 - Takashi Kimura (C9)
2009 - Johan Mauritsson (C15)
2009 - Timo Gans (C16)
2009 - Simone Warzel (C18)
2009 - Rupert L. Frank (C18)
2009 - Benjamin Schlein (C18)
2009 - Thomas Schweizer (C19)
2009 - Amanda S. Barnard (C20)
2009 - Eleftherios Goulielmakis (AC1)
2009 - Leif Schröder (AC4)

2008

2008 - Sebastien Bize (C2)
2008 - Frank Herfurth (C2)

2008 - Dai Aoki (C5)
2008 - Kostya Novoselov (C5)
2008 - Viktor Tsepelin (C5)
2008 - Lieven Vandersypen (C8)
2008 - Kai-Feng Chen (C11)
2008 - Yasaman Farzan (C11)
2008 - Cheng Chin (C15)
2008 - Michael Van Zeeland (C16)
2008 - Eiichiro Komatsu (C19)
2008 - Naoki Yoshida (C20)

2007

2007 - Giulio Biroli (C3)
2007 - Tomohiro Sasamoto (C3)
2007 - Maximo Ave (C4)
2007 - Stephanus Ferreira (C4)
2007 - Habib Zaidi (C6)
2007 - Yuri A. Litvinov (C12)
2007 - Rainer J. Fries (C12)
2007 - Kimiko Sekiguchi (C12)
2007 - Robin Santra (C15)
2007 - Pascal Chabert (C16)
2007 - Stefano Sanvito (C20)

2006

2006 - Satoshi Okamoto (C9)
2006 - Siddharth Shanker Saxena (C9)
2006 - Marta Burgay (C19)
2006 - Ali A. Mowlavi (AC4)

The SUNAMCO Medal, given by the International Commission on Symbols, Units, Nomenclature, Atomic Masses and Fundamental Constants (C2):

- 2012 - Ian M. Mills
- 2008 - Heinz-Jürgen Kluge and Georg Bollen, and to D.E. Pritchard
- 2004 - A. H. Wapstra, Senior SUNAMCO medallist
- 2001 - C. A. Hamilton and T. W. Hänsch
- 2000 - Mr. I. Harvey
- 1998 - T. Kinoshita and GSI (Gemeinschaft für Schwer-Ionforschung, Darmstadt)
- 1996 - E. R. Cohen
- 1992 - B. P. Kibble and H. E. Duckworth
- 1991 - R. D. Deslattes
- 1990 - Bureau International des Poids et Mesures (BIPM)

The Boltzmann Medal, awarded by the International Commission on Statistical Physics (C3):

- 2013 – Giovanni Jona-Lasinio and Harry L Swinney
- 2010 - J. Cardy and B. Derrida
- 2007 - K. Binder and G. Gallavotti
- 2004 - E. G. D. Cohen and H.E. Stanley
- 2001 - B. J. Alder and K. Kawasaki
- 1998 - E. Lieb and B. Widom
- 1995 - S. Edwards
- 1992 - J. L. Lebowitz and G. Parisi
- 1989 - L. P. Kadanoff
- 1986 - D. Ruelle and Y. Sinai
- 1983 - M. Fisher
- 1980 - R. J. Baxter
- 1977 - R. Kubo
- 1975 - K. Wilson

The Fritz London Award, given by the International Commission on Low Temperature Physics (C5):

- 2011 - H. Maris, H. Mooij, G. Schön
- 2008 - Y. M. Bunkov, V. V. Dmitriev, I. A. Fomin
- 2005 - S. Balibar, J.C. S. Davis, R. Packard
- 2002 - R. J. Donnelly, W. Hardy, and A. M. Goldman
- 1999 - D. Brewer, W. Ketterle, and M. Krusius

1996 - M. H. W. Chan, E. Cornell and C. Wieman
1993 - D. S. Greywall, H. Meyer and A. Schmid
1990 - A. Larkin, Drs. P. C. Hohenberg and R. C. Dynes
1987 - J. Clarke, J. Kondo, J. G. Bednorz and K. A. Müller
1984 - W. Buckel, O. V. Lounasmaa and D. J. Thouless
1981 - A. J. Leggett, J. D. Reppy and I. Rudnick
1978 - W. L. Macmillan, J. M. Rowell and G. Ahlers
1975 - J. C. Wheatley
1972 - A. Abrikosov
1970 - B. D. Josephson
1968 - W. M. Fairbank
1966 - C. J. Gorter
1964 - D. Shoenberg
1962 - J. Bardeen
1960 - L. D. Landau
1958 - N. Kurti

The Young Author Best Paper Award, established by the International Commission on Semiconductors (C8) and sponsored by the semiconductor industries of USA, Japan and Europe:

2010 - Yael Benny, Justin Weber, Arun Mohan, Arne Laucht, Shuji Nakamura, Amir Nevet, Igor Aharonovich

2008 - A. Amo, M. Hashisaka, A. Hayat, M. Kaniber, N. Lanzillotti-Kimura, M. Leite, P. Rauter, D. Spirkoska, A. Werpachowska

2000 - K. Hannewald, D. Jena, H.-S. Im, V. Tuerck, and J. D. Heber

1998 - G. Biasiol, S. Bose, R. Crook, E. Dekel, R. de Picciotto, B.A. Glavin, D. Goldhaber-Gordon, L.E. Golub and C.M.A. Kapteyn

1994 - H. Ajiki, H. F. Ghacmi, S. Gunji, K. Itoh, C. Lavoie, D. Leonard, F. Rossi and C. Waschke

1992 - Y. Jin, X.K. Lu, W. Quade, T. Tomaru, T. Tsuchiya, H. L. Vaghjiani and J. K. Wang.

1990 - F. Beltram, P. Bloechl, T. Egeler, M. Fujii, L. Kouwenhoven, M. Noguchi, D. Nolte and J. Peretti

ICM Award in Magnetism, established by the International Commission on Magnetism (C9):

2015 - Chia-Ling Chien
2012 - Sadamichi Maekawa
2012 - Yoshinori Tokura
2009 - Stuart S.P. Parkin
2006 - J.C. Slonczewski
2003 - G. Aeppli, H. Ohno & D.D. Awschalom
2000 - F. Steglich
1997 - R. J. Birgeneau
1994 - A. Fert/P. Grunberg
1991 - A.J. Freeman

The ICPE Medal, established by the Commission on Physics Education (C14):

2012 - E. F. Redish
2011 - The Lady Cats
2010 - G. Tibell
2009 - A. L. Ellermeijer
2008 - UNESCO
2007 - P.Laws
2006 - J.Ogborn
2005 - S. Sjoberg
2003 - L.Viennot
2002 - T. Ryu, and L. McDermott
2000 - P. Black
1998 - D. Nachtigall
1997 - G. Marx
1995 - L. Jossem
1992 - N. Joel
1991 - International Physics Olympiad
1987 - J.L.Lewis
1985 - V. F. Weisskopf
1983 - J. R. Zacharias
1981 - P. Kapitza
1980 - E. M. Rogers

Penning Award for Excellence in Low-Temperature Plasma Physics, established by the International Commission on Plasma Physics (C16):

1995 - J. E. Lawler

1993 - Ju. P. Raizer

1991 - A. von Engel

ICO Prize, awarded by the International Commission for Optics (AC1):

2011 - Nicholas X. Fang

2010 - Reinhard Kienberger

2009 - Menon Rajesh

2008 - Zeev Zalevsky

2007 - Susana Marcos

2006 - Hideyuki Sotobayashi

2005 - Immanuel Bloch

2004 - Ashok V. Krishnamoorthy

2003 - Benjamin J. Eggleton

2001 - Nabeel A. Riza

2000 - Stefan W. Hell

1999 - Hugo Thienpont

1998 - David Mendlovic & Haldun Özaktaş

1997 - Andrew M. Weiner

1996 - Vladimir Buzek

1995 - Tony F. Heinz

1994 - Emmanuel Desurvire

1993 - Aleksander K. Rebane

1992 - Wolfgang Peter Schleich

1991 - David A.B. Miller

1990 - Rosario Martinez-Herrero

1989 - Demetri Psaltis

1987 - Alain Aspect

1986 - Kensuke Ikeda

1985 - Sergei I. Stepanov

1984 - J.Christopher Dainty

1983 - James R. Fienup

1982 - Antoine Labeyrie

ICO Galileo Galilei Award, awarded by the International Commission for Optics (AC1):

2011 - Jan Peřina

2010 - Mohammad Taghi Tavassoly

2009 - Marat S. Soskin and Dumitru Mihalache

2008 - Joewono Widjaja

2007 - Oleg V. Angelsy

2006 - Mohammed M. Shabat

2005 - Valentin Vlad

2004 - Milivoj Belic and Caesar Saloma

2003 - Cid B. de Araujo

2002 - Rashid A. Ganeev

2001 - Kehar Singh

2000 - Vladimir P. Lukin

1999 - Mario Garavaglia

1998 - Ajoy K. Ghatak

1997 - Natalyia D. Kundikova

1996 - Daniel Malacara

1995 - Rajpal S. Sirohi

1994 - Ion N. Mihailescu

II - THE STATUTES OF THE INTERNATIONAL UNION OF PURE AND APPLIED PHYSICS (as adopted by the General Assembly - 2014)

I. MISSION

- A. The mission of IUPAP is to assist in the worldwide development of physics, to foster international cooperation in physics, and to help in the application of physics toward solving problems of concern to humanity.
- B. IUPAP carries out this mission by sponsoring international meetings; fostering communications and publications; encouraging research and education; fostering the free circulation of scientists; promoting international agreements on symbols, units and nomenclature; and cooperating with other organisations on disciplinary and interdisciplinary problems.

II. MEMBERSHIP

- A. The Members of IUPAP are communities of physicists engaged in independent scientific activity each within a definite territory and listed under a name that avoids any misunderstanding about the territory represented. The word "territory" does not imply any political position on the part of the Union which seeks to assist physicists everywhere in carrying out its mission.
- B. A Member adheres to the Union through an appropriate body: either its principal scientific academy, or its national research council, or any other institution or association of institutions representing its broad physics community or, failing these, its government.
- C. The Adhering Body will set up a Liaison Committee to maintain relations between its physics community and the Union. These Liaison Committees will, within their respective communities,

encourage and promote the aims of the Union. An Adhering Body, through its Liaison Committee, designates its Delegates to the General Assemblies of the Union and a Delegation Head.

- D. The Union may accept as Observers, regional physical societies and other international physics organisations. Observers may be invited to send a representative to Council meetings and General Assemblies, but have no voting privileges.

III. GENERAL ASSEMBLY

- A. The General Assembly is the highest governing body of the Union. It:
 - 1. Creates and amends these Statutes (requires a two-thirds majority of those present).
 - 2. Sets and amends the procedural By-laws (requires a three-fifths majority of those present).
 - 3. Elects the Executive Council that oversees Union activities between General Assemblies.
 - 4. Elects members of its Commissions.
 - 5. Sets the members' dues.
- B. The General Assembly may:
 - 1. Set policy.
 - 2. Establish or dis-establish Commissions that are assigned specific tasks in their charter, and elect their members.
 - 3. Recognise a group of scientists outside of the Union as an Affiliated Commission.
 - 4. Decide to participate in interdisciplinary or other international scientific bodies.
 - 5. Accept new members.
- C. The General Assembly meets every three years. The Council will call special meetings at the request of one-third of the members, or at its own request.
- D. The President presides over the General Assembly. The Secretary-General is responsible for making a record of all

activities.

- E. Election procedures are specified in the By-laws.
- F. A quorum of the General Assembly consists of sufficient members to produce two-thirds of all votes.

IV. ADMINISTRATION

- A. An Executive Council (the Council) oversees and administers the activities of the Union between General Assembly meetings. It normally meets at least once per year.
- B. The Council is composed of the President, President-Designate, ten Vice Presidents, the Secretary-General and the Associate Secretary-General; all elected by the General Assembly, plus the immediate Past President. At least one of the members shall be from a developing country.
- C. The term of office of Councillors normally begins and ends at the end of each General Assembly. In exceptional circumstances, the General Assembly may extend the term of office.
- D. The President may not be re-elected. The President-Designate normally will be elected to the Presidency. Five of the Vice Presidents shall be elected at large and may be re-elected once. Five Vice Presidents shall be elected from among the Chairs of the Commissions. Consideration shall be given to an appropriate sub-disciplinary balance on the Council. If the President is unable to serve, the President-Designate shall assume the Presidency. The Council may fill any other vacancy that occurs between General Assemblies.
- E. The Council has all of the authority of the General Assembly between General Assemblies, except those items specified in Section III of these statutes, subject to ratification at the next General Assembly. It may fill vacancies in the Commissions that occur between General Assemblies.

- F. The Secretary-General carries out the Administration of the affairs of the Union with the assistance of the Associate Secretary-General.
- G. The Council shall appoint an auditor to certify an annual financial report.

V. COMMISSIONS

- A. The Commissions promote the objectives of the Union within their areas of expertise and provide advice to IUPAP on the activities and needs of the subfields of physics they represent.
- B. The Commissions are elected according to procedures specified in the By-Laws. Affiliated Commissions are groups of scientists recognised by the General Assembly but appointed by other scientific bodies.

VI. FUNDING

- A. A Member joins the Union with a number of shares negotiated by the Council and approved by the General Assembly. A Member's dues are equal to the number of shares multiplied by the dues per share determined by the General Assembly.
- B. Dues are payable on the first day of each year, and are the responsibility of the Adhering Bodies.
- C. A Member in arrears for three years loses its right to vote in the General Assembly. A Member in arrears for six years is excluded from the Union. Any member ceasing to belong to the Union forfeits all rights to Union assets.
- D. In exceptional circumstances, the Council may make a temporary adjustment to a Member's dues.
- E. Dues may be used to cover administrative expenses as well as carrying out activities in furtherance of the Mission of the Union.

- F. The Union may accept grants, contracts, and donations in furtherance of its Mission.

VII. GENERAL ASSEMBLY VOTING RIGHTS AND PROCEDURES

- A. The number of votes of a Member is related to its number of shares as follows: one share gives one vote; two or three shares give two votes; four to six shares give three votes; seven to nine shares give four votes; ten to fifteen shares give five votes; sixteen or more shares give six votes.
- B. Members paying less than one share have no vote.
- C. The number of official delegates a Member has at the General Assembly is equal to its number of votes.
- D. Each Chair of a Commission or an Affiliated Commission, or, in the Chair's absence, its Vice-Chair or Secretary, is an official delegate and has one vote.
- E. Members of the Council who are not also Commission Chairs do not vote, except that the President may vote to break tie votes.
- F. Motions concerning scientific issues will be decided by a majority of the individual official Delegates present and voting.
- G. On all other motions, the Heads of Delegations cast all of the Delegation's votes. The question is decided by a majority of votes cast.
- H. In the event of a question on the category of a motion, the President will decide.
- I. A Member whose Delegation is unable to attend may submit a written vote to the Secretary-General on any matter on the initial agenda. It must be received before the vote to be valid. It is not possible to extend this privilege to questions arising at the General Assembly.

VIII. DURATION OF THE UNION

- A. The life of the Union is not limited.
- B. In the event of dissolution of the Union, requiring a two-thirds majority of the votes of the Members, the remaining assets of the Union will be allocated by the General Assembly to one or more educational, charitable or scientific organisations.

IX. DOMICILE

- A. The legal domicile of the Union shall be Switzerland.

BY-LAWS

(as adopted by the General Assembly - 2014)

I. GENERAL ASSEMBLY

A. Location

The Council determines the site and date of a General Assembly and notifies the Members at least six months in advance.

B. Agenda

1. The Agenda of the General Assembly is to be sent to all Members at least three months in advance.
2. The Agenda may be modified at the General Assembly by a majority of the votes of the Members present.
3. All Commissions, Working Groups, Affiliated Commissions, and Inter-Union Committees shall make a written report. The Council shall designate any that are to make an oral presentation.

C. Observers

1. In addition to a Member's official Delegation, all other members of Liaison Committees may attend without vote.
2. The President may invite Guest Observers without vote as deemed appropriate

II. COMMISSIONS

A. Membership

1. Commissions shall be composed of a Chair, Vice-Chair, Secretary and eleven other members.
2. Normally, there shall be no more than one commission member from any Member. Some Commissions may believe their work would be hindered by this rule. They may ask the Council for an exception. If the Council believes the exception is warranted, it will propose an exception to the General Assembly for ratification before the election.
3. Commissions may have important links to other Commissions, Scientific Unions or international organisations. Each

Commission may propose to the Council up to four associate members. The Council will appoint associate members about one year after the election of regular members. Associate members do not vote at Commission meetings and are not eligible for IUPAP travel funds.

4. To the extent practical, at least one member shall be from the industry. If a Commission believes that this requirement is not practical, it shall inform the Council of its reasoning.
5. When new Commissions, are formed the Council will make ad hoc arrangements for membership until the normal rotation of membership can be established.

B. *Terms of Office*

1. All elections are for a term of three years.
2. Chairs may not be re-elected to any position on the Commission beyond their term as Chair, and Vice Chairs/Secretaries may not be re-elected to the same positions nor be re-elected as an ordinary member-except in extraordinary circumstances, and, in such circumstances, special approval by the General Assembly is required. Ordinary members may be elected twice.
3. Normally, the Secretary, Vice-Chair and Chair are to be chosen from among those who have served at least one term on the Commission.
4. Service in all capacities shall not exceed three terms.
5. The General Assembly may grant exceptions for those Commissions that undertake long-term projects or where continuity is particularly important.

III. ELECTION

A. *Procedure*

1. *Nominations*
 - a) A call for nominations to Commissions and the Council shall be sent to all Liaison Committees and Commissions at least six months before a General Assembly.
 - b) Nominations from Liaison Committees must be received by the Secretary-General no later than four months before a General Assembly. Nominations from Commissions must be received no

later than six weeks before a General Assembly. A statement of the candidate's qualifications, sufficient to allow an evaluation of the candidate, must accompany nominations. It is preferred that nominations be submitted electronically.

- c) The Council will prepare a slate of nominees for the Commissions and Council from the nominations and may itself suggest names (in which case, a statement of qualifications will be prepared). Special consideration will be given to continuity, geographic distribution, and coverage of major sub-fields within the Commissions. Delegates will receive the slate of nominees at the start of the General Assembly.
- d) Liaison Committees may resubmit nominations at the General Assembly of persons not on the Council's slate, but these renominations must be supported by at least one other delegation. The Council then will prepare a final ballot with its recommendations and list any renominations for a position.
- e) It may be necessary because of unforeseen circumstances, such as the unavailability of a candidate, to make nominations at the General Assembly. If so, nominations can be made by the Heads of Delegations, Commission Chairs, or Members of the Council. Such nominations require a seconder.

2. *Elections*

- a) If more names are included on the final ballot than there are positions, the election will be by secret ballot. Each Delegation Head will vote its block of votes.
- b) Two tellers appointed by the General Assembly count votes. Assistance may be provided, if desired, by Secretariat personnel.

IV. CONFERENCES

A. Sponsorship

1. The Union may sponsor and contribute to the support of conferences related to its mission. The Council in consultation with the Commission Chairs grants sponsorship.

B. Procedures

1. The Council may set rules for sponsorship. Such rules should be clearly posted on the Union's website.
2. Liaison Committees should be promptly informed of conferences proposed to take place in their territory.

V. STATEMENTS

A. Authority

1. Statements in the name of IUPAP may only be made by majority vote of the General Assembly.
2. It may be necessary between General Assemblies for the Council to issue a statement on a pressing issue. The Council by majority vote may issue such statements in the name of the IUPAP Council.
3. Commissions may issue statements in their area of expertise subject to approval by the President.

Appendix A

THE INTERNATIONAL COMMISSIONS FOR THE PERIOD 2014 – 2017

(Each Commission is composed of a Chairman, a Vice-Chairman, a Secretary and eleven ordinary Members, all appointed by the General Assembly)

- C2. Commission on Symbols, Units, Nomenclature, Atomic Masses & Fundamental Constants (SUNAMCO)
- C3. Commission on Statistical Physics
- C4. Commission on Cosmic Rays
- C5. Commission on Low Temperature Physics
- C6. Commission on Biological Physics
- C8. Commission on Semiconductors
- C9. Commission on Magnetism
- C10. Commission on the Structure and Dynamics of Condensed Matter
- C11. Commission on Particles and Fields
- C12. Commission on Nuclear Physics
- C13. Commission on Physics Development
- C14. Commission on Physics Education
- C15. Commission on Atomic, Molecular, and Optical Physics
- C16. Commission on Plasma Physics
- C17. Commission on Quantum Electronics
- C18. Commission on Mathematical Physics
- C19. Commission on Astrophysics
- C20. Commission on Computational Physics

AFFILIATED COMMISSIONS

- AC1. International Commission for Optics
- AC2. International Commission on General Relativity and Gravitation
- AC3. International Commission for Acoustics (former Commission C7)
- AC4. International Commission on Medical Physics

III – MINUTES OF THE 28TH GENERAL ASSEMBLY (SINGAPORE, 5 – 7 NOVEMBER 2014)

1. WELCOME

- 1.1. IUPAP President Cecilia Jarlskog welcomed everyone to the General Assembly at the Nanyang Technological University (NTU) in Singapore. She commended the Institute of Advanced Studies, NTU for jointly hosting the C&CC meeting and the 28th IUPAP General Assembly.
- 1.2. Cecilia introduced Professor Bertil Andersson, the President of the NTU, who officially welcomed the 28th IUPAP GA delegates to the NTU campus in the tropical climate of Singapore. During his welcome address, Professor Andersson presented a Global Perspective, in the form of a detailed historic account of the Development of Science in Singapore, with a special focus on role played by his institution, NTU.

2. Adoption of Agenda and Approval of Minutes

The draft Agenda of the 28th General Assembly was adopted without alteration, and the minutes of the 2011 General Assembly were adopted without changes.

Note that the documents considered by the General Assembly are available at <http://iupap.org/general-assembly/papers-for-the-28th-general-assembly/>

3. PRESIDENTIAL ADDRESS

- 3.1. Cecilia Jarlskog gave a brief history of the IUPAP, tracing it back to its launch in 1922, and subsequently the first General Assembly which was held in 1925. The first General Assembly of the IUPAP noted the increase in the number of physics publications in subsequent years.
- 3.2. Cecilia remarked that the nature of the IUPAP General Assemblies of the past was somewhat different in that people had presented scientific papers. However, such tradition has

not been abandoned completely in that the agenda items of the modern day IUPAP General Assembly still include a couple of scientific talks.

- 3.3. The president reported that since the last General Assembly held in London in November 2011, a total of four C&CC meetings had been held; with two meetings held in 2012, one in February 2012 in Cape Town, South Africa, and the other in October 2012 in Rio de Janeiro, Brazil. Cecilia thanked Rudzani Nemutudi and Marcia Barbosa who were the respective hosts of the Cape Town and the Rio C&CC meetings of 2012. The third C&CC meeting was held at CERN in Switzerland in October 2013, and the fourth was in Singapore on the two days before this General Assembly.
- 3.4. Cecilia informed the General Assembly that following the February 2012 C&CC meeting in Cape Town, the then IUPAP Secretary General, Robert Kirby Harris had to step down on account of ill-health. Subsequently, Stuart Palmer, also from the IOP in London, was appointed to succeed Bob in the position of Secretary General of IUPAP.
- 3.5. In her address, President Jarlskog also informed the General Assembly of the imminent move of the IUPAP secretariat and administrative office from the Institute of Physics (IOP) in London to the Institute of Advanced Studies at NTU in Singapore. She remarked that she viewed the move as being in the broader interest of IUPAP, citing “very dynamic forces” that are at play in Singapore as something that portend well for the future growth of physics.
- 3.6. Cecilia paid a special tribute to the late Alan Astbury who served as the President of the IUPAP during the 2005 – 2008 term. An accomplished physicist who served his presidential term with distinction, Astbury passed away in July 2013, after serving the IUPAP for an uninterrupted period of nine years. Amongst some of his finest accomplishments in the service of IUPAP, Astbury managed during his presidential term to recruit a total of eleven countries to join IUPAP, with Singapore as one

of his recruits. He also worked very hard to introduce the IUPAP Young Scientist Prize (YSP) Award, of which no less than 110 prizes have been conferred to young Physicists across virtually all IUPAP commissions. Cecilia concluded her tribute to Alan by stressing that she thought Alan also dedicated a lot of his efforts to addressing gender issues within the Physics community. She requested the General Assembly to observe a moment of silence as a tribute to Alan Astbury.

- 3.7. The president concluded her opening address with an account of how the IUPAP offices had always moved since its formation in 1922 in Paris where the offices were based for 40 years, with the US and the UK as the two most recent hosts. Cecilia invited Professors Phua Kok-Khoo and Kwek Leong Chuan of the Institute of Advanced Studies at NTU to give a brief introduction of the Institute for Advanced Studies, NTU, and formal welcome of the C&CC delegates.

4. SECRETARY GENERAL'S REPORT

- 4.1. The Secretary General, Stuart Palmer, gave a report summarising activities since 2012 when he took over from his predecessor Robert Kirby-Harris. Palmer thanked the IUPAP Associate Secretary General Rudzani Nemutudi for helping to make his job easier.
- 4.2. Commenting on the imminent move of the IUPAP administrative offices from the UK to Singapore, Palmer emphasised that the IOP was looking forward to co-operating and working hard with NTU colleagues to facilitate the transition. He paid special tribute to the IOP team, led by Ms Williamina Lazaro, for the time they dedicated in the past six years as administrative hosts of the IUPAP. Palmer assured the Assembly that IOP is committed to safeguarding the IUPAP accounts for the duration of their time in the UK.

5. IUPAP FINANCIAL REPORT

- 5.1. Bruce McKellar presented to the General Assembly the IUPAP financial report in three parts; with the first part reflecting both

the budget forecasts and the actuals for the financial period 2012 – 2014. The 2014 “actual figures” were projected only as estimates, with the net return to the reserve fund expected to be in the order of €160 000. The reserve fund was €812 284 as at 1 January 2012, and €896 749 as at end of 2013. The reserve fund is expected to be €964 000 by 1 January 2015.

- 5.2. The second part of the financials presented the proposed budget for 2015 – 2017; based on the assumption of a 3% per annum increase in membership dues. Accordingly, the projected income was forecast at €444 517 for 2015, €457 853 for 2016, and €471 859 for 2017. The presented budget forecast restored conference support back to the level of 2012.
- 5.3. The third part of the financial report presentation was a recommendation to the General Assembly that membership dues for 2015 to 2017 be increased based on an annual 3% inflationary related rate. The recommended dues were €2 082 for 2015, €2144 for 2016, and € 2208 for 2017.

6. IUPAP CONFERENCE SUPPORT

- 6.1. Rudzani Nmutudi presented a report summarising a list of conferences supported by IUPAP for the period 2011 – 2014 with the attendant breakdown of funding levels per conference category across commissions. He emphasised the move by the council in its budgeting forecast to work towards restoring the conference support allocation back to the 2012 levels.

7. PRESENTATION OF SLATES FOR COMMISSIONS AND EXECUTIVE COUNCIL

- 7.1. IUPAP president elect Bruce McKellar presented to the General Assembly the slate of the Executive Council nominees together with individual citations for President designate (Kennedy Reed, USA), Secretary General (Ko-Khoo Phua, Singapore), Associate Secretary General (Rudzani Nmutudi, South Africa), and five Vice Presidents at Large (VPALs) Francis Allotey (Ghana), Wenlong Zhan (China Beijing), Vitaly Kveder (Russia) Alex Hansen (Norway), and Monica Pepe-Altarelli (Switzerland).

- 7.2. Bruce McKellar also presented the slate for IUPAP Commission chairs and Commission membership; after which, he invited comments from the delegates.
- 7.3. A delegate from Australia remarked that there seemed to be a mechanism in place to address the geographic distribution when populating the slates, but there did not seem to be a well-defined one to address the issue of gender disparity. Bruce acknowledged that the issue of gender representation remained a challenge that the council continues to address as evidenced by the introduction within the council of the position of gender champion. It was agreed that the IUPAP Working Group on Women in Physics would have to actively work in consultation with the council to offer ideas on how to find women physicists who are prepared to serve on commissions and other IUPAP positions. It was noted that 51/252 commissioners are women, and at 20%, that representation needs to be improved, especially as there are two commissions with no female commissioners.
- 7.4. A delegate from Austria pointed out that there was a need for all National Liaisons to be encouraged to nominate more candidates than they have shares. Cecilia remarked that this was indeed communicated to all National Liaisons who were advised to forward roughly 1.3 x the number of shares, but some National Liaison Committees still did not respond.
- 7.5. The French and Belgian delegates who wanted to know why some of their nominees were not on the slate were advised that these were not the only two cases where the nominees could not make it to the top 14; but re-nominations were indeed allowed from the Assembly floor if they were seconded. Bruce stated that he would also consider proposals for variation of the slates if they were supported by all of the representatives of the members whose nominees were involved in the variation and by the Chair of the Commission involved.
- 7.6. An error was pointed out on the C19 slate where the gender of nominee number 6 from India was wrongly stated.

8. QUESTIONS TO A PANEL OF OUTGOING IUPAP COMMISSION CHAIRS

- 8.1. Cecilia invited all Chairs of IUPAP Commissions and Affiliated Commissions for a brief open discussion to share their experiences and ideas with the delegates of the General Assembly.
- 8.2. The discussions with the commission chairs covered a wide ranging spectrum of IUPAP-relevant and related issues, including name changes for Commissions 4 and 17, as well as open access which was specifically highlighted as an important area for IUPAP to focus attention on because of the potential threat of some forms of open access for small physics departments since there are large amounts of monies involved. It was agreed that in the end the position IUPAP takes on open access should be in the broader interest of the scientific community, and in line with the principle of promoting equitable access to scientific information for the benefit of society at large.
- 8.3. During the discussion, Bill Phillips, representing Commission 2, spoke about the need for physicists to better measure the Gravitational Constant G as recommended in the proposed GA resolution for the establishment under the aegis of C2 of a special Working Group on Gravitational Constant G .
- 8.4. Discussion on the IUPAP Young Scientist Prize (YSP) highlighted that most commissions were implementing the YSP Award despite a few challenges regarding its publicity and the attendant difficulty in attracting more high quality applicants. Commissions that have been relatively successful in implementing the YSP were encouraged to share ideas with those commissions that were still encountering difficulties.
- 8.5. The representative of IUPAP-affiliated International Commission on Optics (AC1), Duncan Moore, shared with the General Assembly, the planned AC1 activities to celebrate the 2015 International Year of Light which was endorsed (at its proposal phase) by IUPAP through a special resolution at the

2011 General Assembly in London. Moore further referred delegates to the “Light2015” weblink for details of celebratory activities planned by ICO throughout the world.

- 8.6. Marion Burgess, the president of the IUPAP-affiliated International Commission on Acoustics (ICA) informed the General Assembly that following on the success of the ICO in getting the UNESCO to endorse the “2015 International Year of Light” proposal, the ICA has since initiated a campaign for the International Year of Sound.

9. QUESTIONS TO AND DISCUSSION WITH A PANEL OF CHAIRS OF WORKING GROUPS AND INTER-UNION REPRESENTATIVES

- 9.1. **ApPIC (WG10):** The chair of Astroparticle Physics International Committee Michel Spiro gave a brief update of the activities of the Working Group (10). In line with its mandate from the 2011 General Assembly, ApPIC is liaising extensively with national and international organs to assess and promote global priorities for the field of Astroparticle Physics. The membership of the Working Group has now been formalised into a 14 member committee chaired by Michel Spiro of France with Karl-Heinz Kampert, the Chair of C4 as the ex-officio member.

9.2. Working Group on Energy (WG12):

- 9.2.1. The Working Group on Energy is gradually establishing communication networks and collaborative frameworks with committees such as SCOPE (Scientific Committee on Problems of Environment) which counts IUPAP as one of its union members.
- 9.2.2. Two committee meetings have been held; one in Tokyo (2013), and the other in Oslo in 2014.
- 9.2.3. Printable briefs on selected energy topics are being prepared with the Canadian Science pages used as a template models. Examples of IUPAP Energy plans were shown together with publication plans.
- 9.2.4. The IUPAP-SCOPE Energy pages are planned to be published in batches of 4.

- 9.2.5. Delegates commented on the need for the Energy Working Group to exercise political neutrality when dealing with global Energy issues and the different and peculiar challenges they pose in the various regions of the world.
- 9.2.6. The prolongation of the Working Group on Energy was agreed by the General Assembly.

9.3. **Women in Physics Working Group (WG5)**

- 9.3.1. The WIP-WG5 organised a successful 5th IUPAP International Conference on Women in Physics held in Waterloo, Canada, on 5-8 August 2014.
- 9.3.2. Amongst the list of recommendations and resolutions that came out of the Waterloo conference was the urgent need for National Liaisons to facilitate the sharing of insights and successful strategies for inclusion and advancement of women in Physics, with a clear focus on the necessity to adapt shared international material (in order) to be cognisant of, and where necessary, conform with, local circumstances.
- 9.3.3. The WIP Waterloo conference reiterated the need to promote gender equity at all levels of practice in the field of physics. The conference also called for continuation of regular updates of the Global Survey of Physicists last presented in 2011 at the Stellenbosch WIP conference.
- 9.3.4. The working group on Women in Physics submitted the proposal that the annual International Women in Physics Day be endorsed.

10. **PUBLIC LECTURES BY PROFESSOR ANTONIO HELIO DE CASTRO NETO AND WILLIAM PHILLIPS**

- 10.1. A series of special public lectures by eminent scientists were featured as part of the main program of the 28th IUPAP General Assembly. Two such lectures were delivered at the end of the first day of the General Assembly.

- 10.2. The first of the public lecturers was presented by Professor Antonio Castro Neto of the National University of Singapore under the title "From Graphene to Phosphorene: the 2D zoo". Professor Castro Neto extended, at the end of his presentation, an invitation to delegates to visit the Graphene Research Center the following day.

- 10.3. The second public lecture was presented by the 1997 Physics Nobel Laureate and member of C2, Professor William D. Phillips from the University of Maryland and National Institute of Standards and Technology (NIST) under the title "Time, Einstein and the coolest stuff in the universe". Professor Phillips explained the concept of time dilation and how caesium atoms can be manipulated to present the best clocks. With his ever entertaining presentation style, "Bill"s' fascinating lecture was well received and most applauded by learners and the general members of the public who attended in numbers.

Day 2: 6 November 2014

11. IUPAP SHARES

The Second Day of the General Assembly began with President Cecilia Jarlskog requesting a delegate from South Korea to speak briefly to the General Assembly regarding plans by South Korea to increase their shares. The South Korean delegate, quoting the president of the Physical Society of South Korea, confirmed to the General Assembly that South Korea requested the increase of its IUPAP share allocation from 7 to 10. In the intervening brief discussion that followed, the Assembly was advised that Mexico wished to increase its shares from 1 to 2, and China Beijing wished to increase its shares from 12 to 15. These requests were greeted with acclamation and were turned into the resolutions presented to the General Assembly.

12. INTRODUCTION OF THE PROPOSED RESOLUTIONS OF THE 28TH IUPAP GENERAL ASSEMBLY

A total of 14 proposed resolutions were introduced to the General Assembly together with attendant recommendations by the IUPAP Executive Council. The papers presented to the General Assembly are available at <http://iupap.org/general-assembly/papers-for-the-28th-general-assembly/>

Vigorous discussion followed on many of the resolutions. Except where comments are made against a resolution, that resolution was to be brought forward unchanged for voting on 7 Nov 2014.

12.1 Resolution 1.

IUPAP Dues for 2015 to 2017

12.2 Resolution 2:

Increases in Shares

12.3 Resolution 3.

Commission on Policy and Finance

- 12.4 **Resolution 4.**
Preliminary Endorsement of Conferences
- 12.5 **Resolution 5.**
Extension of the Mandate of Working Groups
- 12.6 **Resolution 6.**
IUPAP Associated Organisations
- 12.7 **Resolution 7.**
Commission C17 Laser Physics and Photonics
- 12.8 **Resolution 8.**
Advisory Working Group on Soft Matter
- 12.9 **Resolution 9.**
IUPAP Prize for Outstanding Contributions to the
Improvement of Physics Research and/or Education in one or
more Developing Countries
- 12.10 **Resolution 10. Open Data**
The original recommendation from Working Group 2 was
discussed and the resolution to be brought forward is to refer
the matter back to the Working Group to develop a mechanism
through which the IUPAP could assist the Physics Community
in the ongoing debate about open data.
- 12.11 **Resolution 11.**
Working Group 12 on Energy
- 12.12 **Resolution 12.**
Advisory Working Group on the Newtonian Constant of
Gravitation
- 12.13 **Resolution 13.**
Advisory Working Group on Accelerator Science
- 12.14 **Resolution 14.**
Working Group 5 on Women in Physics

The original resolutions proposed were discussed and the working group was asked to bring forward modified resolutions for consideration tomorrow

12.15 Resolution 15.

To restore the name of Commission 4 back to its original title of Commission on Cosmic Rays

After vigorous discussion of the proposal by the US National Liaison Committee to restore the title of C4 back to Commission on Cosmic Rays, it was decided to put the resolution to a vote immediately and the proposed resolution was not carried.

13. RE-NOMINATIONS TO SLATE FOR COMMISSIONS AND EXECUTIVE COUNCIL

- 13.1. Bruce McKellar reported that, following negotiations between the French and Brazilian delegates, and the Chair of C4, the Brazilian physicist on the slate for C4 was replaced by a French physicist.
- 13.2. Following discussions with Bruce McKellar, Ghana withdrew its initial proposal to replace one C13 nominee with another member (also from Ghana).
- 13.3. The French delegation re-nominated their candidate to the slate for C20. This renomination was supported by other delegations and on 7 Nov 2014, there will be a ballot for the members of C20.
- 13.4. The Italian delegation re-nominated their candidates for C5 and C15 but, these re-nominations were not supported by any other delegation, and no further ballot will be held for those Commissions

14. REPORTS ON OTHER ORGANISATIONS (ICSU, UNESCO)

14.1. ICSU Report

- 14.1.1. Kennedy Reed, who served as IUPAP Union representative on ICSU for the period 2012 – 2014, gave a report on ICSU activities for the period 2011 - 2014. Reed highlighted the active role ICSU has

played in the Rio+20 Conference on Sustainable Development organised under the aegis of the United Nations and held in Rio de Janeiro, Brazil on 20 – 22 June 2012. ICSU continues to form an integral part of follow-up activities which include developing a set of Sustainable Development Goals which are commensurate with the core objectives of the Future Earth Program.

14.1.2. Reed also reported on the outcome of the ICSU independent review conducted in 2013, one of whose major highlights was the recommendation for ICSU to work towards regaining its position as the organisation that speaks for the international scientific community. The report of the review also highlighted the need for ICSU to work out formal collaborative agreements with established organisations for global science, including TWAS, IAP, and IAC.

14.1.3. ICSU also hosted in 2013 in Paris a meeting of its affiliate Union members at which a range of pertinent issues were discussed, including the need to explore or strengthen areas of interdisciplinary collaboration and fostering linkages between Unions and ICSU Regional Offices. IUPAP was represented at the Paris ICSU-Unions meeting by Bruce McKellar and Stuart Palmer.

14.2. The representative of UNESCO had hoped to attend as an observer, but was unable to do so. In her absence, there was no discussion of the relations between UNESCO and IUPAP

15. **LABORATORY VISITS**

After lunch, delegates visited physics laboratories in Singapore

16. **THE GENERAL ASSEMBLY BANQUET WAS HELD ON THE EVENING OF 6 NOV 2014**

Day 3: 7 November 2014

17. RE-NOMINATIONS TO SLATE FOR COMMISSIONS AND EXECUTIVE COUNCIL

17.1 The proposal by France to re-nominate a candidate to C20 had been seconded and was brought forward to be resolved by a vote. A total of 104 votes were cast, with 64 in favour of retaining the C20 slate as originally proposed by the council. The slate for C20 proposed by the council was retained.

17.2 Because of the vigorous discussion of the balance between shares and positions on Commissions, it was agreed that the number of positions on Commissions of members, as determined by the 2014 General Assembly, be recorded in the minutes. That distribution of the 251 positions determined by the GA is given in the table. (One position on C2 is ex officio reserved for the director of the Bureau International des Poids et Mesures (BIPM) and is not determined by the GA. The number of Commissioners determined by the GA is 18x14-1 - 251)

MEMBER	SHARES	TOTAL COMM'ERS	FEMALE COMM'ERS
<u>Algeria</u>	1	1	1
<u>Argentina</u>	1	3	2
<u>Australia</u>	4	6	2
<u>Austria</u>	2	2	1
<u>Belgium</u>	4	4	
<u>Brazil</u>	8	9	3
<u>Cameroon</u>	1	1	
<u>Canada</u>	8	11	2
<u>Chile</u>	1		
<u>China: Beijing</u>	12	16	
<u>China: Taipei</u>	5	5	2
<u>Colombia</u>	1	1	
<u>Costa Rica</u>	1		
<u>Croatia</u>	1	1	
<u>Cuba</u>	1		
<u>Cyprus</u>	1	1	1

<u>Czech Republic</u>	4	6	1
<u>Denmark</u>	3	3	
<u>Egypt</u>	1		
<u>Estonia</u>	1	1	
<u>Ethiopia</u>	1		
<u>Finland</u>	3	3	
<u>France</u>	15	15	5
<u>Ghana</u>	1	1	
<u>Greece</u>	1		
<u>Hungary</u>	3	3	
<u>India</u>	8	12	3
<u>Iran</u>	1	1	
<u>Ireland</u>	1	1	1
<u>Israel</u>	2	2	1
<u>Italy</u>	12	9	3
<u>Japan</u>	15	16	1
<u>Kenya</u>	1		
<u>Korea</u>	7	11	
<u>Latvia</u>	1		
<u>Lithuania</u>	1	1	1
<u>Mexico</u>	1	2	
<u>Netherlands</u>	4	3	
<u>New Zealand</u>	1	1	
<u>Norway</u>	3	2	
<u>Peru</u>	1		
<u>Philippines</u>	1	1	
<u>Poland</u>	4	3	
<u>Portugal</u>	1		
<u>Romania</u>	1		
<u>Russia</u>	18	17	1
<u>Saudi Arabia</u>	1		
<u>Senegal</u>	1		
<u>Singapore</u>	1		
<u>Slovak Republic</u>	1	1	
<u>Slovenia</u>	1	1	
<u>South Africa</u>	3	5	1
<u>Spain</u>	8	7	2

<u>Sweden</u>	8	6	1
<u>Switzerland</u>	4	5	2
<u>Tunisia</u>	1	1	1
<u>UK</u>	15	17	4
<u>USA</u>	18	18	8
TOTALS	247	251	51

18. ELECTION OF COMMISSION MEMBERS AND COMMISSION OFFICERS

18.1 Bruce McKellar moved that the updated slates for the Commission Officers be accepted. All Commission officers' slates were unanimously accepted by the General Assembly.

18.2 Bruce McKellar moved that the slate for the executive council members be accepted. The proposed new executive council members' slate was unanimously accepted by the General Assembly.

19. Resolutions presented on 6 Nov and modified as agreed were brought forward to be decided:

19.1. Resolution 1. IUPAP Dues for 2015 to 2017

On the recommendation of Commission C1: Commission on Finance, and in agreement with the Resolutions of the 27th General Assembly of IUPAP, the 28th General Assembly of IUPAP resolved that dues for 2015 to 2017 be adjusted based on the G20 OECD annual inflation rate (for 2013) of 3% which will set the dues as follows:

for 2015: 2082 EUR

for 2016: 2144 EUR

for 2017: 2208 EUR

19.2. Resolution 2: Increases in Shares

On the recommendation of the Executive Council, and at the request of the respective members of IUPAP, the 28th General Assembly resolved to increase the shares of the following members

Member	Present Shares	New Shares
The Chinese Physical Society, Beijing	12	15
South Korea	7	10
Mexico	1	2

19.3. Resolution 3. Commission on Policy and Finance

On the recommendation of the Executive Council, the 28th General Assembly of IUPAP

Resolved

- A. to rename Commission C1: Commission on Finance as C1: Commission on Policy and Finance
- B. to task C1 with advising the Executive Council and the General Assembly on issues related to policy and finance.
- C. to mandate the Commission on Policy and Finance - concerning policy:
 - a. to follow actively ongoing work in IUPAP's Commissions and Working Groups.
 - b. to identify the need for changes or additions to goals and policy of the Union and to advise the Executive Council and the General Assembly on actions to be taken.
 - c. to advise on issues that might arise in the interactions of IUPAP with other entities such as UNESCO and the International Council of Science
 - d. to take part in planning of the meetings of the IUPAP Council and General Assembly
 - e. to advise the Administration of the Union on the policies adopted by the Executive Council and the General Assembly.
- D. to mandate the Commission on Policy and Finance - concerning finance:

- a. to make recommendations to the Executive Council and the General Assembly on policy concerning dues, contracts and other sources of income.
 - b. to recommend action to be taken in the case of arrears of dues.
 - c. to recommend to the General Assembly policy on expenditure so as to fulfil the aims of the Union.
 - d. to examine the auditors' reports and make recommendations to the General Assembly on the choice of the future external audit group.
- E. That the members of C1 shall be the following officers of IUPAP
- _ President (Chair)
 - _ Past President
 - _ President Designate
 - _ Secretary-General
 - _ Associate Secretary-General

19.4. Resolution 4. Preliminary Endorsement of Conferences

On the recommendation of the Executive Council the 28th General Assembly of IUPAP

Resolves

- A. to authorise the Executive Council to establish a procedure for granting IUPAP endorsement to conferences which are recommended by Commissions.
- B. to authorise the Executive Council to grant permission to endorsed conferences to use the IUPAP logo on their website.
- C. to require that eventual consideration of a conference for IUPAP support, be independent of whether or not it has been endorsed.

19.5. Resolution 5. Extension of the Mandate of Working Groups

On the recommendation of the Executive Council, the 28th General Assembly of IUPAP

Resolves

- A. that the mandate for all working groups is extended to the 29th General Assembly
- B. that the Executive Council be delegated the authority to renew the membership of any working group on the advice of the Chair (of the working group).

19.6. Resolution 6. IUPAP Associated Organisations

On the recommendation of Commission C13 the 28th General Assembly of IUPAP

Resolves

- A. that the Executive Council is delegated to revise the Statutes of the Union to introduce a new category of members, Associated Organisations to improve contacts with related organisations.

19.7. Resolution 7. Commission C17 Laser Physics and Photonics

On the recommendation of the Executive Council, the 28th General Assembly of IUPAP

Resolves

- A. that the name of Commission C17 be changed from Quantum Electronics to Laser Physics and Photonics.

19.8. Resolution 8. Advisory Working Group on Soft Matter

On the recommendation of the Executive Council, the 28th General Assembly of IUPAP

Resolves

- A. to establish an Advisory Working Group on Soft Matter, to be convened by a recognised expert on Soft Matter Physics,
- B. that the representatives of IUPAP Commissions C3, C6, C8, C10, C20 and a representative of IUPAP Affiliated Commission AC4 should constitute the nucleus of the Advisory Working Group on Soft Matter,
- C. to charge the Advisory Working Group on Soft Matter with the task of

- a. recommending whether the field of Soft Matter Physics should be represented by a new Working Group or a new Commission, and
 - b. defining the mandate for this new body,
- D. to delegate to the Executive Council the authority to implement the recommendations of the Advisory Working Group on Soft Matter.

19.9. Resolution 9. IUPAP Prize for Outstanding Contributions to the Improvement of Physics Research and/or Education in one or more Developing Countries

On the recommendation of the Executive Council, the 28th General Assembly of IUPAP

Resolves

- A. to task Commission C13 and Commission C14 to develop a proposal for an IUPAP Prize for Outstanding Contributions to the Improvement of Physics Research and/or Education in one or more Developing Countries, and
- B. to delegate to the Executive Council the authority to establish an IUPAP Prize for Outstanding Contributions to the Improvement of Physics Research and/or Education in one or more Developing Countries, with a target of presenting the first Prize at the 29th General Assembly.

19.10. Resolution 10. Open Data

On the recommendation of the Executive Council, the 28th General Assembly of IUPAP

Resolves

- A. that the Working Group on Communication in Physics and the Executive Council are charged to develop a mechanism through which the IUPAP could assist the Physics Community in the ongoing debate about open data.

19.11. Resolution 11. Working Group 12 on Energy

On the recommendation of the Executive Council, the 28th General Assembly of IUPAP

Resolves

- A. to mandate the Working Group on Energy to publicise the existence of Briefs on Energy, inclusive of disclaimers when deemed necessary, and to encourage Physical Societies to do the same.

19.12. Resolution 12. Advisory Working Group on the Newtonian Constant of Gravitation

On the recommendation of the Executive Council, the 28th General Assembly of IUPAP

Resolves

- A. to mandate the Executive Council, in consultation with Commission C2, to establish an Advisory Working Group on the Newtonian Constant of Gravitation,
- B. to charge the Advisory Working Group On the Newtonian Constant of Gravitation with
 - a. fostering international scientific dialogue and cooperation in the physics of measurements of Gravitational Constant G ,
 - b. formulating a mission statement and mandate for a Working Group on the Newtonian Constant of Gravitation
 - c. recommending to the Executive Council the initial membership of the Working Group on the Newtonian Constant of Gravitation
- C. to delegate to the Executive Council the authority to establish the Working Group on the Newtonian Constant of Gravitation

19.13. Resolution 13. Advisory Working Group on Accelerator Science

Following the recommendation of the United States Liaison Committee of IUPAP the 28th General Assembly of IUPAP,

Resolves

- A. to establish an Advisory Working Group on Accelerator Science that will advise Council on the mechanism for expanding the coverage of Accelerator Science by IUPAP
- B. to appoint Roy Rubinstein as the convenor of the Advisory Working Group on Accelerator Science,
- C. to ask Commissions C10, C11, C12, C16, and Affiliated Commission AC4, together with working Groups WG1 (ICFA), WG7 (ICUIL) and WG9 (ICNP) to nominate experts to constitute the membership of the Advisory Working Group on Accelerator Science.
- D. to charge the Advisory Working Group on Accelerator Science with
 - a. advising the Executive Council on the possible establishment of a new working group or a IUPAP Commission on Accelerator Science,
 - b. formulating the mission statement and mandate of the new working group or a IUPAP Commission on Accelerator Science,
 - c. recommending to the Executive Council the initial membership of the new working group or a IUPAP Commission on Accelerator Science,
- E. to delegate to the Executive Council the authority to establish a new working group or a IUPAP Commission on Accelerator Science

19.14. Resolution 14. Working Group 5 on Women in Physics

On the recommendation of IUPAP Working Group 5 on Women in Physics the 28th General Assembly of IUPAP

Resolves

- A. to charge the Working Group to organise the 6th IUPAP International Conference on Women in Physics,
- B. to endorse an annual International Women in Physics Day, and
- C. to support and encourage Physical Societies, through their National Liaisons, to facilitate the sharing of insights and

successful strategies for inclusion and advancement of Women in Physics.

19.15. Resolution 15. Restore the name of Commission 4 back to its original title of 'Commission on Cosmic Rays'

It was confirmed that the resolution proposed by the US Liaison Committee concerning the name of C4 had been determined on 6 Nov and was not carried.

20. Introduction of President Designate

20.1. Cecilia Jarlskog introduced the new IUPAP president designate, Kennedy Reed from the Physics Division of the Lawrence Livermore National Laboratory, California, USA. Cecilia highlighted in her introduction the important role Reed had played in promoting Physics in Developing countries when he served as the chair of IUPAP Commission 13 on Physics for Development. Reed had served in various capacities under C13 for a total of 9 years, with the first three served as an ordinary member of C13. In turn, Reed indicated that he looked forward to rejuvenated activity within IUPAP, and was fully cognisant of the potential challenges ahead in the light of the move of IUPAP administrative offices from London to Singapore.

21. Some words from the New President

21.1. Cecilia Jarlskog introduced the new IUPAP president, Bruce McKellar from the School of Physics, University of Melbourne, Australia.

21.2. McKellar spoke of how he viewed the IUPAP as an organisation of volunteers, which is how he strongly felt it should remain. In his acceptance remarks, McKellar also gave a brief break-down of the history of the IUPAP starting from 1922. He welcomed with sincere gratitude the expressions of interest by several IUPAP member states to increase the number of their IUPAP shares. This, he believed, was indicative that there are nations that acknowledge the value of their membership of IUPAP and the critical role that our Union is playing as we pursue our

mission to “stimulate and facilitate international cooperation in physics and the worldwide development of science”. McKellar challenged delegates not to shy away from asking probing questions, including whether or not we have the right set of commissions, or if we have the right set of statues for our Union. Even more provocatively a question which begs to be asked, he continued, what will be the impact in the physics community worldwide if IUPAP ceased to exist?

- 21.3. McKellar highlighted the urgency for the Council to begin preparing for the 2022 celebration of the IUPAP centenary. The decision to establish the IUPAP centenary celebration committee, he explained, had been delayed until the occasion of the 28th General Assembly on account that it was not possible within the IUPAP membership structure to have someone within council who was to stay in the council until 2022 to ensure consistent implementation of centenary celebration plans. But with the 28th General Assembly now concluded, and the Council membership confirmed, we now have such a council member in the person of Kennedy Reed, the President Designate who should remain within council until 2023.
- 21.4. Bruce concluded his remarks by thanking all the delegates together with the entire membership of IUPAP for entrusting him with the responsibility to lead the IUPAP in the next three years.

22. Final Remarks:

The outgoing president, Cecilia Jarlskog thanked all commission chairs and executive council officers for all the assistance she received during her tenure as IUPAP president. She specifically thanked Stuart Palmer and Williamina Lazaro for the administrative support they provided from the IOP offices in London, and acknowledged the wonderful job that Rudzani Nemutudi had done in co-ordinating conferences from Cape Town. She wished the newly elected officers well, and looked forward to further contributing in the affairs of IUPAP in her new capacity as IUPAP past-president:

There were additional public lectures after the closure of the business meeting, which were a part of the General Assembly.

These were

Prof Brian Schmidt

(Nobel Laureate in Physics, 2011; Australian National University's Mount Stromlo Observatory) – *“The Accelerating Universe”*

Prof Tanya Monro

(University of Adelaide) – *“The third photonics revolution: light as a measurement tool”*

Prof Chorng-Haur Sow

(National University of Singapore; President, Institute of Physics Singapore) – *“The Professor’s Suitcase of Science Wonders: Engaging Learners with Visual Demonstrations”*⁵

General Assembly concluded: 7 November 2014 12:05 Singapore time

Minutes Prepared by Rudzani Nemutudi (IUPAP Associate Secretary General)

Appendix B

List of Participants to the 27th General Assembly

The General Assembly was attended by 92 participants. These included delegates, Commission Chairs and Secretaries, IUPAP officials and observers.

Name of Delegates and IUPAP Commission representative

▪ = Head of Delegation
representative

* = IUPAP Commission
representative

Algeria

Laoues, M

Argentina

Ponce Dawson, S

Australia

Kane, D*

Burgess, M

Schmidt, B

Monro, T

Austria

Burgdoerfer, J▪

Yngvason, J*

Belgium

Weynants, R

Brazil

Barbosa, M*

Hummelgen, Ivo

Cameroon

Zekeng, SS

Canada

Sachrajda, A▪

Chile

China

Gong, Q

Gu, D

Long, GL

Lu, L▪

Zhu, S

China-Taipei

Kao, FJ

Lin, JJ

Lee, SC▪

Columbia

Costa Rica

Croatia

Cuba

Cyprus

Czech Republic

Exner, P▪

Denmark

Egypt

Estonia

Ethiopia

Finland

Ahlskog, M

France

Falcon, E

Germany

Nusslin, F*

Mertig, I*

Knapp, J

Nunner, B▪

Bethe, S

Ghana

Eghan, M

Greece

Hungary

Domokos, P▪

India

Mathur, D

Iran

Ireland

Israel

Adler, J

Italy

Fiorani, D▪

Ruffo, S*

Japan

Azuna, T

Mori, M▪*

Sakai, H*

Yoshikawa, K*

Kono, K*

Ushioda, S

Fujii, Y*

Aihara, H*

Kenya

Korea

Kim, YD▪

Kim, J

Latvia

Lithuania

Tautvaisiene, G*
Vaitkus, J▪

Mexico

Cisneros, C

Mongolia

Netherlands

New Zealand

Norway

Samseth, J
Hansen, A*

Peru

Philippines

Garcia, W

Poland

Krok, F▪

Portugal

Romania

Russia

Zadkov, V*
Istomina, N▪

Saudi Arabia

Alharbi, H
Allehyani, I

Senegal

Wague, A▪*

Singapore

Kwek, L
Phua, KK▪

Slovak Republic

Cirak, J▪

Slovenia

South Africa

Gledhill, I
Azwinndini, M

Spain

Sweden

Hulth, PO*

Switzerland

Tunisia

Thaet Milki, N

United Kingdom

Hardaker, P▪
Bingham, R*
Lambourne, R*

United States

Horowitz, G*
Gebbie, KB*
Flatten, A
Ferreraz, A▪
Moore, D*
Reed, K

McBride, P
Mohr, P
Tribble, R
Rubinstein, R
Greene, LH

Presenters, Observers and Other Participants**Australia**

Monro, T
Schmidt, B

Laos

Phommasone, K

Thailand

Limpijumnong, S

USA

Phillips, WD*

IUPAP Officials (present)**President****President Designate****Past President****Secretary General****Associate Secretary General**

Jarlskog, C (Sweden)
Mckellar, B (Australia)
Ushioda, S (Japan)
Palmer, S (UK)
Nemutudi, R (S Africa)

Vice Presidents

Kaminskii, A (Russia)
Barbosa, M (Brazil)
Barma, M (India)
Allotey, F (Ghana)
Zhan, W (China)
McBride, P (USA)

UK Secretariat

Lazaro, W
Alden, A

IV - RESOLUTIONS PASSED BY THE 2014 GENERAL ASSEMBLY

Resolution 1 IUPAP Dues for 2015 to 2017

On the recommendation of Commission C1: Commission on Finance, and in agreement with the resolutions of the 27th General Assembly of IUPAP, 28th General Assembly of IUPAP resolves that dues for 2015 to 2017 be based on an the G20 OECD annual inflation rate for 2013 of 3%, and will

Be:

For 2015: 2082 EUR

For 2016: 2144 EUR

For 2017: 2208 EUR

Resolution 2 Increases in Shares

In the recommendation of the Executive Council the 28th General Assembly of IUPAP, and at the request of the respective members of IUPAP resolves to increase the shares of the following members

Member	Present Shares	New Shares
The Chinese Physical Society, Beijing	12	15
South Korea	7	10
Mexico	1	2

Resolution 3 Commission on Policy and Finance

On the recommendation of the Executive Council the 28th General Assembly of IUPAP resolves:

- A. to rename Commission C1: Commission on Finance as C1: Commission on Policy and Finance

- B. to task C1 with advising the Executive Council and the General Assembly on issues related to policy and Finance.

- C. to mandate the Commission on Policy and Finance concerning policy
 - a. to follow actively ongoing work in IUPAP's Commissions and Working Groups.
 - b. to identify the need for changes or additions to goals and policy of the Union and to advise the Executive Council and the General Assembly on actions to be taken.
 - c. to advise on issues that might arise in the interactions of IUPAP with other entities such as UNESCO and the International Council of Science.
 - d. to take part in planning of the meetings of the IUPAP Council and General Assembly.
 - e. to advise the Administration of the Union on the policies adopted by the Executive Council and the General Assembly.

- D. to mandate the Commission on Policy and Finance concerning Finance
 - a. to make recommendations to the Executive Council and the General Assembly on policy concerning dues, contracts and other sources of income.
 - b. to recommend action to be taken in the case of arrears of dues.
 - c. to recommend to the General Assembly policy on expenditure so as to fulfil the aims of the Union.
 - d. to examine the auditors reports and make recommendations to the General Assembly on the choice of the future external audit group.

- E. That the members of C1 shall be the following officers of IUPAP
 - _ President (Chair)
 - _ Past President
 - _ President Designate
 - _ Secretary-General
 - _ Associate Secretary-General

Resolution 4 Preliminary Endorsement of Conferences

On the recommendation of the Executive Council the 28th General Assembly of IUPAP resolves

- A. to authorise the Executive Council to establish a procedure for granting IUPAP endorsement to conferences which are recommended by Commissions.
- B. to authorise the Executive Council to grant permission to endorsed conferences to use the IUPAP logo on their website.
- C. to require that eventual consideration of a conference for IUPAP support be independent of whether or not it has been endorsed.

Resolution 5 Extension of the Mandate of Working Groups

On the recommendation of the Executive Council the 28th General Assembly of IUPAP resolves

- A. that the mandate for all working groups is extended to the 29th General Assembly
- B. that the Executive Council be delegated the authority to renew the membership of any working group on the advice of the Chair

Resolution 6 IUPAP Associated Organisations

On the recommendation of Commission C13 the 28th General Assembly of IUPAP resolves that the Executive Council is delegated to revise the Statutes of the Union to introduce a new category of members, Associated Organisations to improve contacts with related organisations.

Resolution 7 Commission C17 Laser Physics and Photonics

On the recommendation of the Executive Council the 28th General Assembly of IUPAP resolves

that the name of Commission C17 be changed from Quantum Electronics to Laser Physics and Photonics.

Resolution 8. Advisory Working Group on Soft Matter

On the recommendation of the Executive Council the 28th General Assembly of IUPAP resolves

- A. to establish an Advisory Working Group on Soft Matter, to be convened by a recognised expert on Soft Matter Physics

- B. that the representatives of IUPAP Commissions C3, C6, C8, C10, C20 and a representative of IUPAP Affiliated Commission AC4 should constitute the nucleus of the Advisory Working Group on Soft Matter
- C. to charge the Advisory Working Group on Soft Matter with the task of
 - a. recommending whether the field of Soft Matter Physics should be represented by a new Working Group or a new Commission, and
 - b. defining the mandate for this new body,
- D. to delegate to the Executive Council the authority to implement the recommendations of the Advisory Working Group on Soft Matter.

Resolution 9 IUPAP Prize for Outstanding Contributions to the Improvement of

Physics Research and/or Education in one or more Developing Countries On the recommendation of the Executive Council the 28th General Assembly of IUPAP resolves

- A. to task Commission C13 and Commission C14 to develop a proposal for an IUPAP Prize for Outstanding Contributions to the Improvement of Physics Research and/or Education in one or more Developing Countries, and
- B. to delegate to the Executive Council the authority to establish an IUPAP Prize for Outstanding Contributions to the Improvement of Physics Research and/or Education in one or more Developing Countries, with a target of presenting the First Prize at the 29th General Assembly.

Resolution 10 Open Data

On the recommendation of the Executive Council the 28th General Assembly of IUPAP resolves

that the Working Group on Communication in Physics and the Executive Council are charged to develop a mechanism through which the IUPAP could assist the Physics Community in the ongoing debate about open data.

Resolution 11 Working Group 12 on Energy

On the recommendation of the Executive Council the 28th General Assembly of IUPAP resolves to mandate the Working Group on Energy to publicise the existence of Briefs on Energy, inclusive of disclaimers when deemed necessary, and to encourage Physical Societies to do the same.

Resolution 12 Advisory Working Group on the Newtonian Constant of Gravitation

On the recommendation of the Executive Council the 28th General Assembly of IUPAP resolves

- A. to mandate the Executive Council, in consultation with Commission C2, to establish an Advisory Working Group on the Newtonian Constant of Gravitation,
- B. to charge the Advisory Working Group On the Newtonian Constant of Gravitation with
 - a. fostering international scientific dialogue and cooperation in the physics of measurements of Gravitational Constant G,
 - b. formulating a mission statement and mandate for a Working Group on the Newtonian Constant of Gravitation
 - c. recommending to the Executive Council the initial membership of the Working Group on the Newtonian Constant of Gravitation
- C. to delegate to the Executive Council the authority to establish the Working Group on the Newtonian Constant of Gravitation

Resolution 13 Advisory Working Group on Accelerator Science

Following the recommendation of the United States Liaison Committee of IUPAP the 28th General Assembly of IUPAP resolves

- A. to establish an Advisory Working Group on Accelerator Science that will advise Council on the mechanism for expanding the coverage of Accelerator Science by IUPAP,
- B. to appoint Roy Rubinstein as the convenor of the Advisory Working Group on Accelerator Science,
- C. to ask Commissions C10, C11, C12, C16, and Associated Commission AC4, together with working Groups WG1 (ICFA), WG7 (ICUIL) and WG9 (ICNP) to nominate experts to constitute

- the membership of the Advisory Working Group on Accelerator Science.
- D. to charge the Advisory Working Group on Accelerator Science with
 - a. advising the Executive Council on the possible establishment of a new working group or a IUPAP Commission on Accelerator Science,
 - b. formulating the mission statement and mandate of the new working group or a IUPAP Commission on Accelerator Science,
 - c. recommending to the Executive Council the initial membership of the new working group or a IUPAP Commission on Accelerator Science,
 - E. to delegate to the Executive Council the authority to establish a new working group or a IUPAP Commission on Accelerator Science

Resolution 14 Working Group 5 on Women in Physics

On the recommendation of IUPAP Working Group 5 on Women in Physics the 28th General Assembly of IUPAP resolves

- A. to charge the Working Group to organise the 6th IUPAP International Conference on Women in Physics,
- B. to endorse an annual International Women in Physics Day, and
- C. to support and encourage Physical Societies, through their National Liaisons, to facilitate the sharing of insights and successful strategies for inclusion and advancement of women in Physics.

Appendix C

The International Union of Pure and Applied Physics (IUPAP) endorses the global project led by the European Physical Society (EPS), the Optical Society (OSA), the Institute of Physics (IOP), the IEEE Photonics Society, SPIE, the International Commission on Optics and many other international partners to work through UNESCO to request a United Nations proclamation of an International Year of Light in 2015.

IUPAP expresses its strong support for International Year of Light goals that encompass science, education, outreach, and particularly its aims to promote physics education and improve the quality of life of citizens in the developing world.

V. INTERNATIONAL CONFERENCES

Each year, IUPAP sponsors from 20 to 30 international conferences and awards grants to some of them. Conference organisers desiring IUPAP's sponsorship should submit the application form BOTH to the appropriate IUPAP Commission (according to the conference topic), and to the IUPAP Secretariat (or designate) and inform the liaison committee associated with the location of the conference. Organisers of interdisciplinary conferences, or those in doubt as to the appropriate Commission, should communicate with the Associate Secretary General.

To ensure that a conference be considered for IUPAP sponsorship in time, requests must be made **before June 1 of the year preceding the date** of the proposed conference. The request must include the required information indicated on the Application Form.

1. Categories of Conferences

General Conferences - Type A

These provide a broad overview of an entire field (typically the field of interest to a Commission), and normally occur at two- or three-year intervals, as advances in the field warrant. Attendance in the range of 750-1000 would be anticipated.

Topical Conferences - Type B

These concentrate on broad sub-fields (e.g. nuclear spectroscopy, nuclear reaction mechanisms, heavy ion physics, are possible sub-fields in the field of Nuclear Physics). They would normally be scheduled in the years between the corresponding Type A General conferences. Attendance in the range of 300-600 would be anticipated.

Special Conferences - Type C

These concentrate on much more specialised topics than in the case of Type B Conferences (e.g. angular correlations, lifetime measurements, neutron resonance studies in the field of Nuclear Physics). Attendance in the range of 50-200 would be anticipated.

Workshops in Developing Countries - Type D

These concentrate on meeting the needs of a developing region. Unlike the Type A, B and C conferences, they do not need to be truly international, but should involve neighbouring countries, and they should address the needs of the region. One Type D conference will be approved each year. All applications for Type-D Conferences must be submitted to the Commission on Physics for Development (C13).

2. Criteria and Requirements

The following criteria and requirements will be considered by the International Commissions in formulating their recommendation to the Executive Council of the IUPAP. Criteria A and B do not apply to Type D conferences.

A. Scientific Value and Composition of Organising Committees

1. There should be a clear need for the proposed conference. For conferences with a history of sponsorship, a statement should be given explaining why the series should be continued. For conferences without such a history, a description of the purpose and relationship to existing conferences should be given.
2. The members of the advisory and program committees and the invited speakers should be distinguished internationally. The composition of the significant organising committees should be broadly international, as well as the list of invited speakers. In keeping with IUPAP policy, it is expected that women be fully included in the membership of organising committees, program committees and the list of invited speakers.
3. The acceptance of papers should be based on a refereeing system which assures a level comparable with that of papers in regular journals. Every effort should be made to have the proceedings of the conference published in order to make them widely and easily available to the scientific community. Publication of proceedings as a special issue of a regular journal or on the internet is encouraged.

B. International Character and Accessibility

1. Only international conferences are sponsored. Such conferences have an international scientific advisory committee and move

among different countries and continents. The participation should be genuinely international and not constitute effectively a national or regional conference to which a few physicists from outside are invited.

2. Generally satellite conferences are not sponsored separately but are implicitly endorsed by sponsorship of the main conference.
3. Because of their very large number and variety, IUPAP does not sponsor summer schools, workshops, symposia or annual conferences (without special justification).
4. Notwithstanding (A) above, a small number of regional conferences may be approved, where
 - i. the conference is held in a region in which physics activity is underdeveloped and in which some of the countries may not be members of IUPAP,
 - ii. such sponsorship has the potential of improving participation in the international community by physicists in developing regions and of leading to new membership in IUPAP, and
 - iii. attendance at the conference would be international, even though it might be limited to a region. Attendance from any one country should not exceed 50%. Conferences that are approved for sponsorship under this item are eligible for consideration for travel grants.
5. IUPAP sponsored conferences must conform to the detailed IUPAP Policy on Free Circulation of Scientists. (Implementation of this policy is described in Section 4 below).

C. Inclusion of Women

It is the policy of IUPAP that all IUPAP sponsored conferences must include women on the organising and program committees and as invited speakers. The application should include a list of the program committee with evidence that women are included, and the numbers of women invited speakers should be recorded in the conference report.

D. Registration fee

Most international conferences charge a registration fee. IUPAP requires that this not exceed a defined limit. For conferences held in 2013 the maximum registration fee is 550 Euros. This includes

abstracts, preprints and/or proceedings, but does not include meals and/or accommodation. If proceedings are not included, the fee shall be substantially lower.

Conference organisers should give special financial consideration to unsupported young scientists and scientists from developing countries, and make every effort to waive or lower their fee. For the purpose of this item, 'developing countries' are defined by the World Bank's most recent list of 'low income' and 'lower middle income' countries.

3. Roles and Procedures

A. Organising Committee

1. The Organisers should send the application for IUPAP sponsorship both to the appropriate IUPAP Commission (please note that all Type D conference requests, irrespective of topic, must apply to C13 Physics for Development) and to the IUPAP Secretariat **before 1 June of the year preceding the date** of the proposed conference.

Early Approval

The approval in October of conferences that will be held in the following year may provide too short a lead-time in many cases. It is desirable to have IUPAP sponsorship known at an early stage, particularly for the major Type A conferences.

Type A Conferences

Type A conferences will be eligible for approval at least two years in advance. For example, conferences to be held in the summer of 2015 would be eligible for approval at the Council meeting in October of 2012, 2013, or 2014.

Approval of Type B Conferences

Type B conferences will be eligible for approval at least one year in advance. For example, conferences to be held in the summer of 2014 would be eligible for approval at the Council meeting in October of 2012 or 2013.

Note: In both cases, the approval given would be provisional; if the requirements are not met when first approved, evidence that they have been met must be given in subsequent years for sponsorship to be maintained. In particular, the conference registration fee must be within the IUPAP limit. The exchange rates would be applied as of May 1 of the year before the one in which the conference is held.

2. The request must include the information indicated on the Application Form. Conference organisers should show that their plans conform to the relevant general IUPAP policies for the sponsorship of IUPAP conferences. In particular they must conform to the criteria and requirements described under items '2.A. Scientific Value and Composition of Organising Committees', '2.B. International Character and Accessibility', and '2.C. Registration Fee'.
3. The motivation and the scientific value of the Conference should be explained. The composition of committees should give evidence of scientific quality and diversity; in particular a list of the programme committee should be provided with evidence that women are included.
4. The Organisers must state that the Conference fee will not exceed the defined limit set by IUPAP (550 Euros for conferences held in 2013). Such fee includes abstracts, preprints and/or proceedings, but does not include meals and/or accommodation. The Organisers should also explain the financial measures that are planned to give special consideration to unsupported young scientists and scientists from developing countries.
5. Conference organisers must publish the statement given in section 4. G (below) on free circulation of scientists in any circular or announcement and in the proceedings of the conference.
6. Conference organisers may request a travel grant to be used to assist with travel costs of scientists from developing countries. Funds from these grants are distributed by conference

organisers. Travel grants are not awarded by IUPAP directly to individuals.

7. Precise beginning and ending dates, location of the conference, and name, address and e-mail address of the conference secretary or chief organiser are required. Conflict of dates with those for related conferences should be avoided.
8. It is very helpful to the IUPAP Council to have details of the organisation and budget for the proposed conference.
9. Information supplied should include a specific statement of plans for dissemination of the results or proceedings with particular reference to commitments regarding publication schedule, availability, and estimated cost, both for conference participants and for the physics community at large.
10. **After the Conference**, the Organisers must complete a short Conference Report, using the web form, to the appropriate IUPAP Commission(s) and to the IUPAP Secretariat (or designate), containing basic information on the Conference and confirming that they complied to all IUPAP requirements. It is essential that you do this as IUPAP must keep statistics on the conferences that it supports. In particular, all visa issues should be reported.

Helpful Advice:

- (i) A time period of not less than six months should be allowed between the scheduled date of the conference and the first formal announcement and call for papers to permit participants sufficient time to obtain visas and to make other arrangements to attend.
- (ii) Specific information on accommodations, on ancillary tours, or spouses' programmes planned should be included in the first announcement.

B. Liaison Committee

The role of the national liaison committee is to provide an assessment of the ability of the local organising committee to

handle an international meeting (space, facilities, funding, assistance with visas as required, etc.). This assessment should go to (a) the IUPAP Commission and (b) to the IUPAP Secretariat (or designate).

C. IUPAP Commission

The role of the IUPAP Commission is to provide an assessment of the science, the international character of the meeting, and the planning within the IUPAP guidelines for sponsored conferences. The Commissions should forward their recommendations to the Secretariat (or designate) **not later than August 31**. If more than one conference is recommended by the commission for sponsorship in a given year, the conferences must be ranked in order of priority.

The commission is charged with planning ahead and placing conferences in the context of long term plans.

D. IUPAP Executive Council

The IUPAP Executive Council meets in late September or early October of each year, at which meeting sponsorship of conferences is decided and grants are approved. The following matters will be considered by the Executive Council in deciding whether sponsorship will be granted to a proposed conference:

- the recommendation of the appropriate IUPAP Commission and local liaison committee;
- the density of international conferences planned by the Commission, by other Commissions on similar topics or by other Unions on similar topics, and the synchronisation of dates;
- the current situation concerning the free circulation of scientists in the proposed conference site.

When the Executive Council has met and made the decisions on sponsorship, the information will be communicated to the organising committee by the relevant commission.

The President and Secretary-General of the Union, in consultation with the Commission Chair, may withdraw sponsorship of a conference, should extreme circumstances

arise subsequent to its having been given warrant. Such action usually results from problems of free circulation of scientists (see section 4, below).

4. Implementation of IUPAP Policy on Free Circulation of Scientist

- A. The free movement of scientists for international scientific purposes is one of the most important aims of IUPAP. IUPAP has made this policy the object of repeated resolutions, and adheres to the declarations of ICSU in this respect.
- B. While a host country may not be expected to declare in advance that any scientist will be admitted to any IUPAP-sponsored meeting, a minimum commitment is expected that the host country will declare in advance that individuals will not be excluded solely on ground of national origin or citizenship.
- C. While it is a right of the host country to decline an application on personal grounds, the test of the sincerity of such a commitment (declared or undeclared) is the country's willingness to allow participation of another scientist from the same country should they show an interest in the IUPAP sponsored conference.
- D. If no commitment is received from official sources in the host country, IUPAP will normally proceed as if the declaration has been made, and will plan the conference on the basis of its own policy. In this, it is guided by recent experience with the host country. If, subsequently, scientists are excluded from the host country on grounds of national origin, this fact will be publicised in IUPAP documents and reported to the ICSU Committee on Free Circulation of Scientists. IUPAP will not consider future events in that country until satisfactory changes have been made.
- E. If, after a conference has been granted IUPAP sponsorship, a host country issues a declaration that it will not grant visas to citizens of a particular country, then IUPAP sponsorship will normally be withdrawn. IUPAP recognises that scientists do not,

in general, approve of restrictive visa practices. It therefore seeks redress by correction of the visa practices.

- F. IUPAP recognises that individual scientists have a responsibility to allow sufficient time for administrative procedures to take place. To this end, applications for visas should be forwarded by participants to the appropriate consular offices at least three months prior to the date of the conference.
- G. IUPAP has resolved that the following statement, as a standard declaration, **shall be published by the organisers** in any circular or announcement and in the proceedings of the conference:

"To secure IUPAP sponsorship, the organisers have provided assurance that (Conference name) will be conducted in accordance with IUPAP principles as stated in the IUPAP resolution passed by the General Assembly in 2008. In particular, no bona fide scientist will be excluded from participation on the grounds of national origin, nationality, or political considerations unrelated to science."

VI. IUPAP STATEMENT ON UNIVERSALITY OF SCIENCE

The principle of the Universality of Science is fundamental to scientific progress. This principle embodies freedom of movement, association, expression and communication for scientists, as well as equitable access to data, information and research materials.

In pursuing its objectives with respect to the rights and responsibilities of scientists, the International Union of Pure and Applied Physics (IUPAP) actively upholds this principle, and, in so doing, opposes any discrimination on the basis of such factors as ethnic origin, religion, citizenship, language, political stance, gender, gender identity, sex, sexual orientation, age or disability. IUPAP should only sponsor conferences and events at institutions and in countries that uphold this principle. If scientists are excluded from attending IUPAP-sponsored international conferences by a host institution or country on the basis of any of these factors, IUPAP should register its concern at the highest level of that institution or country, and should not sponsor any future events in that country until such exclusions have been eliminated.



1 Welcome Address - NTU President, Prof Bertil Andersson



2 IUPAP President's Address - Prof Cecilia Jarlskog



3 Secretary General Report - Prof Stuart Palmer



4 Executive Council & Commission Chair Meeting



5 Panel of Chairs answering questions



6 IUPAP Liaison members



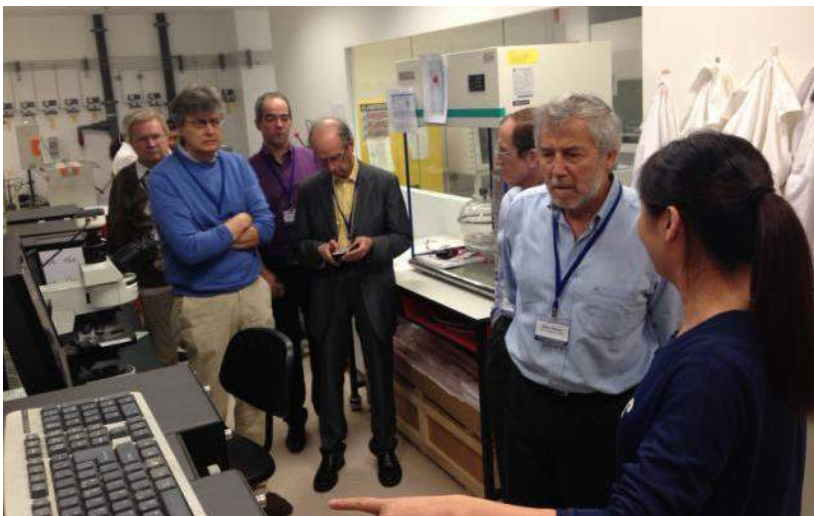
7 Executive Council



8 General Assembly participants



9 General Assembly participants



10 Participants on Lab Tour



1 1 Participants visiting the lab



1 2 Group Photo of General Assembly Participants



*1 3 Executive Council, Commission & Affiliate Commission Chairs
2011-2014*



*1 4 Executive Council, Commission & Affiliate Commission Chairs
2014 – 2017*



1 5 Participants at the Banquet



1 6 Executive Council 2011-2014

**INTERNATIONAL UNION
OF PURE AND APPLIED PHYSICS**

VII. IUPAP OFFICERS

OCTOBER 2014 – OCTOBER 2017

EXECUTIVE COUNCIL

(to hold office until 2017 General Assembly)

President: **McKellar, Bruce** (2011)

School of Physics, University of Melbourne, Victoria 3010,
AUSTRALIA

Tel: 61 03 9650 0421 Fax: 61 03 9650 0725

E-mail: bhjmckellar@mac.com

Past-President: **Jarlskog, Cecilia** (2011) (2008)

Division of Mathematical Physics, LTH, Lund University, Box 118,
SE-221 00 Lund, SWEDEN

Fax: 46 46 222 4416 E-mail: cecilia.jarlskog@matfys.lth.se

President Designate: **Reed, Kennedy**

Physics Division, Mail stop L-473, Lawrence Livermore National
Laboratory, Livermore, California 94550, USA

Email: reed5@llnl.gov

Secretary General:

Phua, Kok Khoo Director, The Institute of Advanced Studies, 60
Nanyang View, #02-18, Nanyang Technological University, Nanyang
Executive Centre, Singapore 639673

Fax: 65 6794 4941 E-mail: iupap.secgen@ntu.edu.sg

Associate Secretary General: **Nemutudi, Rudzani** (2011) (2008)

Head Material Research Department, Itemba Lab, PO Box 722,
Somerset West 7129, SOUTH AFRICA

Fax: 27 12 481 4044 E-mail: rudzi@tlabs.ac.za

Vice Presidents Elected at Large

Allotey, Francis (2014)(2011)

Director of Institute of Mathematical Sciences - Ghana, PO Box L197, Legon, Accra, GHANA

Tel: 00 233 302 501360 Fax: 00 233 302 501360

E-mail: fkallotey@gmail.com

Hansen, Alex (2014)(2011 as Chair of C20)

Department of Physics, The Norwegian University of Science and Technology, N-7491 Trondheim, Norway

Tel: +47 73593649 Fax: +47 73593372

Email: Alwx.Hansen@ntnu.no

Zhan, Wenlong (2014)(2011)

Vice-President of Chinese Academy of Sciences, No. 52 Sanlihe Road, Beijing 100864, CHINA

Tel: 86 10 6859 7612 Fax: 86 10 6858 1190

E-mail: wlzhan@cashq.ac.cn

Pepe-Altarelli, Monica (2014)

PH-LBO, CERN, Switzerland,

Tel: 41 76 4875407 Email: Monica.Pepe.Altarelli@cern.ch

Kveder, Vitaly (2014)

Institute of Solid State Physics of the Russian Academy of Sciences, Institutskaya 2, Chernogolovka, Moscow district 142432, Russian Federation

Tel: 7 495 9628054 Email: kveder@issp.ac.ru

Vice Presidents Elected from the Commission Chairs

Azuma, Toshiyuki (C15) (2014)

Atomic, Molecular & Optical Physics Laboratory, RIKEN, Hirosawa
2-1, Wako, 351-0198, Japan

Tel: +81 48 4621614 Email: toshiyuki-azuma@riken.jp

Kwo, J. Raynien (C10) (2014)

Department of Physics, National Tsing Hua University, 101 Guangfu
Rd., Sec. 2, Hsinchu, Taiwan 300, Taiwan

Tel: +866 3 5742800 Email: raynien@phys.nthu.edu.tw

Saunders, John (C5) (2014)

Department of Physics, Royal Holloway University of London,
Egham, Surrey TW20 0E, UK

Tel: +44 1784 443486 Email: j.saunders@rhul.ac.uk

Lépine-Szily, Alinka (C12) (2014)

Instituto de Física da Universidade de São Paulo, Travessa R da
Rua do Matão, 187, 05508-090 Sao Paulo, Brasil

Tel: +55 11 30916952 Email: alinka@if.usp.br

Tautvaisiene, Grazina (C19) (2014)

Deputy Director for research, Head of Observatory at Vilnius
University, Gostauto 12, Vilnius LT-01108, Lithuania

Tel: +370 618 49941 Email: grazina.tautvaisiene@tfai.vu.lt

FORMER PRESIDENTS

C.Jarlskog	2011 -2014
S.Ushioda	2008 - 2011
A. Astbury	2005 - 2008
Y. Petroff	2002 - 2005
B. Richter	1999 - 2002
J.S. Nilsson	1996 - 1999
Y.Yamaguchi	1993 - 1996
Yu. Ossipyan	1990 - 1993
L. Kerwin	1987 - 1990
D. A. Bromley	1984 - 1987
K. Siegbahn	1981 - 1984
L. Sosnowski	1978 - 1981
C. C. Butler	1975 - 1978
H. Maier-Leibnitz	1972 - 1975
R.F. Bacher	1969 - 1972
D.I. Blokhintsev	1966 - 1969
L. Neel	1963 - 1966
H. J. Bhabha	1960 - 1963
E. Amaldi	1957 - 1960
N. F. Mott	1951 - 1957
H.A. Kramers	1947 - 1951
M. Siegbahn	1934 - 1947
R. Millikan	1931 - 1934
Sir W. Bragg	1922 - 1931

FORMER SECRETARIES-GENERAL

S. Palmer	2011 - 2014
R.Kirby-Harris	2008 - 2011
J. Franz	2002 - 2008
R. Turlay	1999 - 2002
W. Heinicke	1993 - 1996
J. S. Nilsson	1984 - 1993
L. Kerwin	1972 - 1984
C. C. Bulter	1963 - 1972
P. Fleury	1947 - 1963
P. P. Ewald	1946 - 1947
H. Abraham	1922 - 1943

FORMER ASSOCIATE SECRETARIES-GENERAL

P. Melville	2005 - 2008
R. Barber	2003 - 2005
E. Molinari	2002 - 2003
J. Franz	1999 - 2002
R. Barber	1993 - 1999
W. Heinicke	1990 – 1993
J. R. Klauder	1984 - 1990
J.S. Nilsson	1972 - 1984
L. Kerwin	1963 - 1972
C. C. Butler	1951 - 1963
M. A. Pérard	1947 - 1951
E. Bloch	1934 - 1944

CHEFS de SECRÉTARIAT:

M. Bobba	2014 -
W. Lazaro	2008 - 2014
J. Beamon-Kiene	2003 - 2008
E. Ridgway	1999 - 2003
C. Persson	1984 - 1999
C. Gariépy-Balaux	1963 - 1984

FORMER VICE-PRESIDENTS

K. Gebbie	2011 - 2014
K. Kono	2011 - 2014
I. Mertig	2011 - 2014
R. Ruffo	2011 - 2014
M. Barbosa	2008 - 2014
M. Barma	2008 - 2014
A. Kaminskii	2008 - 2014
S. Bader	2008 - 2011
H. Orland	2008 - 2011
S. Maekawa	2008 - 2011
P. McBride	2008 - 2011
K. von Klitzing	2008 - 2011
J. Chen	2005 - 2008
C. Cisneros	2005 - 2008

D. Dahlberg	2005 - 2008
P. Exner	2005 - 2008
B. Mckellar	2005 - 2008
L. Pendrill	2005 - 2008
J. Pratibha	2005 - 2008
A. Suzor-Weiner	2005 - 2008
S. Bagayev	2002 - 2005
H. Fukuyama	2002 - 2005
P. Ormos	2002 - 2005
S. Rezende	2002 - 2005
J. Sahm	2002 - 2005
A. Sen	2002 - 2005
M. Skolnick	2002 - 2005
EC. Zingu	1999 - 2005
A. Ardeberg	1999 - 2002
R. Barber	1999 - 2002
K. Binder	1999 - 2002
PIP. Kalmus	1999 - 2002
JL. Morán-Lopez	1999 - 2002
PJ. Black	1997 - 1999
J. Gyulai	1997 - 1999
R. Klein	1997 - 1999
GC.Righini	1997 - 1999
FW. Sluijter	1997 - 1999
LV. Keldysh	1996 - 1999
H. Yasuoka	1993 - 2002
G-Z. Zhou	1993 - 1999
F. Garcia-Moliner	1993 - 1999
P. Chaudhari	1993 - 1996
G. Marx	1993 - 1996
BP. Stoicheff	1993 - 1996
A. Frova	1990 - 1996
F. Pobell	1990 - 1996
J. Werle	1990 - 1996
Jr. WW. Havens	1990 - 1993
H. Rohrer	1987 - 1993
Y. PAL	1987 - 1993
YMP. Farge	1987 - 1993
K. Lanius	1987 - 1990

Sir D. Wilkinson	1984 - 1993
T. Mayer-Kuckuk	1984 - 1990
PC. Hemmer	1984 - 1990
VI. Goldanskii	1984 - 1987
MGK. Menon	1981 - 1987
M. Matyas	1981 - 1987
PR. Aigran	1981 - 1987
D. Sette	1978 - 1984
P. Mazur	1978 - 1984
O. Madelung	1978 - 1984
I. Imali	1978 - 1984
R. Kaischiew	1975 - 1981
A. Abragam	1975 - 1981
R. Street	1975 - 1978
H. Wergeland	1972 - 1978
BM. Vul	1972 - 1978
A. Salam	1972 - 1978
R. Kubo	1972 - 1978
VF. Weisskopf	1969 - 1975
L. Pal	1969 - 1975
A. Kastler	1969 - 1975
S. Rozental	1966 - 1972
W. Dekeyser	1966 - 1972
W. Boas	1966 - 1972
S. Bhagavamtam	1966 - 1972
G. Bernardini	1966 - 1972
Sir G.Sutherland	1963 - 1969
J. Jauch	1963 - 1969
M. Danysez	1963 - 1969
H. Yukawa	1963 - 1966
F. Seitz	1960 - 1966
E. Rüdberg	1960 - 1966
HH. Nielsen	1960 - 1966
CJ. Gorter	1960 - 1966
J. Weyssenhoff	1957 - 1963
F. Trendelenburg	1957 - 1963
H. STAUB	1957 - 1963
G. Herzberg	1957 - 1963
E. Rasmussen	1957 - 1960

A. Joffe	1957 - 1960
RB. Brode	1954 - 1960
M. Kotani	1954 - 1960
J. De Boer	1954 - 1960
JH. Van Vleck	1954 - 1957
ML. Oliphant	1951 - 1957
Sir KS. Krishnan	1951 - 1957
P. Huber	1951 - 1957
J. Heyrovsky	1951 - 1957
G. Borelius	1951 - 1957
JA. Wheeler	1951 - 1954
JC. Slater	1949 - 1954
P. Scherrer	1947 - 1951
JC. Jacobsen	1947 - 1951
CJ. Gorter	1947 - 1951
PP. Ewald	1947 - 1951
Sir C. Darwin	1947 - 1951
KK. Darrow	1947 - 1951
C. Bialobrzeski	1947 - 1951
E. Fermi	1934 - 1934
L. Vegard	1931 - 1934
V. Posejpal	1931 - 1934
Sir R. Glazebrook	1931 - 1934
A. Cotton	1931 - 1934
W. Keesom	1931 - 1934
N. Cabrera	1925 - 1934
J. Rateau	1925 - 1931
W. Natanson	1925 - 1931
CE. Guye	1925 - 1931
H.A. Lorentz	1923 - 1931
E. Van Aubel	1922 - 1934
H. Nagaoka	1922 - 1934
M. Knudsen	1922 - 1934
M. Leblanc	1922 - 1925
OM. Corbino	1922 - 1925
M. Brillouin	1922 - 1925

VIII. LIAISON COMMITTEES, COMMISSIONS & WORKING GROUPS

LIAISON COMMITTEES

SHARES: Number of shares in the Union 247
 VOTES: Number of votes at the General Assembly 130

Country	Member	Shares	Votes	Contact Person
Algeria 2008 -	CDTA	1	1	El-Hachemi Amara Advanced Technologies Development Centre Po. Box 17 Baba-Hassen Algiers, Algeria Tel: 213 2135 1040 Fax: 213 2135 1039 Email: amara@cdta.dz
Argentina 1951 - 81; 1984 -	Asociacion Fisica Argentina	1	1	Dr Antonio José Ramirez-Pastor Secretary Asociación Física Argentina Departamento de Física-FCE Universidad Nacional de La Plata cc 67, (1900) La Plata Argentina Tel: 54 221 424 7201 int. 241 Fax: 54 221 425 2006 Email: antorami@unsl.edu.ar or secretaria@fisica.org.ar

Country	Member	Shares	Votes	Contact Person
Australia 1925 -	Australian Academy of Sciences	4	3	Meaghan O'Brien International Programmes Officer Australian Academy of Sciences Ian Potter House Gordon Street Canberra City Acton ACT 2601 Australia Tel: 61 (02) 6201 9456 Fax: 61(02)6201 9494 Email: meaghan.obrien@science.org.au
Austria 1957 -	Osterreichische Akademie der Wissenschaften	2	2	Prof Joachim Burgdoerfer A1040 Vienna, Austria Fax: 43-1-58801-13699 Email: burg@concord.itp.tuwien.ac.at
Belgium 1922 -	Belgian National Committee	4	3	Prof émérite Pierre Defrance Catholic University of Louvain,IMCN-NAPS Bâtiment M. de Hemptinne, Chemin du Cyclotron, 2 bte L7.01.07 1348 Louvain-la-Neuve Tel: 32 (0) 10 473348 Email: pierre.defrance@uclouvain.be

Country	Member	Shares	Votes	Contact Person
Brazil 1951 -	Instituto de Física	8	4	Prof Ricardo Magnus Osório Galvão President Instituto de Física Universidade de São Paulo Rua do Matão, Travessa R, 187 São Paulo – SP – 05508-090 Brasil Tel: 55 (0) 11 3091 7069 Fax: 55 (0) 11 3814 6293 Email: rgalvao@if.usp.br
Cameroon 2008 -	Cameroon Physical Society	1	1	Prof. Ousmanou Motapon Faculty of Science University of Douala P.O.Box 24157 Douala Cameroon Tel: +237 7776 8726 / +237 9693 7940 Email: omotapon@univ-douala.com , omotapon@yahoo.com
Canada 1922 -	National Research Council of Canada	8	4	Dr.Jens Dilling President, Canadian National Committee Head Department of Nuclear Physics & Deputy Head Science Division TRIUMF, Canada's National Institute for Particle and Nuclear

Country	Member	Shares	Votes	Contact Person
				<p>Physics 4004 Wesbrook Mall Vancouver, BC, V6T 2A3, Canada Tel: 604 222 7413 Email: JDilling@triumf.ca</p> <p>Dr. Andrew Sachrajda Secretary, Canadian National Committee, IUPAP 1200 Montreal Road, M- 50 Room 193P, Ottawa ON K1A 0R6 Tel: (613) 949-0545 Email: Andrew.Sachrajda@nrc-cnrc.gc.ca</p>
Chile 1984 -	Sociedad Chilena de Fisica	1	*	<p>Dr. Fabiola Arévalo President of Chilean Physical Society Departamento de Física Universidad de La Frontera, Temuco, Chile Website: www.sochifi.cl Email: presidente.sochifi@gmail.com</p>
China 1934 -84; 1984 -	The Chinese Physical Society, Beijing Dongmei Gu cps@aphy.iphy.ac.cn	12	5	<p>Prof Li Lu Institute of Physics Chinese Academy of Sciences, P.O.Box 603 Beijing 100190 P.R. China Tel: +86 10 8264 9151 Fax: +86 10 8264 9019 Email: lilu@iphy.ac.cn or dmgu@iphy.ac.cn</p>

Country	Member	Shares	Votes	Contact Person
China 1934 -84; 1984 -	The Physical Society located in Taipei	5	3	Dr. Shih Chang Lee Institute of Physics of Academia Sinica 128 Academia Road Section 2 Taipei 11529, Taiwan Tel: +886-2-27896706 Fax : +886-2-27888937 Email: sclee@sinica.edu.tw
Columbia 2008 -	Columbia Physical Society	1	1	José Herman Muñoz, President Sociedad Colombiana de Física Universidad del Atlántico Kilometro 7 vía Puerto Colombia Barranquilla - Colombia Tel: (+5) 3548118 Email: jhmunoz@ut.edu.co or socofi@gmail.com
Costa Rica 2008 -	National Academy of Sciences	1	1	Dr. Pedro Leon Azofoifa President, Academia Nacional de Ciencias Apartado Postal 1367-2050 San Pedro, San Jose Costa Rica Tel: +506 22 83 48 14 Fax: +506 283 4101 Email: pleonazofoifa@gmail.com ; anc@anc.cr

Country	Member	Shares	Votes	Contact Person
Croatia 1993 -	Croatian Physical Society	1	1	Prof Roman Caplar Division of Experimental Physics Rudjer Boskovic Institute Bijenicka Cesta 54 HR-10000 Zagreb Croatia Tel: +385 1 4561 031 Fax: +385 1 4680 239 Email: caplar@irb.hr
Cuba 1969 - 1994 1995 -	Cuban Physical Society	1	*	Dr Ernesto Altshuler Álvarez Facultad de Fisica Universidad de la Habana Habana 10400 Cuba Tel: +53 7878 8950 Email: ealtshuler@fisica.uh.cu
Cyprus 2003 -	University of Cyprus	1	1	Constantia Alexandrou University of Cyprus Department of Physics P.O. Box 20537 Cy-1678 Nicosia Cyprus Email: alexand@ucy.ac.cy
Czech Republic 1923, 1993 -	Academy of Science of the Czech Republic	4	3	Pavel Exner Chair, Nuclear Physics Institute, AS CR 250 68 Rez near Prague Czech Republic Fax: +420 2 2094 0165 Email: exner@ujf.cas.cz

Country	Member	Shares	Votes	Contact Person
Denmark 1922 -	Kgl. Danske Videnskaber nes Selskab	3	2	Jørgen Schou President Danish Physical Society DTU Fotonik, Risø Campus DK-4000 Roskilde Tel: +45-46774755 Email: josc@fotonik.dtu.dk
Egypt 1948 -	Academy of Scientific Research and Technology	1	1	Dr Hamdy A Morsy ASRT for Scientific & Cultural Relations 101 El-Kasr El-Aini Street Cairo, Egypt Fax: +20 2 594 1270 Email: asrt@asrt.sci.eg
Estonia 2002 -	Estonian Academy of Sciences	1	1	Prof Ergo Nommiste Institute of Physics University of Tartu Riia Street 142, Tartu 51014, Estonia Tel. +372 7 374606 GSM: +372 56 616 428 Email: ergo.nommiste@ut.ee
Ethiopia 2008 -	Physics Society of Ethiopia	1	1	Dr Mulugeta Bekele, President Physics Society of Ethiopia Meserete Kristos College Ethiopia Email: mbekele@phys.aau.edu. et

Country	Member	Shares	Votes	Contact Person
Finland 1947 -	Finnish Physica Society	3	2	Ella Hanninen , Secretary General Finnish Physical Society P.O. Box 64 00014 Helsingin Yliopisto, Finland Tel: +358 9 191 50 523 Fax: +358 9 191 50553 Email: toimisto@fyysikkoseura.fi (office) or pi@fyysikkoseura.fi (chair)
France 1922 -	Académie des Sciences (COFUSI)	15	5	Prof. Stephan Fauve Academie des Sciences, Comite Français de Physique Laboratoire de Physique Statistique de l'Ecole normale Supérieure 24 rue Lhomond 75005 Paris France Tel. 33 1 44322521 Fax: 33 1 44323433 Email: fauve@lps.ens.fr
Germany 1954 -	Deutsche Physikalisch e Gesellschaft	15	5	Dr Bernhard Nunner Deutsche Physikalische Gesellschaft Hauptstr. 5 D-53604 Bad Honnef Germany Tel: +49 2224 9232 11 Fax: +49 2224 9232 50 Email: nunner@dpg-physik.de

Country	Member	Shares	Votes	Contact Person
Ghana 1997 -	The Society of African Physicists and Mathematicians	1	1	Prof F.K.A. Allotey The African Physical Society c/o Edward Bouchet Centre for Science and Technology P.O. Box LG 197 Legon - Accra Ghana Tel: +233 21 501 360 Fax: +233 21 501 965 Email: fkallotey@gmail.com
Greece 2008 -	University of Athens	1	1	Prof Angelos Angelopoulos University of Athens Faculty of Physics University Campus 15701 Ilissia Athens, Greece Tel: +30 210 727 6886 Fax: +30 210 361 0690 Email: angel@phys.uoa.gr
Hungary 1948 -	Hungarian Academy of Sciences	3	2	Prof Peter Domokos Wigner Research Centre Hungarian Academy of Sciences P.O. Box 49 H-1525 Budapest Hungary Tel: 36 13922222 ext. 1392 Fax: +36 1 392 2768 Email: domokos.peter@wigner.mta.hu

Country	Member	Shares	Votes	Contact Person
India 1948 -	Indian National Science Academy	8	4	Dr Brotati Chattopadhyay Assistant Executive Secretary Indian National Science Academy Bahadur Shah Zafar Marg, New Delhi India 110002 Tel: 9111 23221931-50 Fax: +91 11-23221959; 23231095 Email: icsu@insa.nic.in
Iran 2011 -	Sharif University of Technology	1	1	Prof Reza Mansouri Department of Physics Sharif University of Technology Tehran, Iran Email: mansouri@ipm.ir
Ireland 1966 -	Royal Irish Academy	1	1	Dr Sheila Gilheany Institute of Physics in Ireland c/o School of Physical Sciences Dublin City University Dublin 9, Ireland Tel: +353 86 260 0903 Fax: +353 1 700 5384 Email: sheila.gilheany@iop.org
Israel 1951 -	The Israel Academy of Sciences and Humanities	2	2	Prof Moty Heiblum Department of Physics Weizmann Institute Rehovot 76100 Israel Tel: : +972-8-934-3896

Country	Member	Shares	Votes	Contact Person
				Fax: +972-8-934-4127 Email: moty.heiblum@weizmann.ac.il Bob (Lapidus) Lapidot Director of the International Division Israel Academy of Sciences and Humanities Tel: 972 2 567-6221 Email: boblap@academy.ac.il
Italy 1923 -	Consiglio Nazionale delle Ricerche	12	5	Prof Dino Fiorani CNR - Istituto di Struttura della Materia Via del Fosso del Cavaliere 100 00133 Roma, Italy Tel: 0039-0645488155 Fax: 0039-0690672470 Email: dino.fiorani@ism.cnr.it
Japan 1922 -	Science Council of Japan	15	5	Masaki Mori Science Council of Japan, Department of Physical Sciences Ritsumeikan University 1-1- Noji Higashi Kusatsu, 525-8577 Japan Tel: +81 77 561 2719 Fax: +81 77 561 2657 Email: morim@fc.ritsumei.ac.jp ; scjiadgas.group@cao.go.jp

Country	Member	Shares	Votes	Contact Person
Kenya 1995; 2012 -	The National Council for Science and Technology	1	1	Prof Julius Mwabora Department of Physics University of Nairobi P. O. Box 30197-00100 Nairobi, Kenya Tel: +254 20 4447552 (Office) +254 722709507(Cell) E-mail: mwabora@uonbi.ac.ke
Korea 1969 -	Korean Physical Society	7	4	Prof Young Dong Kim Department of Physics Kyung Hee University 26 KyungHee-DaeRo, DongDaeMun-Gu Seoul, 130-701 Republic of Korea Fax: +82-2-957-8408 Email: ydkim@khu.ac.kr
Latvia 2002 -	Latvian Physical Society	1	*	Erna Karule Institute of Atomic Physics and Spectroscopy University of Latvia Raina Blvd. 19 LV-1586 Riga, Latvia Fax: +371 7 901 214 Email: karule@latnet.lv
Lithuania 2002 -	Lithuanian Physical Society	1	1	Prof Juozas Vaitkus Vilnius University Saulėtekio al. 9-III Vilnius LT-10222 Lithuania Fax: +370 5 2366059 Email: juozas.vaitkus@ff.vu.lt

Country	Member	Shares	Votes	Contact Person
Mexico 1925 -	Sociedad Mexicana de Fisica, A.C.	1	1	Dr. Jaime Urrutia Fucugauchi Sociedad Mexicana de Fisica A. C., Apartado Postal 70-348 Coyoacan, 04511 Mexico Email: smf@servidor.unam.mx or juf@geofisica.unam.mx
Mongolia 2008 -	Mongolia Physical Society	1	1	Dr Undraa Agvaanluvsan MonAme Scientific Research Centre P.O. Box 24-603 Ulaanbaatar 210524 Mongolia Email: undraa@stanford.edu or undraa@monamescience.org
Netherlands 1922 -	Netherlands' Physical Society	4	3	Prof. Dr. J. Knoester RUG, Faculty of Mathematics and Natural Sciences, Nijenborgh 497 47 AG Groningen The Netherlands Email: j.knoester@rug.nl
New Zealand 1954 -	The Royal Society of New Zealand	1	1	Dr Mark Stagg The Royal Society of New Zealand PO Box 598 Wellington 6140 New Zealand Tel: +64 4 4705790 Email: international.unions@royalsociety.org.nz

Country	Member	Shares	Votes	Contact Person
Norway 1922 -	Det Norske Videnskaps Akademi	3	2	Øyvind Sørensen Det Norske Videnskaps-Akademi Drammensveien 78 N-0271 Oslo 2 Norway Tel: +47 22 98 10 90 Fax: +47 22 12 10 99 Email: oyvind.sorensen@dnva.no
Peru 2008 -	Peruvian Physical Society	1	1	Justo Rojas President Peruvian Physical Society PO Box 11-089 Lima 11, PeruSan Isidro Peru Email: presidencia@sope rfi.org or soperfi@soperfi.org
Philippines 2008 -	Physics Society of the Philippines	1	1	Dr. Wilson O. Garcia Samahang Pisika ng Pilipinas (Physics Society of the Philippines) c/o National Institute of Physics University of the Philippines Diliman 1101 Quezon City Philippines Email: wilsonogarcia@gmail.com ; hq@spp-online.org

Country	Member	Shares	Votes	Contact Person
Poland 1922 -	Polish Academy of Sciences	4	3	Prof. Franciszek Krok Polish Academy of Sciences Palac Kultury i Nauki Plac Defilad 1 00-901 Warszawa Poland Email: f.krok@mech.pw.edu.pl
Portugal 1984 -	Portuguese Physical Society	1	1	Prof. Teresa Peña Sociedade Portuguesa de Física Avenida da República Nº45 3ºEsq 1050-187 Lisboa, Portugal Email: teresa.pena@ist.utl.pt
Romania 1947; 1960-1987; 2008 -	National Inst. Of Physics and Nuclear Engineering	1	1	Director General N.V. Zamfir National Institute of Physics and Nuclear Engineering 407 Atomistilor Street P.O. Box MG-6 Bucharest-Magurele 077125, Romania Email: zamfir@tandem.nipne.ro
Russia 1957 -	National Committee of Russian Physicists, Russian Academy of Science	18	6	Department of Physical Sciences Russian Academy of Sciences Leninsky Prospect, 32A 117 993 Moscow Russia

Country	Member	Shares	Votes	Contact Person
				Dr. Natalia Istomina Tel: +7-495-952-0556 Fax: +7-495-938-1714 Email: photonics@gpad.ac.ru ; physics@gpad.ac.ru Ms. Alevtina Kovaleva Tel: +7-495-938-1734 Fax: +7-495-938-1714 Email: alina@gpad.ac.ru
Saudi Arabia 1990 -	King Abdulaziz City for Science & Technology (KACST)	1	1	Mohammed Al-Badrani Director Directorate of International Cooperations P.O. Box 6086 Riyadh 11442 Kingdom of Saudi Arabia Tel: +966-1-4813384 Fax: +966-1-4813441 Email: mbadrani@kacst.edu.sa or int_coop@kacst.edu.sa
Senegal 2003 -	Minister of Science and Technology	1	1	Prof Ahmadou Wague Departement de Physique Faculte des Scienes et Techniques Universite Cheikh Anta Diop Dakar, Senegal Tel: +221 820 6660 Fax: +221 825 6980 Email: wague@ucad.refer.sn

Country	Member	Shares	Votes	Contact Person
Singapore 2008 -	National University of Singapore	1	1	Prof K.K. Phua Director Institute of Advanced Studies Nanyang Technological University Nanyang Executive Centre # 02-18 60 Nanyang View Singapore 639673 Tel: +65 790 6491 Fax: +65 794 4941 Email: kkphua@wspc.com.sg
Slovak Republic 1923; 1993 -	Slovak Academy of Sciences	1	1	Prof. Dr. Július Cirák Institute of Nuclear and Physical Engineering Department of Physics Faculty of Electrical Engineering and Information Technology Slovak University of Technology Ilkovičova 3 812 19 Bratislava Slovak Republic Tel.:+4212 6091138 Tel./fax.: +4212 65427427 Mobile: +421908457254 Email: julius.cirak@stuba.sk
Slovenia 1994 -	Fakulteta za matematiko in fiziko (FMF)	1	1	Professor Emeritus Mitja Rosina FMF University of Ljubljana

Country	Member	Shares	Votes	Contact Person
				Jadranska 19, 1000 Ljubljana Slovenia Website: www.fmf.uni-lj.si/si/imenik/3421 Tel: +386 1 4766 566 Email: mitja.rosina@ijs.si
South Africa 1922 -	National Research Foundation (NRF)	3	2	The Secretary South African Institute of Physics Postnet Suite 165 Private Bag X025 Lynnwood Ridge, 0040 South Africa Tel: +27 31 260 1663 Fax: +27 31 261 6550 Email: secretary@saip.org.za
Spain 1922 -	Presidencia del Gobierno Oficina de Ciencia y Tecnologia (OCYT)	8	4	Prof Luis Viña Departamento de Física de Materiales, C-IV. Universidad Autónoma. Cantoblanco. 29049, Madrid. Tel: (91) 497-4782.Fax: (91) 497-8579 Email: luis.vina@uam.es
Sweden 1923 -	The Royal Swedish Academy of Sciences	8	4	Prof Elisabeth Rachlew Department of Physics Royal Institute of Technology Roslagstullsbacken 21 10691 Stockholm Tel: 46 (0)8 5537 8111 Email: erk@kth.se

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Switzerland 1922 -	The Swiss Academy of Sciences	4	3	Prof. Dr. Minh Quang Tran CRPP EPFL, Station 13 CH-1015 Lausanne Switzerland Tel. +41 21 693 5474 Email: minhquang.tran@epfl.ch
Tunisia 2005 -	Tunisian Physical Society (STP)	1	1	Mourad Telmini Tunisian Physical Society Department of Physics Faculty of Sciences of Tunis 2092 Tunis El Marar Tunisia Fax: +216 70 861 599 Email: mourad.telmini@fst.rnu.tn
UK 1922 -	The Institute of Physics	15	5	Professor Paul Hardaker Institute of Physics 76 Portland Place London W1B 1NT

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USA 1922 -	National Academy of Sciences	18	6	Dr. Ana Ferreras National Academy of Sciences 500 Fifth St. NW Washington, DC 20001 U.S.A Email: aferreras@nas.edu

SPECIALISED INTERNATIONAL COMMISSIONS

During the course of its history, the Union has established a number of expert committees or Commissions. The purpose of these committees varies considerably. For example, one of the important ones, called Symbols, Units, Nomenclature, Atomic Masses and Fundamental Constants (SUNAMCO), meets regularly and prepares recommendations on various symbols and units as its title suggests, which are submitted for approval by the General Assembly. Several of the special committees confine their work to the organisation of international conferences. The 1931 General Assembly decided that the President and the Secretary-General should be *ex officio* Members of all Union Commissions.

A Commission usually meets during an international conference held under the auspice of the Commission. Some Commissions, for example Commission SUNAMCO, may need to hold special meetings from time to time. Commissions are granted a travel allowance from Union funds for these meetings. However, it is usually necessary for Members of Commissions to seek additional travel grants in their respective countries, in order that an adequate number of meetings may be held.

At present there are 19 specialised Commissions. The membership of these Commissions is given on the following pages.

Each Commission has a mandate Article 1, which is specific (see individual Commission) except the Commission on Finance (C1) which has four specific mandates.

Article 2 To recommend for Union sponsorship international conferences which qualify for support under Union regulations (see IUPAP Coutumier). To initiate such conferences as their need arises from the evolution of the Commission field. To assist in the organisation of such conferences when practical. To ensure the compatibility of international conferences in its field

and to discourage clashes and incompatibility of dates.

Article 3 To promote the free circulation of scientists; to assist conference organisers in ensuring such free circulation and in resolving potential infringements.

Article 4 To organise where feasible the award of medals or other testimonials of excellence in its field.

Article 5 To publish where feasible newsletters, circulars, occasional books, journals or handbooks in its area.

Article 6 To maintain liaison with other IUPAP Commissions, with the Commissions or Committees of other Unions or of the International Council of Scientific Unions (ICSU) or other scientific organisations, with a view to collaborating and cooperating in sponsoring joint conferences and to participating in joint projects when need arises.

In particular to maintain close liaison with the other General Commissions of IUPAP (SUNAMCO, Physics Education and Development), so as to ensure suitable input from its field into these physics-wide activities.

Article 7 To make available to each General Assembly of the Union a summary of activities and progress in its field since the previous Assembly.

C1

COMMISSION on FINANCE (1931)

The Commission on Finance was established by the International Union on Pure and Applied Physics in 1931 to examine the auditor's report on the finances of the Union and to make appropriate recommendations to the General Assembly.

On the recommendation of the Executive Council, the 28th General Assembly of IUPAP resolved to rename Commission C1: Commission on Finance as '**C1: Commission on Policy and Finance**' adding to its mandate the responsibility to advise the Executive Council and the General Assembly on issues related to Policy and Finance.

MANDATE CONCERNING POLICY:

1. To actively follow ongoing work in IUPAP's Commissions and Working Groups.
2. To identify the need for changes or additions to goals and policy of the Union and to advise the Executive Council and the General Assembly on actions to be taken.
3. To advise on issues that might arise in the interactions of IUPAP with other entities such as UNESCO and the International Council of Science.
4. To take part in planning of the meetings of the IUPAP Council and General Assembly.
5. To advise the Administration of the Union on the policies adopted by the Executive Council and the General Assembly.

MANDATE CONCERNING FINANCE:

1. To make recommendations to the Executive Council and the General Assembly on policy concerning dues, contracts and other sources of income.
2. To recommend action to be taken in the case of arrears of dues.
3. To recommend to the General Assembly policy on expenditure so as to fulfil the aims of the Union.

4. To examine the auditors reports and make recommendations to the General Assembly on the choice of the future external audit group.
-

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COMMISSION on SYMBOLS, UNITS, NOMENCLATURE, ATOMIC MASSES & FUNDAMENTAL CONSTANTS (SUNAMCO) (1931)

Mandate:

- Article 1** To promote the exchange of information and views among the members of the international scientific community in the general field of Fundamental Constants including:
- physical measurements;
 - pure and applied metrology;
 - nomenclature and symbols for physical quantities and units;
 - encouragement of work contributing towards improved recommended values of atomic masses and fundamental physical constants and facilitation of their universal adoption.

Article 2 - 7: see page 52

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C3

COMMISSION on STATISTICAL PHYSICS (1945) (1990)

Mandate:

- Article 1** To promote the exchange of information and views among the members of the international scientific community in the general field of Statistical Physics including:
- a. statistical and thermodynamic methods concerning the static and dynamic properties of mesoscopic and macroscopic states of matter;
 - b. applications of statistical physics to related fields and non-linear dynamics, turbulence, chemical kinetics, polymers, colloids, liquid crystals, non-crystalline solids, heterogeneous media, neutral networks and computational physics.

Article 2 - 7: see page 52

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C4

COMMISSION on ASTROPARTICLE PHYSICS (2014), previously COSMIC RAYS (1947)

Mandate:

- Article 1** To promote the exchange of information and views among the members of the international scientific community in the general field of Cosmic Ray Physics including:
- a. the nature and characteristics of the electromagnetic, particle and other radiation present in the cosmos;
 - b. the theory and models concerning the origin of this radiation;
 - c. non-accelerator high energy physics;
 - d. the specialized technologies necessary in the field and their application. Art. 2

Article 2 - 7: see page 52

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C5

COMMISSION on LOW TEMPERATURE PHYSICS (1949)

Mandate:

- Article 1** To promote the exchange of information and views among the members of the international scientific community in the general field of Low Temperature Physics including:
- a. the low temperature properties of solids, particularly those that only manifest themselves at low temperatures;
 - b. quantum solids and liquids, particularly of the lightest elements;
 - c. the basic mechanisms and physics of superconductivity;
 - d. low temperature techniques;
 - e. practical applications of low temperatures physics

Article 2 - 7: see page 52

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C6

COMMISSION on BIOLOGICAL PHYSICS (1990)

Mandate:

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Article 2 - 7: see page 52

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C8

COMMISSION on SEMICONDUCTORS (1957)

Mandate:

- Article. 1** To promote the exchange of information and views among the members of the international scientific community in the general field of Semiconductor Physics including:
- a. electronic states, lattice dynamics and properties of matter in bulk, at surfaces and interfaces, and in systems or reduced dimensionality (in collaboration with other commissions as appropriate);
 - b. defects, imperfections, impurities and amorphous semiconductors;
 - c. application of semiconductor physics to technology.

Article 2 - 7: see page 52

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C9

COMMISSION on MAGNETISM (1957)

Mandate:

- Article 1** To promote the exchange of information and views among the members of the international scientific community in the general field of Magnetism including:
- a. phenomena which result in the determination of magnetic interactions at the atomic level;
 - b. magnetic properties of matter including reduced dimensionality systems (in collaboration with other commissions as appropriate);
 - c. technical applications of magnetic materials and generation of magnetic fields.

Article 2 - 7: see page 52

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C10

COMMISSION on the STRUCTURE and DYNAMICS of CONDENSED MATTER (1960) (1981)

Mandate:

- Article 1 To promote the exchange of information and views among the members of the international scientific community in the general field of Condensed Matter Physics including:
- a. the properties and behaviour of atoms and molecules in the liquid and solid states;
 - b. the characteristics of the solid and liquid states of matter including reduced dimensionality systems (in collaboration with other commissions as appropriate);
 - c. the modelling of condensed matter;
 - d. the application of condensed matter physics to technology.

Article 2 - 7: see page 52

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C11

COMMISSION on PARTICLES and FIELDS (1957)

Mandate:

Article 1

To promote the exchange of information and views among the members of the international scientific community in the general field of Particles and Fields including:

- a. the theory and experiment concerned with the nature and properties of the fundamental constituents of matter and the forces acting between these constituents;
- b. the maintaining of liaison with ICFA;
- c. the accelerators, detectors and techniques used in these investigations;
- d. the industrial applications of relevant technologies.

Article 2 - 7: see page 52

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C12

COMMISSION on NUCLEAR PHYSICS (1960)

Mandate:

- Article 1 To promote the exchange of information and views among the members of the international scientific community in the general field of Nuclear Physics including:
- a. the properties and characteristics of the atomic nucleus and its constituents;
 - b. the interaction of atomic nuclei with other nuclei, with particles and with radiation;
 - c. the apparatus and technologies used in nuclear investigations;
 - d. the applications of nuclear physics to technology.

Article 2 - 7: see page 52

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C13

COMMISSION on PHYSICS for DEVELOPMENT (1981)

Mandate:

- Article 1 To promote the exchange of information and views among the members of the international scientific community in the general field of Physics for Development including:
- a. to help in appropriate ways the improvement of the conditions of physics and physicists in developing countries;
 - b. to propose and, if appropriate, support initiatives to promote the contribution of physics to industrial development;
 - c. to collect and distribute relevant information on opportunities for Physics Development.

Article 2 - 7: see page 52

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C14

COMMISSION on PHYSICS EDUCATION (1960)

Mandate:

- Article 1 To promote the exchange of information and views among the members of the international scientific community in the general field of Physics Education including:
- a. the collection, evaluation, coordination and distribution of information concerning education in the physical sciences at all levels;
 - b. information relation to the assessment of standards of physics teaching and learning;
 - c. suggesting ways in which the facilities for the study of physics at all levels might be improved, stimulating experiments at all levels, and giving help to physics teachers in all countries in incorporating current knowledge of physics, physics pedagogy, and the results of research in physics education into their courses and curricula.

Article 2 - 7: see page 52

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C15

COMMISSION on ATOMIC, MOLECULAR, and OPTICAL PHYSICS (1966) (1994) (1996)

Mandate:

- Article 1** To promote the exchange of information and views among the members of the international scientific community in the general field of **Atomic, Molecular and Optical Physics** including:
- the properties of charged and neutral atoms and molecules;
 - the dynamics and these entities, including interaction with electromagnetic radiation and with electric and magnetic fields and the results of collisions;
 - applications of optical and laser techniques to the manipulation of atomic and molecular species;
 - the application of atomic and molecular physics to technology.

Article 2 - 7: see page 52

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C16

COMMISSION on PLASMA PHYSICS (1969)

Mandate:

- Article 1 To promote the exchange of information and views among the members of the international scientific community in the general field of Plasma Physics including:
- a. the physics of ionized gases, of partially ionized gases, and of gaseous electronics;
 - b. the applications of such physics including thermonuclear fusion, space physics, astrophysics, and plasma technology.

Article 2 - 7: see page 52

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C17

COMMISSION on LASER PHYSICS AND PHOTONICS, previously QUANTUM ELECTRONICS (1975)

Mandate:

- Article 1 To promote the exchange of information and views among the members of the international scientific community in the general field of Quantum Electronics including:
- a. the physics of coherent electromagnetic energy generation and transmission;
 - b. the physics of interaction of coherent electromagnetic radiation with matter;
 - c. the application of quantum electronics to technology.

Article 2 - 7: see page 52

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C18

COMMISSION on MATHEMATICAL PHYSICS (1981)

Mandate:

- Article 1 To promote the exchange of information and views among the members of the international scientific community in the general field of Mathematical studies of problems originating in or relevant to Physics, including:
- a. mathematical models of physical systems;
 - b. mathematical aspects of physical theories;
 - c. computational techniques.

Article 2 - 7: see page 52

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C19

COMMISSION on ASTROPHYSICS (1984)

Mandate:

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Article 2 - 7: see page 52

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C20

COMMISSION on COMPUTATIONAL PHYSICS (1996)

Mandate:

- Article 1 To promote the exchange of information and views among the members of the international community of physicists in the area of Computational studies of problems originating in or relevant to physics, including
- a. numerical and symbolic models and algorithms for the simulation of physical systems
 - b. computational control and data processing of experiments
 - c. programming and computational environments
 - d. the physical basis of computer machinery.

Article 2 - 7: see page 52

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INTERNATIONAL AFFILIATED COMMISSIONS

It occasionally happens that an international committee or organisation of physicists decides to join with the Commissions of IUPAP. It may do so as a specialised Commission, in which case its organisation and administration follow the pattern of the others and it may receive sponsorship and grants for its international conferences. If its own administrative structure is well developed, it may become instead an *affiliated* Commission. Such as Commissions may have their own Members and dues structures, statutes and assemblies. They endorse and assist in implementing IUPAP principles concerning, for example, the free circulation of scientists and participate in joint activities. IUPAP delegates Members to the governing board or council, and approves the constitution or statutes. Affiliated Commissions report their activities to the IUPAP General Assemblies, and their financial statements to the Executive Council.

Physicists interested in the activities of Affiliated Commissions are invited to contact the Commission's Secretary directly with copy to the Secretary-General of IUPAP for information.

AC.1

INTERNATIONAL COMMISSION for OPTICS (1948)

The **International Commission for Optics** is an Affiliated Commission of the International Union of Pure and Applied Physics (IUPAP) and a Scientific Associate of the International Council for Science (ICSU). ICO was created in 1947 with the objective, to contribute to the worldwide progress and diffusion of knowledge in Optics. Its membership consists of **53 Territorial Committees** representing the Optics community from defined geographical areas all around the world and Six international professional societies: The LAM Network, the European Optical Society_(EOS), the IEEE Photonics Society, the International Society on Optics Within Life Sciences (OWLS), The Optical Society (OSA) and SPIE - the International Society for Optics and Photonics.

The governing body of ICO is its General Assembly, comprised of all Territorial Representatives. The General Assembly meets every three years at the **Congress of the International Commission for Optics**, where eligible members are elected to the ICO Bureau. In the years between General Congresses ICO holds topical meetings that host the annual ICO Bureau Meeting. ICO endorses and/or co-sponsors around ten international workshops, conferences, meetings and/or schools annually. ICO works in close collaboration with the Abdus Salam Centre for Theoretical Physics (ICTP) and provides expert advice to the ICTP's applied physics research and education programs in the area of optics and laser physics. ICO is a permanent member of the Steering Committee of the series of conferences on Education and Training in Optics and Photonics and publishes quarterly its ICO Newsletter. ICO administers the IUPAP Young Scientists Prize in Optics and recognises scientific achievements consistent with its mission through three internationally well-credited awards: the ICO Prize, the Galileo Galilei Award and the ICO/ICTP Gallieno Denardo Award.

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Secretary General:

Angela Guzmán,

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Treasurer:

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Vice Presidents, elected:

John Harvey, New Zealand

Frank Höller, Germany

Humberto Michinel, Spain

Joseph Niemela, Italy

Roberta Ramponi, Italy

Seung-Han Park, Korea

Jakub Zakrzewski, Poland

Mourad Zgal, Tunisia

Vice Presidents, appointed:

Appointed by OSA: John C Howell, USA

Appointed by SPIE: Maria Yzuel, Spain

Appointed by the IEEE Photonics Society: Yujie Ding, USA

Appointed by EOS: Paul Urbach, The Netherlands

Appointed by OWLS: Stephen Morgan, UK

Appointed by LAM Network: Ahmadou Wague, Senegal

Appointed by RIAO: Eric Rosas, Mexico

IUPAP Executive Council Delegate: Carmen Cisneros, Mexico

AC.2

INTERNATIONAL COMMISSION on GENERAL RELATIVITY and GRAVITATION (1957) (1972)

The International Society on General Relativity and Gravitation, ISGRG, is an international learned society. It acts as Affiliated Commission 2 (AC.2) of the International Union of Pure and Applied Physics (IUPAP).

The Society's purposes are "to promote the study of GRG and to exchange information in the interest of its members and the profession". It pursues these aims in several ways: it organises a triennial conference, publishes a journal "General Relativity and Gravitation," sponsors a bulletin and website service, Hyperspace, and represents its research community in international science politics through IUPAP, acting as its responsible commission for other relevant conferences

PRESIDENT elected 2010 for 2010-13

(Deputy-President 2013-16)

President:

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DEPUTY-PRESIDENT 2010-13

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Deputy President:

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SECRETARY (and Treasurer) 2010-13

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AC.3

INTERNATIONAL COMMISSION for ACOUSTICS (1998)

The purpose of the ICA is to promote international development and collaboration in all fields of acoustics including research, development, education, and standardisation.

Means for the Commission to fulfil its mission are:

a) to maintain close contacts with national and regional acoustical societies and associations as well as other relevant professional organisations and seek consensus in matters of mutual interest; ii to provide an information service on societies, congresses, symposia, etc., research and education organisations in the field of acoustics; iii to take a pro- active role in co-ordinating the main international meetings within acoustics.

b) to convene the International Congresses on Acoustics in accordance with the Commission's guidelines and to act as the International Advisory Committee for these congresses.

c) to sponsor or co-sponsor other topical and special international conferences normally in close cooperation with national and/or regional organisations and to give financial support (grants or guarantees), as a grant to organising committees for such meetings or as a travel grant to participants.

Board Membership 2011-2013

ICA President:

Marion Burgess, Australia

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Vice-President:

Jing Tian, China

Email: ICAVicePresident@icacommission.org

Secretary General:

Michael Stinson, Canada

Email: ICASecGen@icacommission.org

Treasurer:

Antonio Perez-Lopez, Spain

Email: ICATreasurer@icacommission.org

Past President:

Michael Vorländer, Germany

Board:

Júlio A. Cordioli, Brazil

Dorte Hammershøi, Denmark

Bertrand Dubus, France

Roberto Pompoli, Italy

Kohei Yamamoto, Japan

Jeong-Guon Ih, Korea

Grazyna Grelowska, Poland

Monika Rychtarikova, Slovakia

Yiu Lam, UK

Mark Hamilton, USA

International Affiliate Representatives

Frank Wells, AES

Jean Kergomard, EAA

Jorge Patricio, FIA

Stephen Stansfeld, ICBEN

Bogumil Linde, ICU

J. L. Bento Coelho, IIAV

Rajendra Singh, I-INCE

Masayuki Morimoto, WESPAC

AC.4

INTERNATIONAL ORGANISATION ON MEDICAL PHYSICS (2005)

The mission of IOMP is to advance medical physics practice worldwide by disseminating scientific and technical information, fostering the educational and professional development of medical physicists, and promoting the highest quality medical services for patients.

Officers (2012-2015)

Kin Yin Cheung

(President IOMP, kycheung@hksh.com)

Slavik Tabakov

(Vice-President, slavik.tabakov@emerald2.co.uk)

Fridtjof Nüsslin

(Past-President IOMP, AC-4 Chair, nuesslin@lrz.tu-muenchen.de)

Madan Rehani

(Secretary General IOMP, sg.iomp@gmail.com)

Anchali Krisanachinda

(Treasurer, kanchali@yahoo.com)

IOMP Committee Chairs:

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(Science, SC, gibbott@mdanderson.org)

John Damilakis

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Raymond Wu
(Professional, PRC, raykwu@gmail.com)

Tae Suk Suh
(Publication, PC, suhsanta@catholic.ac.kr)

Associate Members from IUPAP Commissions:

Kenichi Yoshikawa
(Chair C6, Biological Physics, yoshikaw@scphys.kyoto-u.ac.jp)

Paulo Murilo de Castro Oliveira
(C13, Physics for Development, pmco@if.uff.br)

Robert Lambourne
(C14, Physics Education, r.j.lambourne@open.ac.uk)

3 external scientists co-opted by AC-4:
To be nominated

IUPAP DELEGATES TO INTER-UNION COMMISSIONS

Much interdisciplinary work is carried out in collaboration by Unions. Some is done by committees set up by the Union's federation: the International Council of Scientific Unions (ICSU). In other work one Union plays the role of lead agency, with others supplying associates. Unions also send delegates to independent international organisations such as BIPM. The IUPAP is currently associated with seventeen such activities, in addition to having associates from other Unions and organisations on its own Commissions.

Physicists interested in the work of these committees are invited to contact the IUPAP representative. These are designated by the Executive Council at its meeting a year after a General Assembly.

IU.1 International Council of Scientific Unions (ICSU)

Reed, Kennedy,

Physics & Advanced Technologies Directorate,
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Fax: 925-423-0246. Email: reed5@llnl.gov

IU.2 Committee on Data for Science and Technology (CODATA)

Mohr, Peter,

Fundamental Constants Data Center, Precision
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IU.3 Committee on Space Research (COSPAR)

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IU.4a Consultative Committee on Units (CCU)

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Measurement Grants Program, NIST, 100 Bureau
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IU.4b Joint Committee for Guides in Metrology (JCGM)

Wöger, Wolfgang,

Physikalisch-Technische Bundesanstalt, Postfach
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IU.5 International Council for Scientific & Technical Information (ICSTI)

Sprouse, Gene, D.

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IU.8 Scientific Committee on Problems of the Environment (SCOPE)

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IU.10 Scientific Committee on Solar-Terrestrial Physics (SCOSTEP)

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IU.14. a. IUPAC Interdivisional Committee on Terminology and Symbols (ICNS)

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b. IUPAC Commission of Isotope Abundances and Atomic Weights (CIAWW)

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IU.15 Bureau International des Poids et Mesures (BIPM)

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IU.16 International Electrotechnical Committee (IEC)

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IU.18 International Union of Pure and Applied Biophysics (IUPAB)

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WORKING GROUPS

An international and interdisciplinary collaboration of researchers aiming to focus and develop new research fields and activities that would be difficult to resource through traditional funding programmes.

W.G.1

INTERNATIONAL COMMITTEE ON FUTURE ACCELERATORS (ICFA)

The International Committee for Future Accelerators (ICFA) was created to facilitate international collaboration in the construction and use of accelerators for high energy physics. It was created in 1976 by the International Union of Pure and Applied Physics.

Charge to the Working Group:

Its purposes, as stated in 1985, are as follows:

- To promote international collaboration in all phases of the construction and exploitation of very high energy accelerators.
- To organise regularly world-inclusive meetings for the exchange of information on future plans for regional facilities and for the formulation of advice on joint studies and uses.
- To organise workshops for the study of problems related to super high-energy accelerator complexes and their international exploitation and to foster research and development of necessary technology.

Membership

Secretary, R. Rubinstein (1993-)

A full list of members can be found on the website

<http://www.fnal.gov/directorate/icfa/membership.html>

General website <http://www.fnal.gov/directorate/icfa>

W.G.2

WORKING GROUP ON COMMUNICATION IN PHYSICS

This group has been reconstituted to consider the problems that are emerging in electron publishing. It particularly will consider internet availability/ reliability, linking between societies and publishers, availability of electronic communication in isolated areas, archiving, peer review, and intellectual property.

Charge to Working Group:

It is the primary mission of the working group to make a set of recommendations on important issues in the international aspects of physics communication, especially electronic publication, that are appropriate for IUPAP action.

Membership

Gene Sprouse (**Chair**)

Xavier Bouju

Enrique Canessa (**ICTP**)

Nicola Gulley

Li Lu

Sergio M Rezende

Mitsuaki Nozaki (**KEK**)

Jens Vigen (**CERN**)

W.G.5

WORKING GROUP ON WOMEN IN PHYSICS

The working group was formed by resolution of the Atlanta General Assembly in 1999.

The mandate of the group is:

- To survey the situation for women in physics in IUPAP member countries. To analyse and report the data collected along with suggestions on how to improve the situation. To suggest ways that women can become more involved in IUPAP, including the Liaison Committees, the Commissions, the Council, and the General Assemblies. To report all findings at the General Assembly in 2002.
- In carrying out the above charge, it may prove useful to organise and convene an international meeting on women in physics. If such a meeting occurs, it should be planned so that a full account can be provided with the report at the General Assembly in 2002.

Website

<http://wgwip.df.uba.ar/>

Membership

Chair, Igle Gledhill, South Africa

Vice chair, Gillian Butcher, UK

Members

Ching-Ray Chang, China, Taipei

Dina Izadi, Iran

Kwek Leong Chuang, Singapore

Lilia Meza Montes, Mexico

Manling Sui, China, Beijing

Prajval Shastri, India

Renee Horton, USA
Shohini Ghose, Canada

Associated member:

Silvina Ponce Dawson, Argentina (past-chair)

IUPAP Liaison:

Prof. Kok Khoo Phua, Singapore, IUPAP Secretary General,
IUPAP Secretariat: Maitri Bobba / Sun Han, Singapore,

W.G.7

INTERNATIONAL COMMITTEE ON ULTRAHIGH INTENSITY LASERS (ICUIL)

This Working Group was proposed and mandated by IUPAP at the Council and Commission Chairs meeting held in Vancouver, Canada, October 10-11, 2003.

Charge to the Working Group:

1. to provide a venue for discussions among representatives of the Ultrahigh Intensity Lasers facilities and members of the user communities on international collaborative activities such as the development of the next generation ultrahigh intensity lasers, exploration of new areas of fundamental and applied research, and formation of a global research network for access to advanced facilities by users.
2. to promote unity and coherence in the field by convening conferences and workshops dedicated to ultrahigh intensity lasers and their applications.
3. to accelerate progress in the field by exploring opportunities of sharing information, joint procurement, and the exchange of equipment, ideas and personnel among laser laboratories world-wide.
4. to attract students to high-field science by promoting their education and training, interactions with prominent scientists, and access to the latest equipment, results and techniques.
5. to strengthen and exploit synergy with other relevant fields and techniques, notable accelerator-based free electron lasers.

Website: <http://www.icuil.org/>

Membership

Officers:

Chair, Toshiki Tajima Toshiki

Co-Chair, Chris Barty

Co-Chair, Wolfgang Sandner

Secretary, Terry Kessler

Treasurer, Tsuneyuki Ozaki

Members:

Gerard Mourou

H. Azechi

John Collier

Thomas Kuehl

G Ravindra Kumar

Christine Labaune

Wim Leemans

Bedrich Rus

Heinrich Schwoerer

Alexander Sergeev

Zheng Ming Sheng

Ken-ichi Ueda

Associate Members

Dino Jaroszynski

Ryosuke Kodama

Jong-Min Lee

Sandro Desilvestri

Nilson Da Vieras Jr.

Claes-Goran Wahlstrom

W.G.9

INTERNATIONAL COOPERATION IN NUCLEAR PHYSICS (ICNP)

The working group was formed by resolution of the Cape Town, SA 2005 General Assembly.

The Mandate of the group is:

- To provide a description of the landscape of key issues in Nuclear Physics research for the next 10 to 20 years
- To produce (maintain) a compendium of facilities existing or under development worldwide
- To establish a mapping of these facilities onto the scientific questions identified above
- To identify missing components that would have to be developed to provide an optimised, comprehensive network of international facilities
- To explore mechanisms and opportunities for enhancing international collaboration in nuclear science
- To identify R/D projects that could benefit from international joint effort
- To serve as a source of expert advice for governmental or inter- governmental organisations in connection with efforts to coordinate and promote nuclear science at the international level
- To serve as a forum for the discussion of future directions of nuclear science in the broadest sense

- To document the cross-disciplinary impact of Nuclear Physics and of nuclear facilities and to identify mechanisms for expanding (fostering) cross-disciplinary research.

Organisation

The Executive of the Working Group consists of a Chairperson and a Secretary. Among its members will be the Chairs of various long range planning committees, i.e., the Chair of the US Nuclear Science Advisory Committee (NSAC) or his/her designate, the Chair of the Nuclear Physics European Collaboration Committee (NuPECC) or his/her designate, the Chair of the Japanese Nuclear Physics Committee, and further representatives of nuclear physics research establishments worldwide. The Chair and Vice-Chair of C12, the IUPAP Commission on Nuclear Physics, will be ex-officio members of the Working Group.

Membership

Robert E Tribble, **Chair**
 Anthony W. Thomas, **Past - Chair**
 Willem T.H. van Oers, **Secretary**

Members

Angela Bracco	Hugh Montgomery
Umberto Dosselli	Berndt Müller
Hideto En'yo	Guenther Rosner
Donald F. Geesaman	Amit Roy/Dinesh Srivastava
C. Konrad Gelbke	Naohito Saito
Dominique Gillemaud-Mueller	Hideyuki Sakai
Alinka Lepine-Szily	Susan Seestrom
Nigel Lockyer/Jonathan Bagger	Horst Stoecker
Victor A. Matveev	Zebulon Vilakazi
Dong-Pil Min	Yanlin Ye
	Wenlong Zhan

W.G.10

ASTROPARTICLE PHYSICS INTERNATIONAL COMMITTEE (APPIC)

The Astroparticle Physics International Committee (ApPIC) was established by the 2011 General Assembly. In October 2012 the Executive Council authorised that members be appointed, and that the mandate be drawn up in consultation with the first members of the Committee.

Charge to Working Group

- review on a regular basis the scientific status of the field of Astroparticle Physics;
- engage in a continuous dialogue with “The Astroparticle Physics International Forum (APIF)” of the Global Science Forum (GSF)² and to give scientific advice to APIF, whose members are appointed by funding agencies;
- comment on and liaise with similar national and international organs on assessment and road-mapping activities, as the need may arise, such as for promoting the global coherence of plans, priorities and projects, in Astroparticle Physics.

Membership

Chair: Michel Spiro, France

Ex-Officio: Karl-Heinz
Kampert

Pierre Binetruy, France

Roger Blandford, USA

Zhen Cao, China

Eugenio Coccia, Italy

Don Geesaman, USA

Kunio Inoue, Japan

Naba Mondal, India

Angela Olinto, USA

Natalie Roe, USA

Sheila Rowan, GB

Valery Rubakov, Russia

Bernard Sadoulet, USA

Subir Sarkar, GB/Denmark

Christian Spiering, Germany

Yoichiro Suzuki, Japan

Website: <http://www.apc.univ-paris7.fr/APC/Conferences/appic/index.html>

W.G.11

GRAVITATIONAL WAVE INTERNATIONAL COMMITTEE (GWIC)

GWIC, the Gravitational Wave International Committee, was formed in 1997 to facilitate international collaboration and cooperation in the construction, operation and use of the major gravitational wave detection facilities world-wide. It is associated with the International Union of Pure and Applied Physics as its Working Group WG.11. Through this association, GWIC is connected with the International Society on General Relativity and Gravitation (IUPAP's Affiliated Commission AC.2), its Commission C19 (Astrophysics), and another Working Group, the AstroParticle Physics International Committee (APPIC).

GWIC's Goals:

- Promote international cooperation in all phases of construction and scientific exploitation of gravitational-wave detectors;
- Coordinate and support long-range planning for new instrument proposals, or proposals for instrument upgrades;
- Promote the development of gravitational-wave detection as an astronomical tool, exploiting especially the potential for multi-messenger astrophysics;
- Organise regular, world-inclusive meetings and workshops for the study of problems related to the development and exploitation of new or enhanced gravitational-wave detectors, and foster research and development of new technology;
- Represent the gravitational-wave detection community internationally, acting as its advocate;
- Provide a forum for project leaders to regularly meet, discuss, and jointly plan the operations and direction of their detectors and experimental gravitational-wave physics generally

Website: <https://gwic.ligo.org/members/>

Members:

Eugenio Coccia **(Chair)**
Stan Whitcomb **(Executive Secretary)**
Peter Veitch
Massimo Cerdonio
Michele Punturo
Michael Kramer
Karsten Danzmann
Sheila Rowan
Bala Iyer
Seiji Kawamura
Takaaki Kajita
Dave Reitze
Gabriela Gonzalez
Neil Cornish
Bernard Schutz
Robin Stebbins
Stefano Vitale
Frederick Jenet
George Hobbs
Odylio D. Aguiar
Francesco Fidecaro
Jean-Yves Vinet
Clifford Will
Beverly Berger
Stan Whitcomb

W.G.12

ENERGY

The IUPAP working group on energy was initiated at the 27th General Assembly in London 2011 and formally established at the Executive Committee meeting in Rio de Janeiro in October 2012. The group will review current energy issues and make briefs available for the global physics community and policy makers as well as the public at large.

The group meets once or twice a year to review selected topics taking advantage of local experts where the meeting is held. The topics considered include both renewable and conventional energies as well as energy carriers. Both advanced and low tech systems will be looked into.

Members

Jon Samseth (**Chair**)
Kristina M Johnson
Kimitoshi Kono
Mats Leijon
Hardo Bruhns
Glauca Mendes Souza
Wikus van Niekerk
Christopher Llewellyn Smith
George Crabtree
Hushan Xu
Kohei M. Itoh
David Faiman
Lincoln Paterson
Eduard Son