

# 2016 Applied Superconductivity Conference

4 – 9 September 2016  
Colorado Convention Center

***Celebrating 50 Years!***

## CALL FOR ABSTRACTS & PAPERS

**Abstract Submission Deadline: Tuesday, 2 February 2016  
(Midnight, EST, USA)  
\*\*This deadline is firm!\*\***

The Applied Superconductivity Conference®, **ASC 2016**, will be held from Sunday, 4 September through Friday, 9 September 2016 in the Colorado Convention Center, Denver, Colorado, USA. ASC, the premier conference on applied superconductivity, will present a comprehensive program including plenary speakers, invited talks, oral and poster contributions, and exhibits that will highlight the latest developments in this field.

Abstracts in all areas of applied superconductivity are solicited for presentation of technical content at ASC 2016. Submitted abstracts will be reviewed for content, and the majority of the technical program will be formed from the abstracts accepted for presentation.

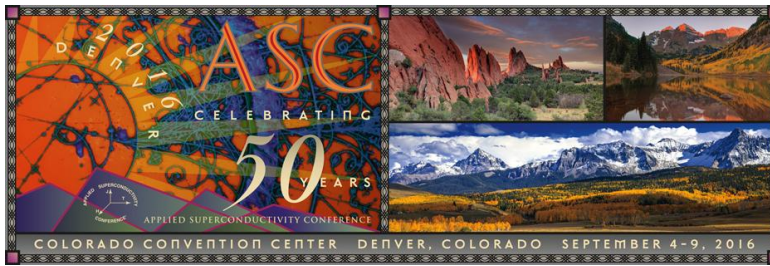
### ABSTRACT SUBMISSION

Abstracts will only be accepted electronically and must be submitted *via* the abstract submission website. The portal to the abstract submission website will be prominently displayed on the Conference website [www.ascinc.org](http://www.ascinc.org). **The deadline for submission is Tuesday, 2 February 2016 (Midnight, Eastern Standard Time, GMT-5).** This deadline will be **STRICTLY** enforced and the submission site will not accept abstracts after this deadline. Abstracts that are not submitted to the Conference submission site by the deadline will only be considered at the discretion of the Program Chairs.

Submitting an abstract *via* the website is easy and convenient. Step-by-step instructions will guide you through the process. Formatting will be performed by the abstract management system, so authors should prepare information in plain text. Topic selection and other information discussed in this document will be integrated with the submission process as well. Accuracy of electronic information, in particular e-mail addresses, is very important for submitting and presenting authors. The control number assigned to an abstract once it is submitted is the primary means of identifying an abstract until the program is formed. Please use the control number in any correspondence concerning abstracts until a program number has been issued.

Submissions must address at least one of the areas below. Please review the complete list of technical submission categories on page 4.

1. Advances in the science of superconductors relevant to applications. Abstracts describing basic materials, films, or artificial structures should discuss properties interesting for applications, forms used in applications such as elementary conductors or simple circuits, or structural or compositional aspects that potentially lead to use in a device. Theoretical content should address topics relevant to applications, operations, or behavior of practical systems. Experimental studies, test methods, and data should relate to aspects of superconductivity important for applications in some way.
2. Advances in superconducting technology. Abstracts may describe concepts, design, manufacturing or fabrication, and operation or implementation of superconducting devices or components. Extensions of conventional technologies by the use of superconductivity should emphasize the role of superconductivity in the device or component. Abstracts may describe non-superconducting technologies that are required for the use of superconductors, such as insulation, provided that the primary discussion is focused on applied superconductivity.



3. Integration of superconducting devices and components in systems. Abstracts may discuss sub-systems or full systems comprised of components such as cables, magnets, detectors, circuits, and so on. Discussions may include components and processes that support superconducting devices, such as cryogenic systems supporting superconducting magnets. Studies of power devices, transportation systems, electricity transmission, energy storage, and other systems that use superconducting components should emphasize the role of superconductivity or the particular aspects of superconductivity important to the system or application. Cryogenics, non-superconducting materials at cryogenic temperature, power supplies, power electronics, and other ancillary topics may be considered provided the connection to applied superconductivity is clear. Also, abstracts may describe facilities to verify operation of components, report system tests, or describe the status of superconducting systems and projects using superconducting components.

### STUDENT PAPER CONTEST

The Organizing Committee is arranging a contest for best student papers. The first, second, and the third prizes in each of the three categories will include a \$750, \$500, and \$250 cash award respectively sponsored by *IEEE Council on Superconductivity (IEEE CSC)*, and an inscribed certificate. In addition, special \$500 memorial awards were established: Alexander Shikov award for the best paper in the “LTS and HTS Conductors” category, and two Victor Keilin awards for innovations in magnet science and technology, and for development of superconducting materials for large-scale applications.

Interested students will be asked to submit a 2-page extended abstract, along with a letter from their advisor confirming that the work was done primarily by the student, on or before **Tuesday, 2 February 2016**. Submitted extended abstracts will be reviewed by the Contest Committee who will select finalists. Finalists will then be asked to present in a Student Paper Contest Oral Session. Detailed instructions will be made available on the Conference website.

### PRESENTATIONS AND PUBLICATIONS

Abstracts accepted for the Conference will be presented in either oral or poster sessions. All presentations must be in English. Any presenting author must be a registered participant. Multiple submissions by an author are acceptable; however, authors should be aware that the registration fee covers *only one manuscript submission per registered participant*. Any additional manuscripts will incur a fee. The accepted manuscripts are scheduled to be published in the June 2017 issue of the *IEEE TRANSACTIONS ON APPLIED SUPERCONDUCTIVITY*, and as such will be subject to the usual peer review procedures of the *Transactions*. Instructions for manuscript preparation will also be made available on the Conference website.

### FINANCIAL SUPPORT

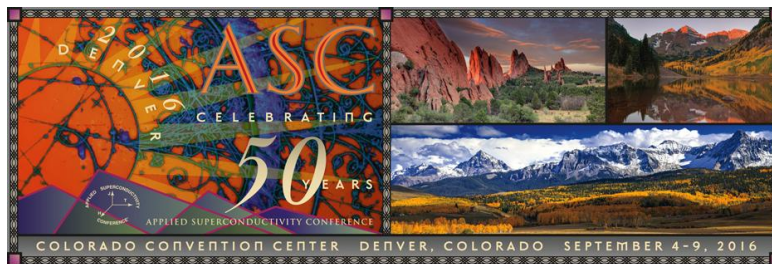
The ASC 2016 Organizers are proud to partner with the *IEEE Council on Superconductivity (IEEE-CSC)* to provide financial assistance to participants attending ASC 2016. Thanks to a generous grant from IEEE-CSC, student and non-student participants may apply for financial assistance that will waive the registration fee and/or provide for a travel stipend in exceptional cases. Note that an accepted abstract is required as it is expected the participant will be giving a poster or oral presentation. Applications must be submitted by **Monday, 16 May 2016** via the ASC 2016 website. This deadline is firm as awards will be announced no later than Monday, 6 June 2016. The travel stipend portion of the award will be distributed to students at the Conference by IEEE-CSC. Further details on the method of reimbursement will be communicated to the award recipients. Awardees will have to accept or decline no later than Monday, 20 June 2016. For more information on how to apply, please see the financial support page on the Conference website.

### ASC BOARD NOMINATIONS

The ASC is run by a board of directors, the majority of whom are elected by participants at the conference. Each conference, two representatives from each of the areas of Electronics, Materials and Large Scale, are elected for a six-year term. Suggestions or volunteers for candidates to run for the Board are solicited. Nominations must be submitted by **Tuesday, 2 February 2016**. Please visit the Conference [website](#) for further information.

### EXHIBITS

A technical Exhibition of materials, services, instruments and literature will take place during the Conference. If you or your company are interested in exhibiting or would like to receive additional information about the ASC 2016 Exhibition, you may visit the Conference [website](#) or contact Centennial Conferences, Phone: (001) 303-499-2299, Fax: (001) 303-499-2599, Email: [asc@centennialconferences.com](mailto:asc@centennialconferences.com). Exhibit contracts must be submitted by **Wednesday, 1 June 2016**.



## HOTEL

ASC 2016 host hotel is The Hyatt Regency Denver at Colorado Convention Center, in Denver, Colorado. The Hyatt Regency Denver is located across the street from the Colorado Convention Center. A limited number of rooms are being held for ASC 2016 attendees. ASC 2016 will also have discounted conference hotel room rates at a number of overflow hotels. Detailed information in regards to accommodation will be made available on the Conference [website](#) at a later date. Reservations will open on **Monday, 2 May 2016**.

## VISA REQUIREMENTS

Citizens of countries outside of the U.S. must carry a valid passport and may be required to obtain a visa to enter the U.S. Foreign participants should contact the United States Embassy, Consulate or Office of Tourism in their home country as soon as possible to determine their individual visa requirements. **ASC 2016 CANNOT INTERVENE** with either U.S. Embassies abroad or with the State Department in Washington, D.C. on behalf of any participant. However, if you need a personal letter of invitation to attend the Conference, please contact Centennial Conferences (email: [asc@centennialconferences.com](mailto:asc@centennialconferences.com)) and provide your full name and complete mailing address. The letter will reflect your status as known to us at the time (abstract accepted and a place in the program assigned; paid registration received, *etc.*). The letter does not imply financial support from the conference. Your letter will be **EMAILED** to you. A hard copy will be faxed and mailed to you *via* regular airmail only if requested. Any fees for sending letters via express mail must be paid for by the requester.

## INFORMATION

Complete details about the Conference (abstract submission, hotel reservations, conference registration fees, technical program, etc. along with the necessary forms) will be available on the Conference website at <http://www.ascinc.org>. For additional information, please contact:

**Centennial Conferences**

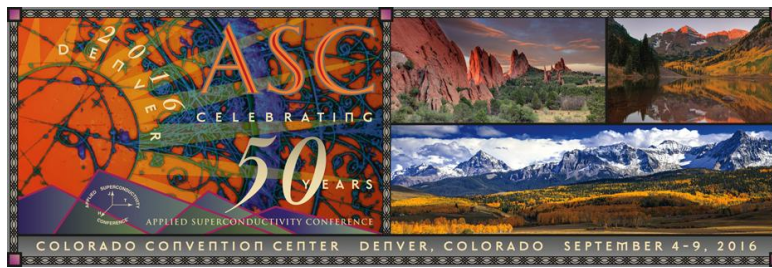
Telephone: (001) 303-499-2299

E-mail: [asc@centennialconferences.com](mailto:asc@centennialconferences.com)

Fax: (001) 303-499-2599

## IMPORTANT DATES

2 February 2016	Online Abstract Submission Deadline ( <i>firm</i> )
2 February 2016	Student Paper Contest Deadline
2 February 2016	Board Nominations Due
28 March 2016	Notification of Abstract Acceptance
2 May 2016	Hotel Reservations and Conference Registration Open
16 May 2016	Financial Support Application Deadline
1 June 2016	Exhibit Contracts Due
11 July 2016	Early Registration Fee Deadline
22 July 2016	Hotel Reservation Deadline
24 August 2016	Pre-Conference Registration Deadline
<b>4 – 9 September 2016</b>	<b>Conference</b>
6 September 2016	Manuscript Submission Deadline



## TECHNICAL SUBMISSION CATEGORIES

### ELECTRONICS SUBMISSION CATEGORIES

#### *Superconducting Electronics*

- 11 Device fabrication: junctions, nanowires, epitaxial films, low-loss dielectrics
- 12 Packaging and systems integration
- 13 Digital circuits: conventional and energy efficient designs
- 14 Mixed signal circuits (analog + digital)
- 15 Microwave devices and components: low-noise amplifiers, mixers, filters
- 16 SQUID design and applications: nanoSQUIDs, scanning, SQIF, biology, geology, NDE
- 17 Quantum information processing: qubits, QKD, readout, materials, fabrication
- 18 Novel electronics: mesoscopics, topological circuits, metrology, metamaterials

#### *Superconducting Detectors*

- 21 Transition-edge sensors (TES) devices
- 22 Nanowire single-photon detectors
- 23 Other equilibrium (thermal) detectors: SNS, penetration-depth
- 24 Other non-equilibrium (non-thermal) detectors: SIS/HEB mixers, STJ/MKID photon
- 25 Instrumentation and readout of superconducting detectors

### LARGE SCALE SUBMISSION CATEGORIES

#### *Large Superconducting and Related Systems*

- 31 Large detector arrays
- 35 Superconducting RF
- 36 Levitation, transportation, and propulsion
- 37 Magnetic separation and other applications
- 38 Cryogenics for superconducting devices and system integration

#### *Superconducting Magnets*

- 40 Accelerator magnets: dipoles, quadrupoles, correctors
- 41 Accelerator magnets: wigglers, undulators, special magnets
- 42 Fusion magnets
- 43 Very high field and NMR magnets
- 44 Magnets for medical systems
- 45 Detector Magnets
- 46 HTS magnets
- 47 Magnet stability, magnetization effects, AC losses and protection
- 48 Cables (HTS, LTS), CICC, and current leads
- 49 Magnet design and analysis techniques

#### *Superconducting Electric Power*

- 50 Grid study with superconducting devices
- 52 Motors, Generators, and other rotating machines
- 54 Transmission and distribution cables and links
- 55 Transformers
- 56 Fault current limiters
- 57 Energy storage
- 59 AC loss in superconducting electrical power devices

#### *Measurement and Testing*

- 90 Measurement and experimental techniques
- 95 Test facilities and instrumentation

### MATERIALS SUBMISSION CATEGORIES

#### *Conductor R&D*

- 60 NbTi, Nb<sub>3</sub>Sn, and other niobium-based wires and tapes
- 62 MgB<sub>2</sub> wires and tapes
- 64 Bi-oxide wires and tapes
- 66 Coated conductors
- 68 Bulk conductors
- 69 Other wires and tapes

#### *Materials Important for Applications - Structure, Formation, Basic Properties*

- 70 General superconductor materials science
- 71 Metals and simple compounds
- 72 Cuprates and related materials (buffers, templates, etc.)
- 73 Pnictides and related materials
- 74 New and emerging materials including Fe-chalcogenides
- 75 Artificial structures, thin films, and multilayers
- 77 Insulation and dielectrics
- 78 Ancillary materials for superconducting applications

#### *Properties Important for Applications*

- 80 Critical current and flux pinning
- 82 Magnetization and time-dependent losses
- 84 Mechanical properties, strain dependence
- 86 Critical temperature and critical fields
- 88 Other properties