

## Proposer details

**Family name** Salama  
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**Telephone or fax** 1-650 604-3384

## Proposed Symposium Details

**Category** FM  
**General Assembly** yes  
**Title** Bridging Laboratory Astrophysics and Astronomy: From Provider to User  
**Start date** 2015-08-04  
**End date** 2015-08-06  
**Location** Honolulu, Hawaii  
**Country** United States  
**Coordinating division** Division B Facilities, Technologies and Data Science  
Division B Facilities, Technologies and Data Science  
Division D High Energy Phenomena and Fundamental Physics  
**Other divisions** Division E Sun and Heliosphere  
Division F Planetary Systems and Bioastronomy  
Division G Stars and Stellar Physics  
Division H Interstellar Matter and Local Universe

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### SOC Co-Chairs

Name	Institution	Country
Farid	Salama	NASA-Ames Research Center United States
Lyudmila	Mashonkina	Institute of Astronomy RA Russian Federation
Steven	Federman	University of Toledo United States

### SOC Members

Name	Institution	Country
Martin	Asplund	Australian National Unive Australia
Beatriz	Barbuy	University of Sao Paulo Brazil
Paul	Drake	University of Michigan United States
Steven	Federman	University of Toledo United States
Karlheinz	Langanke	GSI Germany
Harold	Linnartz	Leiden Observatory Netherlands
Xiaowei	Liu	Kavli Instittue China Nanjing
Lyudmila	Mashonkina	Institute of Astronomy RA Russian Federation
Tom	Millar	Queen's Univ. Belfast United Kingdom
Evelyne	Roueff	Observatoire de Paris France
Farid	Salama	NASA-Ames Research Center United States

Daniel Savin Columbia University United States

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### Editor(s) of Proceedings

First Name	Last Name	Institution	Country
Farid	Salama	NASA-Ames Research Center	United States
Lyudmila	Mashonkina	Institute of Astronomy RA	Russian Federation
Steven	Federman	University of Toledo	United States

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### LOC Chairs

Name	Institution	Country
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### LOC Members

Name	Institution	Country
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### Expected number of participants

#### Registration Fee in local currency and equivalent in EUR

##### Expenses covered by registration fee

Transport to/from airport or station	no
Transport to/from hotel	no
Coffee Breaks etc.	no
Conference Dinner	no

Proceedings: must be included in the registration fee.

##### Expected price of Hotels and other accomodation

4 & 5 star  
2 & 3 star  
Other

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## Scientific Justification

- Topics**
1. Atoms in interstellar matter, stellar spectra, stellar and planetary atmospheres, interplanetary plasma and heliosphere, meteors, meteorites and interplanetary dust, space and high-energy astrophysics.
  2. Molecules in interstellar matter, stellar spectra, stellar and planetary atmospheres, meteors, meteorites and interplanetary dust, astrochemistry and bioastronomy.
  3. Dust and ices in interstellar matter, planetary surfaces, meteors, meteorites and interplanetary dust, astrochemistry and bioastronomy.
  4. Plasmas in interstellar matter, stellar spectra, stellar atmospheres, interplanetary plasma and heliosphere, meteors, space and high-energy astrophysics, meteorites and interplanetary dust.
  5. Nuclei and particles in stellar spectra, stellar atmospheres, space and high-energy astrophysics.

**Abstract** We propose to organize a conference dedicated to bridging laboratory astrophysics and astrochemistry and astronomy. We will bring together active researchers in observational astronomy,

experimental and theoretical laboratory astrophysics and astrochemistry, atomic and molecular spectroscopy, plasmas and nuclei and particles. There has been much progress in each of these individual fields in the past recent years, and we expect that interactions between researchers will result in a solid roadmap for future research that will lead to advances in our understanding and guidance of astronomical observations and in the design of future observational instruments. At the same time, this interdisciplinary meeting will provide a stimulus to the many young researchers that entered the field in the last few years. The Laboratory Astrophysics Division (LAD) traditionally holds its meetings with the AAS and has demonstrated the strong positive aspect of bringing together the astronomy and lab astro communities. In Europe laboratory astrophysics is considered a key area within the infrastructures program of the new EU horizon 2020 program and a focus meeting at the GA will substantially increase the visibility of laboratory astrophysics as an active discipline within astronomy. We have chosen to organize this conference with the GA of the IAU to optimize the interaction between the laboratory astrophysics and the astronomy communities at an international level.

**Rationale** Astronomy is primarily an observational science detecting photons generated by atomic, molecular, chemical, and condensed matter processes. Our understanding of the universe also relies on knowledge of the evolution of matter (nuclear and particle physics) and of the dynamical processes shaping it (plasma physics). Planetary science, involving in-situ measurements of solar system bodies, requires knowledge from physics, chemistry, and geology. Exploring the question of life elsewhere in the Universe draws on all the above as well as biology. Hence, our quest to understand the cosmos rests firmly on theoretical and experimental research in many different branches of science. Taken together, these astrophysically motivated theoretical and experimental studies are known as laboratory astrophysics.

Laboratory astrophysics is the Rosetta stone that enables astronomers to understand and interpret the cosmos. This Focus Meeting will discuss the strong interplay between astronomy and astrophysics with theoretical and experimental studies into the underlying atomic, molecular, dust and ices, plasma, planetary science, nuclear and particle physics processes, which drive our Universe.

Given the current major development of next-generation facilities and projects, such as e.g. the JVLA, SKA, ALMA, Pan-STARRS, LSST, JWST, the proposed Focus Meeting is intended to synthesize the state-of-the art of the field of laboratory astrophysics, and discuss open questions to be solved in the next decade. In particular, the meeting will stress how laboratory studies can best address the needs of astronomy and stimulate new observations. The proposed Focus Meeting will be divided into sessions that will discuss atomic and molecular data, plasma physics, nuclear physics, and particle physics and their application to various fields, such as interplanetary, interstellar, and intergalactic matter, planetary and stellar atmospheres.

The upcoming IAU GA will be held in Hawaii in close coordination with the AAS. The IAU Comm. 14 Atomic and Molecular Data and the AAS LAD have coordinated their efforts to submit a proposal for a joint meeting at the next GA in the form of a Focus Meeting to help bridge Laboratory Astrophysics and Astrochemistry with Astronomy by bringing together expert data providers and data users of laboratory and astronomical data. This is a truly multidisciplinary meeting that will bring together astronomers with theoretical and experimental chemists and physicists to discuss the state-of-the-art research in their respective disciplines and how their combined expertise can address important open questions in astronomy and astrophysics. We believe that there are many IAU Commissions and Divisions whose membership would be genuinely interested in these sessions. Our preliminary contacts and discussions within the IAU have been very well received and we have obtained strong support from a large number of Divisions and Commissions (see attached Letters of Support).

**Program outline** A preliminary outline of the proposed scientific program is given below. We provide a tentative list of invited talks and suggestions for invited speakers from a pool of speakers that have been selected by the SOC. The selected invited speakers have not been contacted. We'll start contacting the invited speakers when the proposal is accepted. The six proposed topical sessions each typically include four invited talks: two review talks, 30 minute-long each to provide a short review of the field

for the non-experts, and two topical talks, 15-minute each that will specifically address new scientific findings in the field. In addition, room is left in each session for two 15 minute-long contributed talks that will provide opportunities for the presentation of new scientific developments that may occur by the time the GA Meeting is held. The SOC is determined to encourage junior scientists to participate and to ensure that young scientists are largely represented in topical and contributed talks. The last (seventh) session is shorter with two summary talks, 30 minute-long each, one 15 minute-long topical talk and concluding remarks. We will also include ample time for poster sessions and discussions throughout the entire meeting. The proposed topics are listed below for each talk as well as the names of potential speakers.

Opening Remarks: (5min) SOC

#### Session I. Atoms

(2× 30min invited reviews + 2× 15min invited topical + 2× 15min contributed = 120min)

- o Talk 1 - Invited Review (30min): Stellar atmospheres.  
Paul Barklem, Royal Swedish Academy, Sweden (Collisional processes)  
Chris Sneden, Univ. Texas, USA (Atomic data for stellar nucleosynthesis)
- o Talk 2 - Invited Review (30min): Atomic Processes.  
Jelle Kaastra, SRON, The Netherlands (Optically thin plasma)  
Tim Kallman, NASA GSFC, USA (Modeling X-ray spectra)  
Randall Smith, Smithsonian Astrophysical Observatory, USA (Atomic data for X-Ray Spectroscopy)
- o Talk 3 - Invited Topical (15min)  
Karin Lind, Univ. of Cambridge, UK (Atomic data needed for non-LTE studies)  
Stefan Schippers, Univ. Giessen, Germany (Electron-ion ionization and recombination data, photoionization)  
Jim Lawler, Univ. Wisconsin, USA (Oscillator strengths for stellar abundances)  
Xuan Fang, IAA-CSIC, P.R. China (Effective recombination coefficients of heavy element ions)
- o Talk 4 - Invited Topical (15min)  
Michael Murphy, Swinburne University of Technology, Australia (QSO spectroscopy)  
Nobuyuki Nakamura, Univ. Electro-Communications, Japan (Solar spectroscopy)  
Peter Beiersdorfer, LLNL, USA (X-ray and extreme ultraviolet spectroscopy)  
Li Ji, Purple Mountain Observatory, CAS, P.R. China (X-ray/UV spectroscopy and line diagnostics)
- o Talk 5 - Contributed (15min)
- o Talk 6 - Contributed (15min)

#### Session II. Molecules

(2 × 30min invited reviews + 2× 15min invited topical + 2× 15min contributed = 120min)

- o Talk 1 - Invited Review (30min): The Molecular Universe  
Ewine van Dishoeck, Leiden Observatory, The Netherlands (Astrochemistry)  
Jose Cernicharo, Astrobiology Center, Spain (IR-FIR/laboratory/theory/observations)  
Michael McCarthy, Harvard Smithsonian Center for Astrophysics, USA (Microwave/Radio astronomy and laboratory experiments)
- o Talk 2 - Invited Review (30min): Molecular Physics  
Wim Ubachs, Univ. Amsterdam, The Netherlands (Test of QED and varying constants through spectroscopy)  
Cristina Puzzarini, Univ. Bologna, Italy (High resolution molecular rotational spectroscopy; link to theory)  
Valentine Wakelam, Univ. Bordeaux, France (Chemical reaction databases)  
Holger Mueller, Univ. Cologne, Germany (Molecular spectroscopy databases)
- o Talk 3 - Invited Topical (15min): Complex Molecules

- Christine Joblin, CNRS, France (PAHs, laboratory, observations)
- Stephan Schlemmer, Univ. Cologne, Germany (Hydrocarbons, laboratory)
- Jan Cami, Univ. Western Ontario, Canada (Fullerenes, Observations)
- o Talk 4 - Invited Topical (15min): Chemical Reactions:
  - Ralf Kaiser, Univ. Hawaii, USA (Chemical Reactions, planetary atmospheres)
  - Ian Sims, Univ. Rennes, France (Chemical reactions, planetary atmospheres)
  - Takeshi Oka, Univ. Chicago, USA (H3+, laboratory, observations)
  - Esther Carrasco, IEM-CSIC, Spain (Chemical reactions)
- o Talk 5 - Contributed (15min)
- o Talk 6 - Contributed (15min)

### Session III. Dust and Ices

(2 × 30min invited reviews + 2× 15min invited topical + 2× 15min contributed = 120min)

- o Talk 1 - Invited Review (30min): Ices
  - Karin Oberg, Harvard Smithsonian, USA (Ices, ALMA)
  - Emmanuel Dartois, Univ. Paris Sud, France (Ices and organics in meteorites)
  - Rob Garrod, Cornell Univ., USA (Astrochemistry and astrobiology of ices)
- o Talk 2 - Invited Review (30min): Dust
  - Thomas Henning, MPI, Germany (Dust, theory, laboratory, observations)
  - Bruce Draine, Cornell Univ., USA (Dust, models, theory)
- o Talk 3 - Invited Topical (15min): Ices
  - Adwin Boogert, NASAARC, USA (Observations, Spitzer, SOFIA)
  - Elisabetta Palumbo, Univ. Catania, Italy (Reactions in ices)
  - Ralf Kaiser, Univ. Hawaii, USA (Planetary ices, laboratory)
  - Naoki Watanabe, Hokkaido University, Japan (Interstellar ice processing)
  - Y. J. Chen, NCU, Taiwan (Interstellar ice processing)
- o Talk 4 - Invited Topical (15min) : Dust
  - Jean Louis Lemaire, Observ. Paris, France (Dust morphology and reactivity)
  - Takashi Onaka, University of Tokyo, Japan (Observations and theory of dust)
  - Lei Hao, Shanghai Astronomical Observatory, P.R. China (Dust observations)
  - Karl Gordon, STScI, USA (Dust observations, HST, JWST)
- o Talk 5 - Contributed (15min)
- o Talk 6 - Contributed (15min)

### Session IV. Plasma

(2× 30min invited reviews + 2× 15min invited topical + 2× 15min contributed = 120min)

- o Talk 1 - Invited Review (30min): Astrophysical Plasma Dynamics
  - Amitava Bhattacharjee, Princeton Univ., USA (Weibel instabilities and related magnetic field generation)
  - Bob Bingham, Rutherford Appleton Lab., UK (Wave and particle microphysics in astrophysics)
- o Talk 2 - Invited Review (30min): Connections of the laboratory and astrophysics in magnetohydrodynamics
  - Eric Blackman, Rochester Univ., USA (Connections of the laboratory and astrophysics in magnetohydrodynamics)
  - James Stone, Princeton Univ., USA (Magnetohydrodynamics modeling, laboratory)
  - Hui Li, LANL, USA (magnetized jets)
  - James Drake, Maryland Univ., USA (Reconnection)
- o Talk 3 - Invited Topical (15min):
  - Cary Forest, Univ. Wisconsin, USA (Laboratory studies of MHD turbulence)
  - Walter Gekelman, UCLA, USA (Laboratory studies of Alfvén waves and colliding plasmas)

- Sylvie Vauclair, IRAP, France (Opacity calculations)
- o Talk 4 - Invited Topical (15min):
  - Berenice Loupias, CEA, France (Theory and experiments of accretion processes in cataclysmic variables)
  - Frederico Fiuza, LLNL, USA (Progress toward laboratory collision-less shock experiments)
- o Talk 5 - Contributed (15min)
- o Talk 6 - Contributed (15min)

#### Session V. Planetary

(2× 30min invited reviews + 2× 15min invited topical + 2× 15min contributed = 120min)

- o Talk 1 - Invited Review (30min):
  - Sara Seager, MIT, USA (Solar and Exoplanets)
- o Talk 2 - Invited Review (30min):
  - Dominique Bockel?e-Morvan, Meudon Obs., France (Comets)
  - Michael Mumma, NASA GSFC, USA (Comets)
- o Talk 3 - Invited Topical (15min):
  - Peter Jenniskens, SETI/NASA-ARC, USA (Meteorites)
  - Mathieu Gounelle, Museum National Paris, France (Meteorites)
- o Talk 4 - Invited Topical (15min):
  - Athena Coustenis, Meudon Obs., France (Planetary Atmospheres)
  - Dale Cruikshank, NASA-Ames, USA (Planetary Surfaces)
- o Talk 5 - Contributed (15min)
- o Talk 6 - Contributed (15min)

#### Session VI. Nuclei and Particles

(2× 30min invited reviews + 2 ×15min invited topical + 2× 15min contributed = 120min)

- o Talk 1 - Invited Review (30min): Nuclear Reaction - Experimental
  - Michael Wiescher, Univ. of Notre Dame, USA (Nuclear reactions - experiment)
  - Hendrik Schatz, NSCL, USA (Nuclear reactions - experiment)
  - Weiping Liu, Beijing, P.R. China (Experimental nuclear astrophysics)
- o Talk 2 - Invited Review (30min): Nuclear Physics \_ Theory
  - Friedel Thielemann, Univ. Basel, Switzerland (Nuclear physics - Theory)
  - Raphael Hix, ORNL, USA (Nuclear physics - supernova, novae)
  - Kei Kotake, Fukuoka Univ., Japan: (core collapse supernovae)
  - Stan Woosley, UCSC, USA (High-energy astrophysics - theory)
- o Talk 3 - Invited Topical (15min):
  - Elisabete de Gouveia, IAG/USP Sao Paulo, Brazil - Auger and the future of the Cherenkov Telescope Array (CTA)
  - Manfred Lindner, MPI, Germany (Role of neutrinos)

- Horst Stoecker, Univ. Frankfurt, Germany (Nuclear astrophysics at NIF, FAIR, ELI)
- o Talk 4- Invited Topical (15min):
  - George Fuller, UCSD, USA (Theory)
  - Georg Raffelt, MPI, Germany (Theoretical astroparticle physics)
  - Yong Qian, Univ. Minnesota, USA (Nuclear/particle astrophysics)
- o Talk 5 - Contributed (15min)
- o Talk 6 - Contributed (15min)

#### Session VII. Summary & Concluding Remarks

(2 ×30min invited reviews + 2× 15min invited topical = 90min)

- o Talk 1 - Invited (30min): Summary I

Chris Sneden, Univ. Texas, USA (Atoms, Plasma, Nuclear and Particles)  
Marc Pinsonneault, Ohio State Univ., USA (Atoms, Plasma, Nuclear and Particles)  
o Talk 2 - Invited: (30min): Summary II  
Alexander Tielens, Leiden Observatory, The Netherlands (The Molecular Universe:  
Molecules, Dust and Ices)  
Ewine van Dishoeck, Leiden Observatory, The Netherlands (Molecules, Dust and Ices)  
o Talk 3 - Invited Topical (15min): Marie-Lise Dubernet, VAMDC, EU (Atomic and Molecular  
Databases)  
Concluding Remarks (15min): SOC

**Support letters** From: Ewine van Dishoeck <[ewine@strw.leidenuniv.nl](mailto:ewine@strw.leidenuniv.nl)>  
Date: December 12, 2013 1:31:54 PM PST  
To: "Salama, Farid (ARC-SSA)" <[farid.salama@nasa.gov](mailto:farid.salama@nasa.gov)>  
Cc: "[jbh@physics.usyd.edu.au](mailto:jbh@physics.usyd.edu.au)" <[jbh@physics.usyd.edu.au](mailto:jbh@physics.usyd.edu.au)>, "Lyudmila I. Mashonkina" <[lima@inasan.ru](mailto:lima@inasan.ru)>, "Steven R. Federman" <[steven.federman@utoledo.edu](mailto:steven.federman@utoledo.edu)>, <[bge@us.ibm.com](mailto:bge@us.ibm.com)>  
Subject: Support of proposal for FM 'Bridging Laboratory Astrophysics ...'

Dear Farid,

Division H is pleased to support your proposal for a Focus Meeting on 'Bridging Laboratory Astrophysics & Astrochemistry and Astronomy' at the IAU General Assembly meeting. Atomic, molecular and solid state spectroscopy and processes are at the foundation of much of the science in our Division.

With best regards,

Ewine van Dishoeck  
President Division H

From: "Giovanni B. Valsecchi" <[giovanni@iaps.inaf.it](mailto:giovanni@iaps.inaf.it)>  
Date: December 12, 2013 6:38:10 AM PST  
To: "Salama, Farid (ARC-SSA)" <[farid.salama@nasa.gov](mailto:farid.salama@nasa.gov)>  
Subject: Re: REMINDER: request for support for FM 'Bridging Laboratory Astrophysics ...'

Dear Dr. Salama,

the topics covered in your proposed Focus Meeting for the 2015 GA "Bridging Laboratory Astrophysics & Astrochemistry and Astronomy: From Provider to User" will be of interest for many members of my Division; therefore, I am happy to express the support of Division F for your intended FM.

Giovanni Valsecchi

President of Division F

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G.B. Valsecchi  
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From: Lidia van Driel-Gesztelyi <[Lidia.vanDriel@obspm.fr](mailto:Lidia.vanDriel@obspm.fr)>  
Date: December 14, 2013 1:59:46 AM PST  
To: "Salama, Farid (ARC-SSA)" <[farid.salama@nasa.gov](mailto:farid.salama@nasa.gov)>  
Cc: Lidia van Driel-Gesztelyi <[lidia.vandriel@obspm.fr](mailto:lidia.vandriel@obspm.fr)>, "Lyudmila I. Mashonkina" <[lima@inasan.ru](mailto:lima@inasan.ru)>, "[yyh@nao.cas.cn](mailto:yyh@nao.cas.cn)" <[yyh@nao.cas.cn](mailto:yyh@nao.cas.cn)>, "Steven R. Federman" <[steven.federman@utoledo.edu](mailto:steven.federman@utoledo.edu)>  
Subject: Division E - Endorsement of your proposal for an IAU FM in 2015

Dear Farid and Lyudmila,

In the name of Division E (Sun and Heliosphere) I am happy to endorse your proposal "Bridging Laboratory Astrophysics & Astrochemistry and Astronomy: From Provider to User" for for a Focus Meeting at the IAU GA. Although the program makes almost no reference to solar and heliophysical processes, the topic of your FM proposal has an obvious importance for the wide astronomical community and will be of interest to many attendees of the GA in Honolulu. The program is very ambitious, - perhaps it would deserve a full symposium.

With best wishes,  
Lidia van Driel-Gesztelyi  
President, Division E

From: David Silva <[dsilva@noao.edu](mailto:dsilva@noao.edu)>  
Date: December 4, 2013 12:26:22 PM PST  
To: "Lyudmila I. Mashonkina" <[lima@inasan.ru](mailto:lima@inasan.ru)>  
Cc: David Silva <[dsilva@noao.edu](mailto:dsilva@noao.edu)>, <[pietro.ubertini@iaps.inaf.it](mailto:pietro.ubertini@iaps.inaf.it)>, <[farid.salama@nasa.gov](mailto:farid.salama@nasa.gov)>, <[steven.federman@utoledo.edu](mailto:steven.federman@utoledo.edu)>  
Subject: Re: request for support of proposal for FM 'Bridging Laboratory Astrophysics ...'

Lyudmila, Farid, and Steven,

I have reviewed your draft proposal. I agree this is a timely and interesting topic. I am happy to endorse your submission as President of Division B.

Good luck and best wishes,

David Silva  
President, IAU Division B

On Dec 3, 2013, at 21:26 PM, Lyudmila I. Mashonkina wrote:

Dear David Silva and Pietro Ubertini,

We are planning to submit a proposal for a Focus Meeting entitled 'Bridging Laboratory Astrophysics & Astrochemistry and Astronomy: From Provider to User', to be held at the next IAU GA. The IAU Comm. 14 Atomic and Molecular Data and the AAS Laboratory Astrophysics Division (LAD) have coordinated their efforts to propose this joint Focus Meeting. There has been much progress in observational astronomy, experimental and theoretical laboratory astrophysics and astrochemistry, atomic and molecular spectroscopy, plasmas and nuclei and particles as well as interstellar chemistry in recent years. We expect that interactions between researchers will result in a solid roadmap for future research leading to advances in our understanding, guidance of astronomical



observations, and the design of future observational instruments.

We are writing to you as the president and vice-president of Division B that is proposed to be the coordinating division to ask for the support of Division B.

We have attached a close-to-final version of our proposal for your perusal. We hope that this event will receive support from Division B, and are looking forward to hearing from you.

Kind regards,

Farid Salama,  
Lyudmila Mashonkina,  
Steven Federman,  
on behalf of the SOC for the proposed Focus Meeting  
<iau\_proposal\_120313.pdf>

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David Silva, Ph.D.  
Director

National Optical Astronomy Observatory  
950 North Cherry Avenue  
Tucson, AZ, 85719 USA

Office: +1 520 318 8281  
Fax: +1 520 318 8360  
<http://www.noao.edu>

From: Ignasi Ribas <[iribas@ice.cat](mailto:iribas@ice.cat)>  
Date: December 10, 2013 11:33:40 PM PST  
To: "Lyudmila I. Mashonkina" <[lima@inasan.ru](mailto:lima@inasan.ru)>  
Cc: <[farid.salama@nasa.gov](mailto:farid.salama@nasa.gov)>, <[steven.federman@utoledo.edu](mailto:steven.federman@utoledo.edu)>  
Subject: Re: request for support of proposal for FM 'Bridging LaboratoryAstrophysics ...'

Dear Lyudmila, Farid, and Steven,

Thank you very much for your message and request for endorsement of the Focus Meeting entitled "Bridging Laboratory Astrophysics & Astrochemistry and Astronomy: From Provider to User". I have consulted with the Division Steering Committee and I am glad to communicate that Division G strongly supports your Focus Meeting proposal.

This is a proposal that addresses a key and timely topic in that users really need to have a clear understanding of the details of the input data they are using. A forum for exchange and discussion in the framework of a Focus Meeting is most appropriate. I am also very satisfied to see that the latest proposal draft has a very good gender balance and geographical spread in both the SOC and the invited speaker list.

The program of the meeting is well organized and I particularly appreciate the existence of three types of talks, with specific care for non-experts.

I look forward to a very successful meeting.

Sincerely,

Ignasi Ribas  
Division G President

From: Diana Worrall <[D.Worrall@bristol.ac.uk](mailto:D.Worrall@bristol.ac.uk)>  
Date: December 11, 2013 9:52:15 AM PST  
To: "Lyudmila I. Mashonkina" <[lima@inasan.ru](mailto:lima@inasan.ru)>  
Cc: Diana Worrall <[D.Worrall@bristol.ac.uk](mailto:D.Worrall@bristol.ac.uk)>  
Subject: Re: request for support of proposal for FM 'Bridging Laboratory Astrophysics ...'  
Reply-To: <[D.Worrall@bristol.ac.uk](mailto:D.Worrall@bristol.ac.uk)>

Dear Dr Mashonkina

Thank you for taking into account Division D's comments on your proposed focus meeting, and in particular for agreeing to reformulate session 4 to be more closely connected to astrophysical plasmas. I write on behalf of Division D to confirm strong support for your proposal.

Your sincerely  
Diana Worrall

On 4 December 2013 06:36, Lyudmila I. Mashonkina <[lima@inasan.ru](mailto:lima@inasan.ru)> wrote:

Dear Diana Mary Worrall and Felix Albert Aharonian,

We are planning to submit a proposal for a Focus Meeting entitled 'Bridging Laboratory Astrophysics & Astrochemistry and Astronomy: From Provider to User', to be held at the next IAU GA. The IAU Comm. 14 Atomic and Molecular Data and the AAS Laboratory Astrophysics Division (LAD) have coordinated their efforts to propose this joint Focus Meeting. There has been much progress in observational astronomy, experimental and theoretical laboratory astrophysics and astrochemistry, atomic and molecular spectroscopy, plasmas and nuclei and particles as well as interstellar chemistry in recent years. We expect that interactions between researchers will result in a solid roadmap for future research leading to advances in our understanding, guidance of astronomical observations, and the design of future observational instruments.

We are writing to you as the president and vice-president of Division D to ask for the support of Division D.

We have attached a close-to-final version of our proposal for your perusal. We hope that this event will receive support from Division D, and are looking forward to hearing from you.

Kind regards,

Farid Salama,  
Lyudmila Mashonkina,  
Steven Federman,  
on behalf of the SOC for the proposed Focus Meeting

From: Pascale Ehrenfreund <[pehren@gwu.edu](mailto:pehren@gwu.edu)>  
Date: December 10, 2013 7:58:34 PM PST  
To: "Salama, Farid (ARC-SSA)" <[farid.salama@nasa.gov](mailto:farid.salama@nasa.gov)>  
Cc: "Lyudmila I. Mashonkina" <[lima@inasan.ru](mailto:lima@inasan.ru)>, "[p.ehrenfreund@chem.leidenuniv.nl](mailto:p.ehrenfreund@chem.leidenuniv.nl) Ehrenfreund"

<[p.ehrenfreund@chem.leidenuniv.nl](mailto:p.ehrenfreund@chem.leidenuniv.nl)>, "Federman, Steven R." <[steven.federman@utoledo.edu](mailto:steven.federman@utoledo.edu)>  
Subject: Support of proposal for FM 'Bridging Laboratory Astrophysics ...'

Space Policy Institute  
1957 E STREET, N.W. SUITE 403? WASHINGTON, DC 20052 ? (202) 994-7292 ? FAX (202)  
994-1639 ?  
<http://www.gwu.edu/~spi>

From: Prof. Pascale Ehrenfreund  
Phone: 202 492 3632  
Email: [pehren@gwu.edu](mailto:pehren@gwu.edu)

Dr. Farid Salama  
NASA Ames Research Center  
Mountain View, California  
USA  
Washington, December 11th, 2013

Dear Dr. Salama,

IAU Commission 51, through its Organizing Committee, strongly supports your proposal for an IAU GA Focus Meeting entitled 'Bridging Laboratory Astrophysics and Astrochemistry and Astronomy: From Provider to User' for August 2015. The individual fields of laboratory astrophysics and astrochemistry have made important progress in the last decade and interaction between the communities and the entire astronomy community during the IAU GA would provide for an excellent opportunity to draft a future interdisciplinary roadmap. The proposed program is of direct interest to Commission 51.

Good luck and best wishes,

Pascale Ehrenfreund  
President, IAU Commission 51

From: <[lecaveli@iap.fr](mailto:lecaveli@iap.fr)>  
Date: December 10, 2013 12:38:07 PM PST  
To: "Lyudmila I. Mashonkina" <[lima@inasan.ru](mailto:lima@inasan.ru)>  
Cc: <[lecaveli@iap.fr](mailto:lecaveli@iap.fr)>, <[farid.salama@nasa.gov](mailto:farid.salama@nasa.gov)>, <[steven.federman@utoledo.edu](mailto:steven.federman@utoledo.edu)>  
Subject: Re: request for support of proposal for FM 'Bridging Laboratory Astrophysics ...'

Dear Colleagues,

After consultation of the Commission 53 Organizing Committee, I am pleased to inform you that the commission is fully supporting your proposal for a meeting entitled "Bridging Laboratory Astrophysics & Astrochemistry and Astronomy: From Provider to User".

The OC said that your proposal looks excellent, and that the proposed meeting will likely be one of the highlights for the next IAU GA.

Best wishes  
Alain Lecavelier

Dear Alain Lecavelier des Etangs,  
We are planning to submit a proposal for a Focus Meeting

entitled 'Bridging Laboratory Astrophysics & Astrochemistry and Astronomy: From Provider to User', to be held at the next IAU GA. The IAU Comm. 14 Atomic and Molecular Data and the AAS Laboratory Astrophysics Division (LAD) have coordinated their efforts to propose this joint Focus Meeting. There has been much progress in observational astronomy, experimental and theoretical laboratory astrophysics and astrochemistry, atomic and molecular spectroscopy, plasmas and nuclei and particles as well as interstellar chemistry in recent years. We expect that interactions between researchers will result in a solid roadmap for future research leading to advances in our understanding, guidance of astronomical observations, and the design of future observational instruments.

We are writing to you as the president of Commission 53 to ask for the support of Commission 53.

We have attached a close-to-final version of our proposal for your perusal. We hope that this event will receive support from Commission 53, and are looking forward to hearing from you.

Kind regards,

Farid Salama,

Lyudmila Mashonkina,

Steven Federman,

on behalf of the SOC for the proposed Focus Meeting

From: Sun Kwok <[sunkwok@hku.hk](mailto:sunkwok@hku.hk)>

Date: December 12, 2013 10:02:39 PM PST

To: "Salama, Farid (ARC-SSA)" <[farid.salama@nasa.gov](mailto:farid.salama@nasa.gov)>

Cc: "Lyudmila I. Mashonkina" <[lima@inasan.ru](mailto:lima@inasan.ru)>, "Steven R. Federman"

<[steven.federman@utoledo.edu](mailto:steven.federman@utoledo.edu)>

Subject: Re: REMINDER: request for support of proposal for FM 'Bridging Laboratory Astrophysics ...'

Dear Dr. Salama:

Commission 34 (interstellar matter) is pleased to support the proposal "Bridging laboratory astrophysics and astrochemistry and astronomy: from provider to user" as a focus meeting in the IAU GA. Currently there are a number of long-standing unsolved spectral phenomena in the interstellar medium and the input from laboratory studies is key to the solution of these problems. We wish you every success in this meeting.

Sincerely yours,

Sun Kwok

President, IAU Commission 34

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Sun Kwok

Faculty of Science email: [sunkwok@hku.hk](mailto:sunkwok@hku.hk)

Chong Yuet Ming Physics Building Phone: 852-2859-2682

The University of Hong Kong Fax: 852-2858-4620

Pokfulam, Hong Kong, China URL: [www.scifac.hku.hk/kwok](http://www.scifac.hku.hk/kwok)

Now available: Stardust: the Cosmic Seeds of Life

For more information [www.springer.com/astronomy/astrobiology/book/978-3-642-32801-5](http://www.springer.com/astronomy/astrobiology/book/978-3-642-32801-5)

From: Ingrid Mann <[ingrid.mann@eiscat.se](mailto:ingrid.mann@eiscat.se)>  
Date: December 13, 2013 11:16:31 AM PST  
To: "Lyudmila I. Mashonkina" <[lima@inasan.ru](mailto:lima@inasan.ru)>, <[farid.salama@nasa.gov](mailto:farid.salama@nasa.gov)>, <[steven.federman@utoledo.edu](mailto:steven.federman@utoledo.edu)>  
Cc: <[ingrid.mann@eiscat.se](mailto:ingrid.mann@eiscat.se)>  
Subject: Support of proposal for FM 'Bridging Laboratory Astrophysics ...'  
Reply-To: <[ingrid.mann@eiscat.se](mailto:ingrid.mann@eiscat.se)>

To ?Farid Salama, ?Lyudmila Mashonkina, ?Steven Federman,

Dear Farid, Lyudmila and Steven:

As President of Commission 49, I am pleased to convey our Commission's support to your proposal for a Focus Meeting entitled 'Bridging Laboratory Astrophysics & Astrochemistry and Astronomy: From Provider to User', to be held at the next IAU GA. We welcome this initiative of the IAU Commission 14 and the AAS Laboratory Astrophysics Division (LAD) to organize this joint Focus Meeting and hope it will help to enhance the interactions between researchers from different disciplines. We hope that such a meeting will provide some guidance for planning, coordinating and analyzing astronomical observations laboratory experiments and in-situ space measurements to make best use of the progress in recent years.

With best wishes for the eventual acceptance of this proposal as an IAU Focus Meeting,

Sincerely,

Ingrid Mann  
President, IAU Commission 49

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Dr. Ingrid Mann  
Adjunct Professor, Department of Physics, Umeå University  
Head of Projects, EISCAT Scientific Association  
Box 812, SE-981 28 Kiruna, Sweden  
Office phone: +46 980 79158  
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Skype: Ingrid\_Mann

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From: Katia Cunha <[cunha@email.noao.edu](mailto:cunha@email.noao.edu)>  
Date: December 13, 2013 8:47:40 AM PST  
To: "Lyudmila I. Mashonkina" <[lima@inasan.ru](mailto:lima@inasan.ru)>  
Cc: "Salama, Farid (ARC-SSA)" <[farid.salama@nasa.gov](mailto:farid.salama@nasa.gov)>, "Steven R. Federman" <[steven.federman@utoledo.edu](mailto:steven.federman@utoledo.edu)>  
Subject: letter of support IAU C29

Rio de Janeiro, December 13, 2013

To the IAU,

This is a letter of support to the IAU GA Meeting Proposal: 'Bridging Laboratory Astrophysics & Astrochemistry and Astronomy: From Provider to User'. IAU Commission 29 strongly supports this meeting as it is timely and very relevant to the advancement of many areas of Astronomy.

Best Regards

Katia Cunha  
President of IAU Commission 29

From: Joachim Puls <[uh101aw@usm.uni-muenchen.de](mailto:uh101aw@usm.uni-muenchen.de)>  
Date: December 6, 2013 12:35:30 AM PST  
To: "Lyudmila I. Mashonkina" <[lima@inasan.ru](mailto:lima@inasan.ru)>  
Subject: support from Comm. 36

Focus Meeting at the IAU General Assembly in Honolulu (2015) --  
Endorsement from IAU commission 36 (Theory of Stellar Atmospheres)

Dear Lyudmila, Dear Drs. Salama and Federman,

many thanks for requesting support from IAU Commission 36 'Theory of Stellar Atmospheres' for the proposed IAU Focus Meeting 'Bridging Laboratory Astrophysics & Astrochemistry and Astronomy: From Provider to User', which has been discussed in our Commission.

The topic of the proposed Focus meeting is essential for almost all fields of astrophysics. The discussed data and processes (atomic, molecular, dust, ice, plasma and nuclear) build the very basis of our science, both with respect to the interpretation of observations and with respect to theoretical modeling, since they constitute the physical drivers of the evolution of the Universe. The proposed meeting is also very timely, due to the enormous progress in the measurements, calculations and investigations of these data/processes during recent years. Not the least, laboratory astrophysics is considered a key area within the infrastructure program of the EU 'Horizon 2020' program.

Our Commission very much likes the idea of bringing together experts from such various communities as observational and theoretical astronomy, experimental and theoretical laboratory astrophysics, and astrochemistry that would strongly benefit from increased cross-talk.

The suggested programme is well-elaborated (six two our sessions on the various subtopics, plus one concluding session), and both the SOC and the invited speakers are gender and geographically balanced, with the proposed speakers being experts in their fields.

Summarizing, and also since this topic is particularly important for our members, our Commission enthusiastically supports the proposed focus meeting, and wishes you a successful and stimulating event.

With best regards

Joachim Puls

President, IAU Commission 36

From: Mark T Lemmon <[lemmon@tamu.edu](mailto:lemmon@tamu.edu)>  
Date: December 11, 2013 7:01:37 PM PST  
To: "Lyudmila I. Mashonkina" <[lima@inasan.ru](mailto:lima@inasan.ru)>

Subject: support of proposal for FM 'Bridging Laboratory Astrophysics ...'

Dear Lyudmila,

As President of Commission 16 of the IAU, I endorse your proposed Focus Meeting, 'Bridging Laboratory Astrophysics & Astrochemistry and Astronomy: From Provider to User'. I see that your proposal includes a diverse set of topics that will be of interest to members of C16, with particular interest in the session on molecules, dust and ices, and planetary atmospheres. I believe this is an important and well-focused symposium, and look forward to seeing it at the GA.

Sincerely,  
Mark Lemmon

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Dr. Mark T. Lemmon            Associate Professor  
Dept of Atmospheric Sciences    Mobile:979-777-2831  
Texas A & M University        Office:979-458-8098  
College Station, TX 77843-3150    Fax: 979-862-4466

From: Tom Millar <[Tom.Millar@qub.ac.uk](mailto:Tom.Millar@qub.ac.uk)>  
Date: December 5, 2013 7:40:48 AM PST  
To: "Lyudmila I. Mashonkina" <[lima@inasan.ru](mailto:lima@inasan.ru)>  
Cc: "[farid.salama@nasa.gov](mailto:farid.salama@nasa.gov)" <[farid.salama@nasa.gov](mailto:farid.salama@nasa.gov)>, "[steven.federman@utoledo.edu](mailto:steven.federman@utoledo.edu)" <[steven.federman@utoledo.edu](mailto:steven.federman@utoledo.edu)>  
Subject: RE: request for support of proposal for FM 'Bridging Laboratory Astrophysics ...'

Dear Lyudmila,

I am very happy to offer you the full support of Commission 34 WG on Astrochemistry on your application for a Focus Meeting at the next IAU GA. The meeting is dealing with an issue of critical interest and importance to the astrochemical community in its endeavours not only to understand chemistry in extreme environments but also to use the full diagnostic potential of molecular emission and absorption lines to better understand the physics of star and planet formation and interstellar-Solar System connection.

You have the strongest support of the Astrochemistry WG. Good luck!

Best wishes,

Tom

Professor T J Millar MRIA  
Chair, WG on Astrochemistry

Dean, Faculty of Engineering and Physical Sciences  
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E-mail: [Tom.Millar@qub.ac.uk](mailto:Tom.Millar@qub.ac.uk)

-----Original Message-----

From: Lyudmila I. Mashonkina [mailto:[lima@inasan.ru](mailto:lima@inasan.ru)]

Sent: 05 December 2013 06:47

To: Tom Millar

Cc: [farid.salama@nasa.gov](mailto:farid.salama@nasa.gov); [steven.federman@utoledo.edu](mailto:steven.federman@utoledo.edu)

Subject: request for support of proposal for FM 'Bridging Laboratory Astrophysics ...'

Dear Thomas J. Millar,

We are planning to submit a proposal for a Focus Meeting entitled 'Bridging Laboratory Astrophysics & Astrochemistry and Astronomy: From Provider to User', to be held at the next IAU GA. The IAU Comm. 14 Atomic and Molecular Data and the AAS Laboratory Astrophysics Division (LAD) have coordinated their efforts to propose this joint Focus Meeting. There has been much progress in observational astronomy, experimental and theoretical laboratory astrophysics and astrochemistry, atomic and molecular spectroscopy, plasmas and nuclei and particles as well as interstellar chemistry in recent years. We expect that interactions between researchers will result in a solid roadmap for future research leading to advances in our understanding, guidance of astronomical observations, and the design of future observational instruments.

We are writing to you as the president of Commission 34 WG Astrochemistry to ask for the support of WG Astrochemistry.

We have attached a close-to-final version of our proposal for your perusal. We hope that this event will receive support from WG Astrochemistry, and are looking forward to hearing from you.

Kind regards,

Farid Salama,  
Lyudmila Mashonkina,  
Steven Federman,  
on behalf of the SOC for the proposed Focus Meeting