2013 FASEB SCIENCE RESEARCH CONFERENCES
ADVISORY COMMITTEE MEETING

TOPIC FOR CONSIDERATION

**TOPIC NAME:** Genetic Recombination and Genome Rearrangements

**PREVIOUS TITLE:** Genetic Recombination and Genome Rearrangements

**SUBMITTED BY:**
- Michael Lichten, National Cancer Institute
- Tanya Paull, University of Texas at Austin

**YEAR REQUESTED FOR SCHEDULING:** 2015

**SITE REQUESTS:**
1. Steamboat Springs, CO
2. Gleneden Beach, OR
3. Itasca, IL

**DATE REQUESTS:**
3. July 12-17, 2015


**NOTES:**
- Conflicts:
  - Gordon Research Conferences: Mammalian DNA Repair; Nucleic Acids
  - Keystone Symposia on DNA Repair/DNA Replication & Recombination
  - FASEB SRC on Helicases
Dear Colleague,

We invite you to submit a proposal for a future FASEB Science Research Conference Series (SRC).

Since 1982, FASEB has worked hand-in-hand with scientists to organize conferences for experimental biologists. The Conferences are divided up into small groups, who meet intimately and without distractions to explore new approaches to research areas undergoing rapid scientific change. FASEB supports over 35 SRCs each year. Site preferences for 2015, 2016, and 2017 are Big Sky, MT, Chicago, IL, Saxtons River, VT, Snowmass, CO, Steamboat Springs, CO, Nassau, Bahamas, Keystone, CO, Liverpool, England, Palm Beach, FL Palm Springs, CA, Reno/Las Vegas, NV, and Lisbon, Portugal

Site preference selection will be prioritized by site availability, history of conference success and registration fee factors. Additionally, FASEB welcomes new site suggestions that are conducive to conference requirements.

Please review the attached information and feel free to contact the SRC Office should you have any questions or need guidance in preparing your proposal.

We look forward to welcoming you and your conference into the FASEB Science Research Conferences series.

Sincerely,

The FASEB SRC Staff:
Marcella Jackson, CMP, Director (m.jackson@faseb.org)
Robin Crawford, CMP, Conference Manager (rcrawford@faseb.org)
Kristen Hagy, CMP, Conference Manager (khagy@faseb.org)
Trina Eacho, Conference Coordinator (teacho@faseb.org)
Clay Pencek, Administrative Assistant (cpencek@faseb.org)

Main Number: 301-634-7010
FASEB SRC Proposal Instructions

Attached are the instructions and requirements for submitting a FASEB SRC proposal. Please complete sections 1-6 before submitting your information. Please submit your proposal by September 23, 2013 in order to be considered for the 2015 SRC Series.

Proposals will be reviewed by the FASEB Science Research Conference Advisory Committee in mid November. Shortly thereafter, you will receive a letter with the committee’s decision on your submitted proposal. By the end of January 2014 you will receive a second letter which will indicate the location and date for your conference as well as the name of your assigned Conference Manager. Once your conference is approved, your conference manager will schedule a kick-off conference call to discuss timelines, expectations, instructions on fund raising, and program management to help make your organization process successful.

Section 1: Organizer Responsibilities

By submitting a FASEB Science Research Conference proposal for consideration by the FASEB SRC Advisory Committee, the organizer(s) accepts the responsibility for producing a successful conference. These responsibilities include:

1. Anything related to the scientific portion of your conference. You will need to provide the Conference title and topics. The Conference title and topics should be timely and attractive.
2. Organizers must assist in recruiting no less than 100 participants to the conference.
3. All fundraising efforts are the responsibility of the organizers with support and guidance by the FASEB SRC Staff. FASEB will provide $10,000 for each conference to help defray a portion of travel and registration costs for speakers.
4. Organizers are responsible for contacting all speakers and session chairs and inviting and confirming their participation. Speakers should be informed that their expenses will be reimbursed after the conference and only to the extent that funds are available. We recommend you do not commitment to a speaker a specific amount of funds prior to the Conference. (Note: Invited speakers and session chairs are required to remain at the Conference for a minimum of three full days and three full nights in order to be eligible for reimbursement of any Conference related expenses.)
5. Organizers must include a “Meet the Expert” session in the program. This session is aimed at encouraging the younger investigators an opportunity to network with the more established and senior PIs in your field. This session can be scheduled during meals or at poster sessions.
6. Organizers must provide conference agenda for posting online.
7. Organizers must provide a final conference agenda. It is the organizers’ responsibility to provide the speaker abstracts (in presentation order), poster abstracts, and a poster listing of the submitted abstracts. The Conference Manager will prepare the cover for the program, the participant list and have the final packet of materials reproduced and shipped to the venue.
8. Organizers must provide conference agenda for posting online.
9. Organizers will participate in periodic discussions with their assigned Conference Manager. By doing so, this will eliminate any miscommunication or understanding of the policies and procedures that will needed to be followed.
Section 2: Conference Title & Organizer Information:

Please insert the title of the Conference as you would like it to be advertised in future publications. List the organizing committee below and complete contact information and attach a brief CVs (maximum 3 pages) in NIH format for each.

TITLE OF CONFERENCE:

Genetic Recombination and Genome Rearrangements

# of EXPECTED ATTENDEES:

200

Preferred Primary Point of Contact for Proposal Questions:

Name: Michael Lichten

Full Address: NIH, Bldg 37 Rm 6124, 37 Convent Dr. MSC4260, Bethesda, MD 20892-4260
 Telephone #: 301 496 9760  Email Address: mlichten@helix.nih.gov

Science Categories (select up to 3)

1) Genetics 2) Molecular Biology 3) Biochemistry
   (see Attachment A - for marketing and audience generation purposes)

Organizing Committee:
Organizer Chair: Michael Lichten, PhD Title: Senior Investigator
Affiliation: Laboratory of Biochemistry and Molecular Biology, Center for Cancer Research, National Cancer Institute
Full Address: NIH, Bldg 37 Rm 6124, 37 Convent Dr. MSC4260, Bethesda, MD 20892-4260
Phone: 301 496 9760  Email: mlichten@helix.nih.gov

Organizer Co-Chair  Tanya Paull, PhD Title: Professor
Affiliation: Department of Molecular Genetics and Microbiology, University of Texas at Austin and Howard Hughes Medical Institute
Full Address: MBB 2.448,The University of Texas at Austin, Institute for Cellular and Molecular Biology (ICMB), 2500 Speedway Stop A4800, Austin TX 78712-1191
Phone: (512) 232-7802  Email: _tpaull@utexas.edu
Section 3: Program Submission Requirements & Outline:

Please insert program details in day order as requested below. Session titles should be listed with session chairs and affiliations. Indicate the proposed tentative talk titles within each session and list up to at least 4 speakers per session (not including short talks selected from submitted abstracts). Please remember to also include the required “Meet the Expert” session.

The FASEB SRC Advisory Committee requires all session chairs to be confirmed before the submission of the application. Be sure to indicate with a “C” if the session chair is confirmed, indicate with a “CS” if the speaker is confirmed, indicate with a “W” which session chairs and speakers are women, indicate with an “M” which session chairs and speakers are of a minority group and indicate with the word “NEW” which session chairs and speakers are new to the program. (Note: The committee defines new speakers as one that has NOT spoken at the last two (2) Conferences.)

Note: “A” designates invited speakers who gave short talks selected from abstracts in 2013.

Overview of Program Flow

# of Days:  1 evening + 4 full days
# of Sessions per day: keynote 1st evening, 2 platform sessions/day thereafter
# of Speaker per day:  varies, 14-16
# of Session chairs per day:  2
# of Breakouts per day:  2 x 2-hr and 3 x 1hr poster sessions, see below
# of Abstracts per day:  varies, v

SUNDAY
To include: Conference Registration 4 p.m. – 9 p.m., FASEB SRC Welcome Reception 5 p.m. – 6 p.m., Dinner 6 p.m. – 7 p.m.

Title of Session: Keynote addresss
Keynote Speaker: Steven C. West, London Research Institute, Cancer Research UK (C)
Tentative Title of Talk: Resolution of recombination intermediates

MONDAY
To include: Group photo during morning break

Monday morning
Title of Session: Biochemical Mechanisms in Recombination
Session Chair & Affiliation: Wolf-Dietrich Heyer, University of California, Davis (C, NEW)
Tentative Title of Talk: Regulation of pathway progression in homologous recombination

Speaker 1: Stephen Kowalzykowski (C)
Affiliation: University of California, Davis
Tentative Title of Talk: Seeing and understanding recombination, one molecule at a time

Speaker 2: Douglas Bishop (C)
Affiliation: University of Chicago
Tentative Title of Talk: Biochemical reconstitution of meiotic recombination
Speaker 3: Mara Prentiss (CWA)
Affiliation: Harvard University
Tentative Title of Talk: How RecA family proteins optimize homology searching

Speaker 4: Dale Wigley (C)
Affiliation: The Institute of Cancer Research, UK
Tentative Title of Talk: Regulation of RecBCD/AddAB complexes by Chi

Number of talks selected from abstracts: 3

Monday Afternoon
Title of Session: Replication, repair and recombination
Session Chair & Affiliation: Maria Jasin, Sloan-Kettering Institute (CW)
Tentative Title of Talk: Double-strand break repair in meiotic and mitotic cells

Speaker 1: Andrés Aguilera (C)
Affiliation: Andalusian Center for Molecular Biology and Molecular Medicine, Spain
Tentative Title of Talk: Chromatin modifications in R-loop-mediated recombination and genome instability

Speaker 2: Anna Malkova (CW)
Affiliation: University of Iowa
Tentative Title of Talk: Amplification of risk resulting from mis-routing of double-strand break repair

Speaker 3: Douglas Koshland (C, NEW)
Affiliation: University of California, Berkeley
Tentative Title of Talk: Beginning at the ends: RNA-induced double strand breaks

Speaker 4: Gregory Ira (C)
Affiliation: Baylor College of Medicine
Tentative Title of Talk: Repair of broken replication forks-mechanism and regulation

Number of talks selected from abstracts: 3

Monday evening
Poster sessions 1 and 2 (1 hour each)

TUESDAY

Tuesday morning
Title of Session: Recombination mechanisms in eukaryotes
Session Chair & Affiliation: Sue Jinks-Roberston, Duke University (CW)
Tentative Title of Talk: Processing 3' ends following mitotic DSB induction in yeast: how much and who is doing it?

Speaker 1: Lorraine Symington (CW)
Affiliation: Columbia University
Tentative Title of Talk: Mechanism and regulation of DNA end resection

Speaker 2: Thomas D. Petes (C)
Affiliation: Duke University
Tentative Title of Talk: Genetic regulation of genome stability in yeast
Speaker 3: Karl-Peter Hopfner (C)
Affiliation: Ludwig-Maximilians University Munich
Tentative Title of Talk: Structural studies on DNA double-strand break repair enzymes

Speaker 4: John Petrini (C)
Affiliation: Sloan-Kettering Institute
Tentative Title of Talk: Chromosome break metabolism in eukaryotic cells

Number of talks selected from abstracts: __3___

Tuesday afternoon
Title of Session: _Maintenance of genome integrity_
Session Chair & Affiliation: Titia De Lange, Rockefeller University (CW)
Tentative Title of Talk: The role of 53BP1 and Rif1 in DSB repair

Speaker 1: Richard Kolodner (C)
Affiliation: Ludwig Institute
Tentative Title of Talk: Biochemical analysis of mismatch repair using reconstituted Saccharomyces cerevisiae mismatch repair systems

Speaker 2: Jean Gautier (C, NEW)
Affiliation: Columbia University
Tentative Title of Talk: DNA double strand breaks processing and repair pathway choice

Speaker 3: Claire Wyman (CWA)
Affiliation: University of Rotterdam
Tentative Title of Talk: The molecular machines of DNA break repair: what they look like and how they work

Speaker 4: Simon Boulton (C)
Affiliation: London Research Institute, Cancer Research UK
Tentative Title of Talk: Genome stability and the control of homologous recombination

Number of talks selected from abstracts: 3

Tuesday evening
Poster sessions 3 and 4 (1 hour each)

WEDNESDAY
Group activity 1 p.m. – 5 p.m.

Wednesday morning
Title of Session: Regulation of meiotic recombination
Session Chair & Affiliation: Anne Villeneuve, Stanford University (CW)

Speaker 1: Scott Keeney (C)
Affiliation: Sloan Kettering Institute
Tentative Title of Talk: Mechanism and control of meiotic recombination

Speaker 2: Nancy Kleckner (CW)
Affiliation: Harvard University
Tentative Title of Talk: Crossover Interference
Speaker 3: Jeffrey Sekelsky (C)
Affiliation: University of North Carolina Chapel Hill
Tentative Title of Talk: Genetic, biochemical, and structural studies of Drosophila Holliday junction resolvases

Speaker 4: Neil Hunter (C)
Affiliation: University of California, Davis
Tentative Title of Talk: Regulation of meiotic crossing-over by post-translational protein modifications.

Number of talks selected from abstracts: 3

Wednesday afternoon
Group or individual activities 1 p.m. – 5 p.m
Poster session 5 (1 hour)

Wednesday evening
Title of Session: Recombination mechanisms in procaryotes
Session Chair & Affiliation: Kenneth Marians, Sloan Kettering Institute (C)
Tentative Title of Talk: Repair and Reactivation of Stalled Replication Forks

Speaker 1: Susan Lovett (W)
Affiliation: Brandeis University
Tentative Title of Talk: RecA paralogue of E. coli

Speaker 2: John Roth (C)
Affiliation: University of California, Davis
Tentative Title of Talk: Cataclysmic events in stationary phase bacterial chromosomes - fragile sites

Speaker 3: David Sherratt (C)
Affiliation: University of Oxford, UK
Tentative Title of Talk: Illuminating homologous recombination in live bacteria

Speaker 4: Bénédicte Michel (CW)
Affiliation: Centre de Génétique Moléculaire, Gif-sur-Yvette, France
Tentative Title of Talk: Role of recombination proteins at arrested replication forks in Escherichia coli

Number of short talks selected from abstracts: 1

Wednesday evening after platform
Catch-up poster session (1 hour; informal poster viewing/discussion)

THURSDAY

Thursday morning (to include business meeting)
Title of Session: Patterns and mechanisms of genome rearrangement
Session Chair & Affiliation: Alain Nicolas, Institut Curie (C)
Tentative Title of Talk: Increasing genetic diversity: methods, consequences and applications

Speaker 1: Peter Campbell (C)
Affiliation: Sanger Institute, UK
Tentative Title of Talk: Insights into mutational processes from large-scale sequencing of cancer genomes
Speaker 2: Dmitry Gordenin (C, NEW)
Affiliation: National Institute of Environment Health Sciences
Tentative Title of Talk: Cancer genome instability and hypermutation

Speaker 3: James Haber (C)
Affiliation: Brandeis University
Tentative Title of Talk: Chromatin remodeling during double-strand break repair

Speaker 4: Virginia Zakian (CW)
Affiliation: Princeton University
Tentative Title of Talk: Circumventing replication barriers: Pif helicases to the rescue

Number of short talks selected from abstracts: 2

Thursday afternoon
Catch-up poster session (1½ hours)

Title of Session: Chromatin/chromosome/nuclear dynamics during recombination
Session Chair & Affiliation: Geneviève Almouzni, Institut Curie, France (CW)
Tentative Title of Talk: A chromatin twist into genetic recombination and genome rearrangement

Speaker 1: Marco Foiani (C)
Affiliation: IFOM Milan, Italy
Tentative Title of Talk: Linking nuclear envelope stress to the checkpoint response

Speaker 2: Stefan Jentsch (C,NEW)
Affiliation: Max Plank Institute of Biochemistry, Germany
Tentative Title of Talk: SUMO, SIMs and repair protein complexes

Speaker 3: Rodney Rothstein (C)
Affiliation: Columbia University
Tentative Title of Talk: Genetic control of chromosome mobility

Speaker 4: Irene Chiolo (WCA)
Affiliation: University of Southern California
Tentative Title of Talk: The ins and outs of double-strand break repair in heterochromatin

Number of short talks selected from abstracts: 3

FRIDAY
Option 2: Breakfast, departures at 9 a.m.

End of Conference
Section 4: Content Assessment:

Please complete the grid below which will assist the FASEB SRC Advisory Committee in assessing the requirements of the proposal. Positive reviews are given to proposals with confirmation of session chairs and invited speakers, new speakers to the program, a good representation of women, and a sufficient number of short talks from junior level investigators.

| Indicate the number of session chairs that have confirmed their participation: | 8 |
| Indicated the number of women included with the entire program: | 15 |
| Indicate the number of session chairs/speakers of a minority group: | 0 |
| Indicate the number of new speakers to the Conference: | 5 |
| Indicate the number of speakers that have confirmed their participation in the Conference: | 41 |
| Indicated the number of talks set aside for junior level investigators to present their work: | 20 |
| Indicated the number of poster sessions that will be organized: | 5 |

Please provide a brief description of the how the poster sessions will be organized:

The 2013 business meeting decided to go to ½-size (3’ x 4’) posters, so that they could be mounted for the entire meeting, as a way of fostering informal discussion and interaction outside of formal poster session hours. In keeping with this, there will be 5 one-hour formal poster sessions with 1/5 of poster authors (about 20-25) presenting at each session. In addition, there will be 2 informal “catch-up” poster sessions, to foster further interaction between poster presenters and other meeting participants.

Indicate (if known) if there is a potential of a conflict with any other FASEB SRC or any other society or industry meeting. If yes, please explain the conflict in detail.

2015 Gordon Research Conferences:
Mammalian DNA Repair: usually held in February;
Chromosome Dynamics: usually held in late May/early June;
Nucleic Acids: usually held in early June.

Keystone Symposia on DNA Repair/DNA Replication & Recombination (joint meeting). To be held in early 2015. This is a very large meeting that does not offer the same opportunity for exchange between all participants as does the FASEB Recombination SRC. We are coordinating with Dr. Simon Boulton, and organizer of the Keystone Symposium and a confirmed speaker at our meeting, and with Allison Ogdon of the Keystone organization to ensure maximum time between the two meetings.

FASEB SRC on Helicases. This meeting alternates biannually with a European helicase meeting; the last meeting was held back-to-back with our meeting in 2011. There are five invited speakers in common between the two meetings, and we anticipate that several more participants will want to attend both, especially if they are held in succession at the same site. We are in communication with the organizer, Dr. Maria Spies, to coordinate applications so that the Helicase meeting can either precede or follow our meeting.

Section 5: Scheduling & Location Preferences:

Select three (3) choices of dates that you wish to hold the Conference. Define the pattern flow, start date, and end date of your Conference

Week 1: July 19-24 Week 2: July 26-31 Week 3: July 12-17
Select at least three (3) cities/venues for consideration. Venue #1 should be the most preferred. *(Note: We will do our best to give you your first choice but it cannot be guaranteed).*

Please mark the type of facility you would like to host the program. **Any**

Hotel
Conference Center
University, Academic Setting (summer only)

<table>
<thead>
<tr>
<th>Cities/venues</th>
<th>Preference</th>
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<tbody>
<tr>
<td>Steamboat Springs, CO</td>
<td>1 2 3</td>
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<tr>
<td>Gleneden Beach, OR</td>
<td>4 2 3</td>
</tr>
<tr>
<td>Chicago, IL</td>
<td>4 2 3</td>
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</tbody>
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PLEASE NOTE that this meeting can exceed 200 participants, and that we would require about 50 6’-8’ wide poster boards to accommodate all posters.

**TRADITIONAL VENUES:**
Big Sky, MT
Chicago, IL
Saxtons River, VT *(University setting)*
Snowmass, CO
Steamboat Springs, CO
Nassau, Bahamas *(passport required, government funding may be limited)*

**NEW:**
Keystone, CO
Liverpool, England *(passport required, government funding may be limited)*
Palm Beach, FL
Palm Springs, CA
Reno/Las Vegas, NV

Locations are contingent upon group interest. Every effort will be given to the Organizer’s choice of venue and date choice. Due to limited availability and scheduling site and date preferences are not guaranteed.

For each conference year, a minimum of four (4) conference proposals should have interest in a potential venue in order for that venue to be used as a conference location.

**Section 6: Justification:**

The SRC Advisory Committee requires all proposals to include answers to the following nine (9) questions. In a separate Microsoft Word document, answer each individual question accordingly. Once completed, name the document the title of your Conference and attach this file to your email when submitting the final proposal.

1. Explain why this topic is of high current interest to the scientific community.

2. Is this a rapidly growing field?
3. Have there been previous Conferences of this topic? If so, where and when were the Conferences held? How many participants attended? (Additionally, consider whether or not another similar Conference/meeting is scheduled that might cause a conflict).

4. How many participants do you expect to attend the Conference?

5. What is the percentage of women who have participated in this Conference in the past (if it has been previously held)?

6. How will you recruit young investigators to attend and participate in the Conference?

7. How will you recruit and select new speakers?

8. Who will attend the Conference? (Provide specifics).

9. Where will the Conference be advertised? What types of media will be used to advertise your Conference? (Provide specifics).

**Section 7: Submitting Your Proposal:**

Please read the directions below for submitting your proposal. Feel free to contact the SRC Office should you have any questions or need guidance in submitting your proposal.

**Instructions for submitting your proposal:**

1. Print or save a copy of this form for your own records.
2. Email Robin Crawford, CMP at rcrawford@faseb.org.
3. Enter the title of your Conference and the year of the conference in the subject line.
4. Attach the following items to your e-mail:
   - The file with the answers to the nine questions in Section 6: Justification
   - CVs (in NIH Format) for all Organizers and Co-Organizers *maximum of 3 pages*.

   Thank you in advance for your proposal submission! We look forward to helping you plan a successful Conference.

**For more information, please contact:**

Marcella Jackson, Director, Office of Meetings and Conferences
301-634-7010, mjackson@faseb.org

Robin Crawford, Conference Manager, FASEB Science Research Conferences
301-634-7093, rcrawford@faseb.org

Kristen Hagy, CMP, Conference Manager, FASEB Science Research Conferences
301-634-7094, khagy@faseb.org

Trina Eacho, Conference Coordinator, FASEB Science Research Conferences
301-634-7206, teacho@faseb.org

Clay Pencek, Administrative Assistant, FASEB Science Research Conferences
301-634-7018, cpencek@faseb.org
**Biology Categories**

- **Aerobiology** – the study of airborne organic particles
- **Agriculture** – the study of producing crops from the land, with an emphasis on practical applications
- **Anatomy** – the study of form and function, in plants, animals, and other organisms, or specifically in humans
- **Arachnology** – the study of arachnids
- **Astrobiology** – the study of evolution, distribution, and future of life in the universe—also known as exobiology, exopaleontology, and bioastronomy
- **Biochemistry** – the study of the chemical reactions required for life to exist and function, usually a focus on the cellular level
- **Bioengineering** – the study of biology through the means of engineering with an emphasis on applied knowledge and especially related to biotechnology
- **Biogeography** – the study of the distribution of species spatially and temporally
- **Bioinformatics** – the use of information technology for the study, collection, and storage of genomic and other biological data
- **Biomathematics** (or Mathematical biology) – the quantitative or mathematical study of biological processes, with an emphasis on modeling
- **Biomechanics** – often considered a branch of medicine, the study of the mechanics of living beings, with an emphasis on applied use through prosthetics or orthotics
- **Biomedical research** – the study of the human body in health and disease
- **Biophysics** – the study of biological processes through physics, by applying the theories and methods traditionally used in the physical sciences
- **Biotechnology** – a new and sometimes controversial branch of biology that studies the manipulation of living matter, including genetic modification and synthetic biology
- **Building biology** – the study of the indoor living environment
- **Botany** – the study of plants
- **Cell biology** – the study of the cell as a complete unit, and the molecular and chemical interactions that occur within a living cell
- **Conservation biology** – the study of the preservation, protection, or restoration of the natural environment, natural ecosystems, vegetation, and wildlife
- **Cryobiology** – the study of the effects of lower than normally preferred temperatures on living beings
- **Developmental biology** – the study of the processes through which an organism forms, from zygote to full structure
- **Ecology** – the study of the interactions of living organisms with one another and with the non-living elements of their environment
- **Embryology** – the study of the development of embryo (from fecundation to birth)
- **Entomology** – the study of insects
- **Environmental biology** – the study of the natural world, as a whole or in a particular area, especially as affected by human activity
- **Epidemiology** – a major component of public health research, studying factors affecting the health of populations
- **Epigenetics** – the study of heritable changes in gene expression or cellular phenotype caused by mechanisms other than changes in the underlying DNA sequence
- **Ethology** – the study of animal behavior
- **Evolutionary biology** – the study of the origin and descent of species over time
- **Genetics** – the study of genes and heredity
- **Hematology** (also known as Haematology) - the study of blood and blood- forming organs.
- **Herpetology** – the study of reptiles and amphibians
- **Histology** – the study of cells and tissues, a microscopic branch of anatomy
- **Ichthyology** – the study of fish
- **Integrative biology** – the study of whole organisms
- **Limnology** – the study of inland waters
- **Mammalogy** – the study of mammals
- **Marine biology** (or Biological oceanography) – the study of ocean ecosystems, plants, animals, and other living beings
- **Microbiology** – the study of microscopic organisms (microorganisms) and their interactions with other living things
- **Molecular biology** – the study of biology and biological functions at the molecular level, some cross over with biochemistry
- **Mycology** – the study of fungi
- **Neurobiology** – the study of the nervous system, including anatomy, physiology and pathology
- **Oncoology** – the study of cancer processes, including virus or mutation oncogenesis,angiogenesis and tissues remoldings
- **Ornithology** – the study of birds
- **Population biology** – the study of groups of conspecific organisms, including
  - **Population ecology** – the study of how population dynamics and extinction
  - **Population genetics** – the study of changes in gene frequencies in populations of organisms
- **Paleontology** – the study of fossils and sometimes geographic evidence of prehistoric life
- **Pathobiology or pathology** – the study of diseases, and the causes, processes, nature, and
Development of disease

- **Parasitology** – the study of parasites and parasitism
- **Pharmacology** – the study and practical application of preparation, use, and effects of drugs and synthetic medicines
- **Physiology** – the study of the functioning of living organisms and the organs and parts of living organisms
- **Phytopathology** – the study of plant diseases (also called Plant Pathology)
- **Psychobiology** – the study of the biological bases of psychology
- **Sociobiology** – the study of the biological bases of sociology
- **Structural biology** – a branch of molecular biology, biochemistry, and biophysics concerned with the molecular structure of biological macromolecules
- **Synthetic Biology** – research integrating biology and engineering; construction of biological functions not found in nature
- **Virology** – the study of viruses and some other virus-like agents
- **Zoology** – the study of animals, including classification, physiology, development, and behavior (branches include: Entomology, Ethology, Herpetology, Ichthyology, Mammalogy, and Ornithology)
Section 6: Justification:  2015 Genetic Recombination and Genome Rearrangement

1. Explain why this topic is of high current interest to the scientific community.

Recombination is a fundamental biological process that plays a key role in molding the structure of the genome and in ensuring its stable maintenance and transmission. The DNA of chromosomes suffers constant damage, produced both by environmental agents and by endogenous cellular processes (especially during replication), and recombination repairs that damage. While repair usually preserves genome integrity, recombination also has the potential to create genetic change, and chromosome rearrangements caused by inaccurate repair are often associated with disease states, including developmental abnormalities and the transition to cancer. During sexual reproduction, homologous recombination ensures proper chromosome disjunction during meiosis, and failures in meiotic recombination cause chromosome imbalance in progeny, a leading cause of reproductive failure and the leading cause of birth defects in modern human populations. Meiotic recombination also generates genetic diversity, and lies at the basis of all genetic mapping and genome-wide association strategies. Programmed chromosomal rearrangements also generate diversity in cells of the immune system, as well as in disease-causing microorganisms.

While considerable progress has been made in understanding the mechanisms and biological consequences of genetic recombination, much remains to be learned regarding the underlying mechanisms and regulation of this fundamental biological process. Furthermore, ongoing studies have revealed an intimate relationship between recombination and other important biological processes, including chromosome replication, chromatin dynamics, and gene transcription. For these reasons, recombination has attracted widespread interest from geneticists, biochemists, cancer biologists, genome biologists and structural biologists, all of whom are interested in understanding the basic mechanistic, medical and applied aspects of this fundamental process.

The conference is devoted to furthering that understanding by promoting scientific exchange between researchers who study many aspects of recombination. Past experience has shown that information learned from research in one area often leads to insight in another, and that approaches used in one sub-discipline can accelerate the rate of discovery in another. For this reason, the FASEB SRC on Genetic Recombination and Genome Rearrangements has traditionally brought together both senior and junior researchers who study a diverse range of problems, and who use a similarly diverse range of approaches.

Topics to be covered in the 2015 include biochemistry and mechanisms of recombination, connections between replication, repair and recombination in eukaryotes and prokaryotes, recombination during meiosis, the relationship between recombination and the genome rearrangements associated with disease (most notably cancer) and during evolution, and the role of recombination in the maintenance of genome integrity. Of particular interest are emerging focuses on chromatin and chromosome dynamics during recombination, and genome rearrangements that occur during the development of cancer, that can create
“driver” mutations responsible for the malignant state. Additional emphasis will be placed on these topics in the 2015 meeting; in addition, one third of platform slots will be held open to allow incorporation of late-developing, unanticipated advances into the meeting program.

2. Is this a rapidly growing field?

Interest in recombination and genetic rearrangements continues to grow at a rapid pace. This field has grown steadily, due to continuous advances in a variety of model organisms, and due to its applicability to issues in research on cancer and other human diseases. The field has also grown due to the relationship of recombination to other areas, such as chromosome replication, chromatin dynamics, and the response to, and repair of DNA damage. The study of recombination in eukaryotic organisms is a rapidly growing field, and the program reflects this interest. However, important progress that informs the entire field is still being made in studies of procaryotes, and research in these organisms will also be featured in the program.

3. Have there been previous conferences of this topic? If so, where and when were the conferences held? How many participants attended? (Additionally, consider whether or not another similar conference/meeting is scheduled that might cause a conflict).

This FASEB conference has been held biannually, first in 1986 and 1988 at Saxton’s River, in 1991 and 1993 at Copper Mountain, from 1995-2009 at Snowmass, and since 2011 at Steamboat Springs. We have especially appreciated the Steamboat Springs site, as it has allowed us to accept additional young scientists, and the large poster space at Steamboat fosters discussion. Attendance has grown steadily from a little over one hundred participants, to approximately 150-200 participants in recent years.

There is no similar conference planned for 2015. Of meetings with related topics, there will be an Abcam conference, “Mechanisms of Recombination”, to be held in Spain in May of 2014. This is an extension of an EMBO workshop previously held in even years, and which will draw primarily draw participants primarily Europe. A joint Keystone Symposium on Replication and Recombination/DNA Repair will also be held in early 2015. Because of the large size of this meeting (over 700 participants), because of its crowded schedule (often two platform sessions are held at one time), the Keystone meeting does not offer opportunities for exchange and discussion similar to those at the FASEB SRC.

An application will also be filed with FASEB for an SRC on DNA helicases and motor proteins. There is modest but significant overlap between the two meetings; helicases are, of course, only one of the many classes of proteins with roles in recombination, and helicases are involved in many biological process other than recombination. Nevertheless, because of this overlap, some participants in the Recombination meeting will be interested in attending the Helicase meeting, and vice versa. The two meetings were held back-to-back in 2011 at Steamboat Springs, and we would like to do this again in 2015, so as to minimize travel costs for those interested in attending both conferences,
particularly those traveling from overseas. We are in contact with one of the organizers, Dr. Maria Spies, and have exchanged application information in advance of submission.

4. How many participants do you expect to attend the conference?

We expect that 150-200 attendees at the 2015 conference. There were 178 participants at the 2011 conference, and 150 at the 2013, the first time attendance declined in the history of the meeting. We ascribe this decline to the current difficult economic and funding situation here and overseas. For 2015, we plan increased fundraising efforts to provide attendance support for students, postdocs and early-stage investigators, and plan additional outreach, including new use of social media, to publicize the conference.

5. What is the percentage of women that have participated in this conference in the past (if it has been previously held)?

Previous FASEB conferences have included a reasonably high percentage of women. At the 2013 conference, 35% (20/58) of speakers were women and 42% (63/150) of total participants were women; both increases from 2011. For 2015, 4/8 session chairs are women, and women comprise 38% (15/40) of speakers invited so far. All invited chairs and invited speakers have accepted.

6. How will you recruit young investigators to attend and participate in the conference?

Past efforts to include young investigators as speakers have been successful, and we will continue in this tradition. In addition, as in past years, we will direct a substantial fraction of our fundraising to attendance support for young investigators, including graduate students and postdoctoral fellows, who made up 43% of 2013 attendees). Almost everyone who attends the conference presents either a talk or a poster. As in the past, we will make a special effort in 2015 to include young investigators. These include:

Platform slots: 20 speaking slots (one third of total) have been left open for speakers to be invited on the basis of late-breaking advances or from abstracts. These slots are traditionally targeted to young investigators. To further promote exposure for these speakers, the 2015 program will be an experiment (suggested at the 2013 business meeting), where all speakers, invited or selected later, will have an equal amount of time. This gives young investigators additional visibility that promotes discussion, and also encourages conciseness on the part of senior investigators. Equal time slots for all has been used to great success in recent Gordon Research Conferences and EMBO conferences attended by the Organizer.

Expanded poster sessions/availability: We plan to have all posters mounted for the entire meeting; this will involve smaller posters, but the consensus of the 2013 business meeting was that this should be tried in 2015. For this reason, it is important that we be able to return to Steamboat Springs, which has the largest poster capacity of all listed sites, and we will devote meeting funds to making arrangements for additional posters, if necessary. New for 2015 are “catch-up” poster sessions, where participants can meet informally at posters for additional discussion. These are scheduled towards the end of the meeting, so that connections made earlier in the meeting can lead to discussion in front of the data.
Expanded “meet the experts” session: This session is now combined with an extended lunch on the second day, which was found to greatly foster conversation at the 2013 meeting.

7. How will you recruit and select new speakers?

We will continue, as in past conferences, to make a special effort to invite speakers who have not participated previously in this conference. This keeps the meeting vital and responsive to the current questions in the field. In the current invited speaker roster, which represents only 2/3 of total speakers, 1 in 8 speakers are “new” to the meeting (having not spoken at the previous 2 meetings), and a total of 20% are either “new” or gave a talk selected from abstracts in 2013. A remaining 34% of slots will be filled at a later date, and many of the speakers selected will be “new”. The meeting organizers will invite speakers with recent novel findings that we encounter in the scientific literature and at meetings attended in the upcoming year, and we encourage session chairs to suggest speakers who have not participated previously. A substantial fraction of the unfilled slots will be reserved for speakers selected on the basis of abstracts, and these slots tend to go to participants who have not spoken at previous meetings.

8. From what sources and resources will you use to solicit funds for the conference? (Provide specifics).

Support for the conference will be sought from agencies such as NIH/NCI, NSF, NIEHS, and DOE (government), and private foundations such as the Ellison Medical Foundation, Fanconi Anemia foundation, Ludwig Foundation, and March of Dimes. Funds will also be sought from corporate sponsors, especially corporations who have funded the conference previously (Cellectis SA, New England BioLabs, Novus Biologicals, Inc., Sangamo Biosciences, Landes Bioscience, PLOS). From $30,000 to $45,000 have been obtained from funding agencies and corporate donors in previous conferences; the 2013 conference raised almost $33,000 in difficult financial times.

9. What societies and disciplines will you attract to attend the conference? (Provide specifics).

The societies and disciplines that would have a special interest in the conference include the ASBMB, Genetics Society of America, American Society for Microbiology, Radiation Research Society, American Association for Cancer Research, and the Environmental Mutagen Society.

10. Where will you advertise the conference? What types of media will you use to advertise your conference? (Provide specifics).

The modes of advertisement that were used by FASEB in the past have been sufficient. Announcements should be sent to all previous applicants; advertisements should be placed in widely-read journals such as Nature, Science and Cell; and, finally, information and application forms should by posted on the FASEB web site as soon as possible. In addition, we will post meeting announcements on web sites of the associations listed above, and will assemble a direct email list from past meeting attendees lists and from attendee lists for related meetings. Social media will also be used, taking advantage of FASEB’s Facebook presence if possible and leveraging the social media presence of past meeting participants.
11. Are you planning on submitting a similar application to another organization for additional funding and sponsorship? If yes, please clarify.  No.
BIOGRAPHICAL SKETCH

Provide the following information for the key personnel and other significant contributors. Follow this format for each person.  DO NOT EXCEED FOUR PAGES.

NAME

Michael J. Lichten, Ph.D.

POSITION TITLE

Senior Investigator and Deputy Laboratory Chief

eRA COMMONS USER NAME

lichten

EDUCATION/TRAINING (Begin with baccalaureate or other initial professional education, such as nursing, and include)

<table>
<thead>
<tr>
<th>INSTITUTION AND LOCATION</th>
<th>DEGREE (if applicable)</th>
<th>YEAR(s)</th>
<th>FIELD OF STUDY</th>
</tr>
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<tr>
<td>Haverford College, Haverford, PA</td>
<td>B.Sc.</td>
<td>1975</td>
<td>Biology</td>
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<tr>
<td>Massachusetts Institute of Technology, Cambridge, MA</td>
<td>Ph.D</td>
<td>1982</td>
<td>Genetics</td>
</tr>
<tr>
<td>Brandeis University, Waltham, MA</td>
<td>Postdoctoral</td>
<td>1982-1987</td>
<td>Meiosis and Recombination</td>
</tr>
</tbody>
</table>

A. Positions and Honors.

1987-1995 Senior Staff Fellow, Laboratory of Biochemistry, Division of Cancer Biology, Diagnosis and Centers, National Cancer Institute, Bethesda, MD
1995-2002 Senior Investigator, Laboratory of Biochemistry, Center for Cancer Research, NCI
2002-2006 Chief, Laboratory of Biochemistry, Center for Cancer Research, NCI
2006-present Senior Investigator and Deputy Chief, Laboratory of Biochemistry and Molecular Biology, Center for Cancer Research, NCI
1998-2006 Associate Editor, Genetics
2003-present Academic Editor and Advisory Board, PLoS Biology
2006-present Academic Editor, PLoS Genetics
2006-present Academic Editor, PLoS ONE
2008-present Associate Editor, Annual Review of Genetics
2008-present Co-director, NIH-Johns Hopkins University Graduate Partnership Program
2011-present Adjunct Professor, Department of Biology, Johns Hopkins University

Awards:

1981-1982 Johnson & Johnson Foundation Graduate Fellow
1982-1985 Damon Runyon-Walter Winchell Postdoctoral Research Fellow
1985-1987 Leukemia Society of America Special Fellowship
2002-present Fellow, American Association for the Advancement of Science
2011-present Fellow, American Academy of Microbiology
2010 NIH Merit Award

Community (selected):

1998-2004 Scientific Advisory Board, Mycology Department, ATCC
1996-present NIH Intramural AIDS Targeted Antiviral Program review panel
1998/2000 Vice Chair/Chair Gordon Research Conference on Meiosis
2003-present Tenure Review Panel, Center for Cancer Research, NCI
2005-present Steering Committee, Center of Excellence in Chromosome Biology, Center for Cancer Research, NCI
2010, 2012 Organizing Committee, Yeast Genetics and Molecular Biology Meeting
2013/2015 Vice Chair/Chair FASEB Summer Research Conference on Recombination and Genome Rearrangement
2013 Organizing Committee, European Meiosis Meeting
B. Top 10 publications, most important underlined.

C. Summary of scientific contributions (references to articles listed above)
My research career has involved the use of novel experimental approaches, with budding yeast as a model organism, to understand mechanisms that protect and maintain genome integrity. I am interested in how DNA repair, DNA recombination and the DNA damage response function during meiosis and the mitotic cell cycle. My group was the first to report that meiotic recombination proceeds by multiple molecular mechanisms (1), and we have documented molecular intermediates, biochemical activities and regulatory activities specific to each mechanism (1, 5, 6, 8, 9), including roles for yeast polo kinase and BLM helicase homologs in regulating meiotic recombination. We are also interested in understanding the relationship between recombination, DNA repair, and chromatin/chromosome structure and dynamics. We have described how chromatin structure and chromosome replication impact meiotic recombination by determining the location and the time of formation of the double-strand breaks that initiate meiotic recombination (2, 4, 7), and how higher-order chromosome and nucleus structure impact the choice of a repair partner during meiotic recombination (10). We were also the first to document, at the molecular level, the extent and impact of chromatin modification in response to DNA damage (3).

In addition to performing research, I have a strong commitment to service in the scientific community. I currently serve on editorial boards at PLoS Biology, PLoS Genetics and PLoS ONE, have served as ad hoc member of 10 NIH and NSF review panels, and have organizing roles in the Meiosis Gordon Conference (vice chair/chair), the Yeast Genetics and Molecular Biology Meeting (organizing committee), the European Meiosis meeting (organizing committee) and FASEB conference on Recombination and Genome Rearrangement (vice chair/chair).
BIOGRAPHICAL SKETCH

Provide the following information for collaborators listed on this application. Follow this format for each person.

DO NOT EXCEED TWO PAGES

<table>
<thead>
<tr>
<th>NAME</th>
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</tr>
</thead>
<tbody>
<tr>
<td>Tanya T. Paull</td>
<td>Professor</td>
</tr>
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</table>

EDUCATION/TRAINING (Begin with baccalaureate or other initial professional education, and include postdoctoral training.)

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<th>FIELD OF STUDY</th>
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<tbody>
<tr>
<td>Stanford University, Palo Alto, CA</td>
<td>B.S.</td>
<td>1987-1991</td>
<td>Biological Sciences</td>
</tr>
<tr>
<td>Stanford University, Palo Alto, CA</td>
<td>M.S.</td>
<td>1990-1991</td>
<td>Biological Sciences</td>
</tr>
<tr>
<td>UCLA, Los Angeles, CA</td>
<td>Ph.D.</td>
<td>1991-1996</td>
<td>Molecular Biology</td>
</tr>
<tr>
<td>National Institutes of Health, Bethesda, MD</td>
<td>post-doc</td>
<td>1996-2000</td>
<td>Molecular Biology</td>
</tr>
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</table>

Personal Statement. My area of research is DNA double-strand break repair and damage-related signaling in eukaryotic cells, and I have published in this area for the last 13 years. My laboratory particularly focuses on the Mre11/Rad50/Nbs1 (MRN) complex and the ATM protein kinase, and study how these are affected by DNA damage and oxidative stress.

Positions and Honors.

Positions:
Research assistant (with James Fleming), Linus Pauling Institute, Palo Alto, CA (1987-1989); Research assistant (with Julian Blow and Paul Nurse) Oxford Microbiology Unit, Oxford, England (1989-1990); Research assistant (with David Zarling ) Stanford Research Institute, Palo Alto, CA (1990-1991); graduate student (with Reid Johnson) UCLA Department of Biological Chemistry, Los Angeles, CA (1991-1996); Postdoctoral fellow (with Martin Gellert) National Institutes of Health, Bethesda, MD (1996-2000); Assistant Professor, Dept. of Molecular Genetics and Microbiology, Univ. of Texas, Austin, TX (2000-2006). Associate Professor, Dept. of Molecular Genetics and Microbiology, Univ. of Texas, Austin, TX (2006-2009). Professor, Dept. of Molecular Genetics and Microbiology, Univ. of Texas, Austin, TX (2009-present).

Other Experience:
Member, NIH Study Section MGC 2005-2009

Honors:

C. Selected peer-reviewed publications, in chronological order (earliest to recent).


Research Support:
Current:
R01 CA132813-01 NIH/NCI Paull (PI) 5/1/09 – 2/28/14 Mechanisms of ATM activation
The goals of this project are to define the molecular basis of ATM activation through DNA breaks and the MRN complex as well as through other forms of cellular stress, using in vitro and cell-based assays.

Howard Hughes Medical Institute Investigator appointment 09/01/08 - 08/31/13
This funding is not specific to a particular project but supports research aimed at structure-function analysis of the MRN complex, functions of MRN-associated factors, and characterization of ATM.

RP100670 Cancer Prevention Research Institute of Texas Paull (PI) 9/1/10 - 8/31/13
ATM activation by oxidative stress
The goals of this project are to characterize the oxidized form of ATM and to determine its downstream substrates in mammalian cells.

RP110465-P4 Cancer Prevention Research Institute of Texas Paull (co-PI) 6/1/11 - 5/31/16
DNA Double-Strand Break Repair and Genome Stability
The goals of this program project are to characterize the roles of single-strand DNA-binding proteins and DNA-dependent protein kinase in homologous recombination.

Biographical Sketch p.2/2
Course Evaluation  2013 Science Research Conferences
Genetic Recombination & Genome Rearrangements
presented 7/21/2013
89 forms submitted

Section 1 - Scientific Content

General Sessions

- The most important areas of current active research were adequately discussed. 4.6
- There was a sufficient amount of unpublished research presented. 4.4
- The conference helped you generate new ideas for research. 4.5
- There was adequate time provided for invited presentations and short talks selected from submitted abstracts. 4.4
- The discussion periods were utilized effectively. 4.3

Poster Sessions

- The time allocated for poster sessions was effective. 3.8
- I am satisfied with the contribution of the poster sessions to the conference. 4.0

Scientific Content - Overall

Overall, I am satisfied with the scientific content. 4.6

What kinds of sessions would you like to see included at future conferences?

- I would like all of the posters to remain up during the entire conference. The allocation of 3 sessions was great.
- Posters should be displayed the entire meeting. This really must happen. Use smaller poster dimensions to put 2 on a board.
- I would like if all the posters were up all the time
- It would be nice to include a panel or round table discussion to bring some of the key findings together and put them into a larger context.
- posters up the whole meeting and in a less crowded environment
- Small session for presentations by postdocs and students.
- More short talks to see research from a variety of labs.
- I would like to have the posters remain posted for the duration of the conference.
- Na
- Some genome rearrangement talks - all the selected talks were recombination, despite the title of the meeting.
- Shorter talks with more emphasis on unpublished material
- A telomere section as it relates to genomic stability and genome rearrangements might be nice.
- I'd like the posters to be up longer
- I'd like to see more space dedicated to the contribution of epigenetic changes to HR repair
- No evening sessions
- 15 minute talks followed by 5 mins discussion.
- I think the bacterial session was critical. Please keep that one.
- Biophysical (i.e. single-molecule) approaches to genome repair
- invite more young scientist to oral presentation
- cancer genomics
- More talks from researchers and not just PI's
- mobile elements/transposition/site-specific recombination were inadequately covered despite exciting developments in the field, in general, too few prokaryotic topics were
Section 2 - Management

Program Management & Organization

| Satisfied with coordination and organization of the scientific program? | 4.6 |
| Satisfied with representation of international scientists participating? | 4.6 |
| Satisfied with conference materials provided? | 4.5 |
| Did you feel the length of conference sessions were too long, just about right, or too short? | 2.4 |

(3=Too long; 2= Just about right; 1=Too short)

Logistics Management & Organization

| Satisfied with registration and abstract submission process? | 4.5 |
| Satisfied with information found on the FASEB SRC website and from emails sent by the FASEB SRC Office? | 4.4 |

Overall Management & Organization

| The conference was well organized. | 4.6 |
| Conference onsite staff member was helpful and courteous. | 4.7 |
| Overall, I was satisfied with the conference facilities. | 4.3 |

Where would you like to see future SRCs take place?

- California, Oregon, Washington State. Low altitude.
- Steamboat Springs
- Steamboat is a great site - however, the food could have been a little better.
- The food at this conference was substandard, especially dinners
- any other place with comparable accommodation facilities and nice surrounding.
- This site is fine.
- Steamboat Springs
- same site: Steamboat Springs, CO
- Steamboat, Oregon
- On east coast of USA for better accessibility overseas
- Seattle
- Steamboat Springs
- Closer to an international airport
- In Oregon, although Steamboat is fine.
- I really liked Steamboat Springs, however the food was generally terrible and the front desk staff could have been more accommodating. I do like the idea of being in an interesting location in the off season (no tourists).
- I think Steamboat is a good site. Some of the meals could have been better but the food was in general acceptable.
- steamboat
- Japan
- Same place or Snowmass
- Steamboat Springs is a good venue, but it might be interesting to try the venue in Oregon
- Steamboat is a good venue
- As much as I like the beautiful location of Steamboat it is difficult to get to. A site closer to a major airport would be preferable.
- Gleneden Beach, OR
- yes
- East Coast or Chicago. What happened to the Niagara Falls site?
- Food was terrible. Steamboat site is great except for food.
- I would like the conference Snowmass Base Village or another site in Colorado that allows coffee breaks, etc to be outdoors.

Snowmass Base Village is more easily reached because there are a large number of flights per day into Aspen whereas Hayden only has 2 and these are propeller planes. So Steamboat is very time intensive to reach.
Steamboat is stifling that we are stuck inside a hotel for 12 hours a day, whereas in Snowmass Village, our previous site, we could walk directly outside at the coffee break and also walk between conference center, hotel, and the restaurant. There seems little point to being in the fresh Colorado mountain air if there is little chance to enjoy it.

Also, we should not go back to Steamboat Springs unless the food is SIGNIFICANTLY improved. The quality of the food was awful and the choice of food was limited. Fresh fruit was rarely available. Salad only consisted of greens. Often no reasonable vegetarian choice was available.

I am not a very fussy eater but I found that I had to leave the conference to go to the grocery store and buy some healthy food. So with the very expensive conference fee I still had to spend almost $200 to each properly while I was at Steamboat.

- Steamboat springs
- The same place would be fine, as long as they are made aware of food issues (the quality of the food was pretty dismal).
- The same location, Steamboat Springs.
- High altitude is a problem and is totally unnecessary for SRCs. Convenient places should be either east or west US coasts which would facilitate attendance of overseas people. Those are recurrent issues that are discussed all the time and apparently never taken into consideration...

### Which months are more convenient for you to attend a conference?

<table>
<thead>
<tr>
<th>Month Range</th>
<th>Percentage</th>
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<tbody>
<tr>
<td>June - August</td>
<td>69 (92%)</td>
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<tr>
<td>March - May</td>
<td>4 (5.3%)</td>
</tr>
<tr>
<td>September - November</td>
<td>2 (2.7%)</td>
</tr>
<tr>
<td>December - February</td>
<td>0 (0%)</td>
</tr>
</tbody>
</table>

### Overall, how would you rate the FASEB SRC Staffs' professionalism and responsiveness to your questions and concerns? 4.6

Comments:
- The food at this conference was substandard, especially dinners
- Posters should be accessible during the entire meeting
- An improvement on meals would be appreciated.
- The quality of food at the site can be improved.
- There was essentially no time control of talks. That led to many sessions running overtime, which was unnecessary. That made worse the situation with almost no free time in the afternoons. Somehow the schedule needs to be modified to allow at least some more free time in the afternoons.
- Everything was great except the food at the conference, which was terrible.
- It's a well put together meeting in all respects.
- The location is beautiful, but difficult to reach. It would help to have more shuttle runs going from the airport to the hotel.
- Always an excellent meeting.
- It is important for everyone to stay in the same place and take all the meals together. I wish all the posters could remain up for the entire meeting.
- FASEB should provide a comprehensive list of available meeting sites to the organizers with the relevant information (size of conference center, elevation, cost, etc). It is unfortunate that at the business meeting we are often left guessing in voting on our preferred sites.

### Section 3 - General Information

#### Approximately how many conferences of this type do you attend annually?

<table>
<thead>
<tr>
<th>Frequency</th>
<th>Percentage</th>
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<tbody>
<tr>
<td>1-2 per year</td>
<td>55 (64%)</td>
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<tr>
<td>3-4 per year</td>
<td>22 (25.6%)</td>
</tr>
<tr>
<td>5-6 per year</td>
<td>4 (4.7%)</td>
</tr>
<tr>
<td>More than 6 per year</td>
<td>3 (3.5%)</td>
</tr>
<tr>
<td>Don't usually attend conferences</td>
<td>2 (2.3%)</td>
</tr>
</tbody>
</table>

#### Do you plan to attend this conference again in 2 or 3 years?

- Yes: 83 (94.3%)
- No: 5 (5.7%)

#### Would you recommend this conference to others?

- Yes: 83 (94.3%)
- No: 1 (1.1%)
- Not Sure: 3 (3.4%)
- No response: 1 (1.1%)

#### How did you learn of this conference?

<table>
<thead>
<tr>
<th>Source</th>
<th>Percentage</th>
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<tbody>
<tr>
<td>By Invitation</td>
<td>29 (32.6%)</td>
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<tr>
<td>Co-Worker</td>
<td>27 (30.3%)</td>
</tr>
<tr>
<td>Internet</td>
<td>14 (15.7%)</td>
</tr>
<tr>
<td>Other</td>
<td>8 (9%)</td>
</tr>
<tr>
<td>FASEB Emails</td>
<td>7 (7.9%)</td>
</tr>
<tr>
<td>FASEB Mailings</td>
<td>3 (3.4%)</td>
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<tr>
<td>Biology/Neuroscience/Cell</td>
<td>1 (1.1%)</td>
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<tr>
<td>Biology</td>
<td>0 (0%)</td>
</tr>
<tr>
<td>FASEB Journal</td>
<td>0 (0%)</td>
</tr>
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</table>

#### How would you rate this conference compared to other conferences of this type that you have attended? 4.5

#### If other, please specify:

<table>
<thead>
<tr>
<th>Type</th>
<th>Frequency</th>
</tr>
</thead>
<tbody>
<tr>
<td>Prior attendee</td>
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</tr>
<tr>
<td>I attend every edition of this conference:</td>
<td>(14.3%)</td>
</tr>
<tr>
<td>Have been attending for several years:</td>
<td>(14.3%)</td>
</tr>
<tr>
<td>from our lab head:</td>
<td>(14.3%)</td>
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#### Please indicate your age group:

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<td>(14.3%)</td>
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Please indicate your age group:
In what ways could this conference be improved?

- All posters should be up all of the time. Replace evening talk sessions with poster sessions.
- The food provided at the conference was terrible. The food was lacking in both variety and flavor.
- It would be useful, if the posters could stay up during the entire meeting.
- Better food! Some meals were really not good. Posters up the whole conference. Though the number of posters presented each day was good it was too bad that there was only one chance to see them. Shorter talks for "invited speakers" some of whom used extra time to review older stuff and same time as "short talks" to present new data, penalties for overtime or rewards for staying in time, this leaves time for discussion which is always good at this meeting.
- To reiterate: posters up during the entire meeting. Better food at lunch and dinners.
- Have all poster up for the whole meeting.
- The food at this conference was substandard, especially dinners. More free afternoon time... Start session and dinner a bit later.
- Shorter talks would allow more time for discussion. Posters should be let on board during the entire meeting.
- For the meet the experts session, could the tables for the same session be placed next to each other in order to promote interaction between the tables (since they are of similar topic)?
- Posters need to be up longer. This was discussed during the business meeting.
- If Post Docs and PI, who just started their groups, were given an opportunity to give a talk.
- Shorter talks (12 minutes + 3 minutes for questions). Posters kept up for the whole meeting.
- Submitted abstract information made available to us was, on more than one occasion, dismissed and presenters focused on a very different area. Some of these proposed abstracts were closely related to my area of interest and the blatant switch to something else left me disappointed. Please discourage this trend. In addition, speakers had lots of slides with sometimes three projects to discuss so they often went over the allocated time and were left with little or no time for discussion. It would be helpful to have speakers focus on one or two projects so they are not rushing through.
- Food.
- It would be fun to have an organized activity one afternoon.
- Better food, later dinner with posters following, evening session before dinner. Morning session could start earlier for those that need free afternoon time.
- Please include PAGE NUMBERS (or number the talks and have those numbers) in the abstract book!
- The food at this conference was simply god-awful. The worst I've had in several years. Otherwise, the venue was awesome, but the food sucked!
- There should be more (shorter) talks, especially by new investigators (Senior Postdocs and Assist. Professors).
- Establishing a ride-share board to assist in matching potential car riders from the Denver airport.
- Author index in the Abstract book.
- Poster session.
- Better food.
- A more balanced program. This meeting was far too heavy on the details of classical HR and meiosis - it should be broader. Where were the genome rearrangement talks?
- Not much needed. The conference was terrific. Wednesday's sessions provided one of the best days of science I have ever sat through.
- Please do not alter the programme after the first day.
- The real problem with this conference is the lack of mixing between faculty and post-docs and students. At other conferences I've been to there has been more of an effort to give students and post-docs speaking opportunities, which I think you could easily do if people had shorter talks and were actually restricted to their time period. It's rude to think that your research is more important than everyone else's and a) therefore deserves more time than allotted and b) it devalues the audience's time. I know we are at a conference where we are all bound to the same location, but that doesn't mean time is less valuable (in fact it could be argued that time is more valuable at a conference). Also, might I recommend not having a poster session basically during the one day that there is an extended period of free time? It's too much of an excuse to blow off the session. It does a disservice to the young trainees (who's only opportunity to present at this meeting is via poster session). Honestly, I think other conferences deal with young trainees in a more sophisticated and inclusive manner. You're not encouraging the next generation of scientists to be part of the community, which I think is unfortunate. You have great scientists attending this meeting and great research to present, but the human side of this conference really needs to be developed a bit more I think.

Also, the food really needs to change. The Steamboat Grand would have done so much better to simply serve basics done well (there were glimmers of this: scrambled eggs, toast, sandwiches) but so much of it was cuisine around the world done badly. Also, they need to do a better job at having options for those with dietary concerns, if you were vegetarian, vegan, gluten free or whatever else, you basically had the option of eating lettuce for 5 days straight or nothing at all, which must have been exhausting. I know I have no dietary concerns to speak of and even I started taking myself out to meals to avoid eating the food at the Grand.

- The food at Steamboat needs to be improved.
- As noted above, I'd like if the posters were up longer. Possibly there should be a slightly higher proportion of new as compared to repeat speakers.
- The posters need to be a higher priority for the FASEB staff in planning conferences. Every effort should be made to allow ALL posters to be up for the entire length of the meeting. There was plenty of space available, but FASEB's instructions to participants about poster dimensions meant that posters were overly large. The poster boards are big enough to accommodate two posters each if the widths of the posters is smaller, so FASEB should change its instructions accordingly. The scientific program was outstanding, the organizers should be complimented for this.
- The abstract book could be presented better, i.e., 1) TO INCLUDE PAGE NUMBERS FOR THE TALKS AS WELL, 2) TO INCLUDE PAGE NUMBERS FOR THE ABSTRACTS IN THE PARTICIPANT LIST to make it easier to find relevant presentations if the participant is particularly interested in someone's work or a particular lab's work (i.e., a lab head may be referred to multiple pages, for example, Tanya Paull, page x for Paull's talk, page 3 for poster 3, etc).
- The food at the conference could be improved.
- Posters could have been up for longer, and a longer time and organized activities for the free afternoon would have been good since everyone was kept inside for the whole conference (rooms and sessions in the same building).
There is not much to improve. The organization, program and meeting venue were all excellent. Steamboat Springs is the best FASEB venue I have attended.

- The posters (all) need to be up for the entire duration of the meeting.
- Sessions should be no more than 1.5 hours long. No evening sessions.
- To have all posters displayed for the entire meeting.
- Shorter talks and more discussion.
- Food should be improved.
- More speaking opportunities for attendees.
- There should be more time for discussion, making the sessions shorter. Young scientists (PhD students and postdocs) should be given a chance to contribute an oral talk, which was not the case at all at this meeting.
- two afternoons off, with a group tubing activity planned one day.
- Be closer to an international airport.
- - try to keep up posters for the whole duration of the conference
- - improve food
- Food: we should not go back to Steamboat Springs unless the food is SIGNIFICANTLY improved. The quality of the food was awful and the choice of food was limited. Fresh fruit was rarely available. Salad often only consisted of greens. Often no reasonable vegetarian choice was available. I am not a very fussy eater but I found that I had to leave the conference to go to the grocery store to buy some healthy food. So with the very expensive conference fee I still had to spend almost $200 to each properly while I was at Steamboat.
- Poster session: Posters should have been up for the duration of the meeting since the number was so small.
- Free time: too limited. Once lunch was over there was often just 1 hr or so to unwind.
- Quality of food, diversification of meal choices.
- It could be improved by allowing less senior researchers a chance to present their data as oral presentations.
- Reduce the number of long talks. With a few notable exceptions, I did not think that the speakers made use of their extra time compared to those which gave shorter talks.
- The venue is nice but the food, as I mentioned, was pretty dismal.
- Keep the posters up for the entire length of the conference. More unpublished work.
The FASEB meeting “Genetic Recombination and Genome Rearrangements” has occurred every other year since 1985, with 2013 being the 15th assembly in the series. In the intervening years, a complementary meeting in the field is held in Europe, sponsored by EMBO and other entities. Together, the two meetings offer an annual opportunity for workers in the field to assess its progress.

A recurring meeting such as this serves both to define a field and to stimulate major advances. For many participants, this is the one “must attend” meeting to be held in a given year. With its blend of long-standing and new attendees, the meeting offers a unique collective memory that provides context to everything that is discussed. Overly simplistic models for complicated processes are questioned; small anomalies, subtleties, and ambiguities are noticed. Things that do not fit trigger searches that can lead to major discoveries. Those major discoveries are presented at this meeting, celebrated and remembered.

Traditionally, the meeting features a number of talks from major laboratories that are longtime contributors to the field. However, there is an equally important tradition of speakers who contribute less frequently, offering fertilization from overlapping fields and unusual systems. New laboratories with new ideas are always included. Studies in bacteria inform research on eukaryotic systems, and vice versa. The meeting brings together workers from structural biology, physical biochemistry, enzymology, genetics, and cell biology, all interested in the same basic problems. The result is real synergy. Few come away from this meeting without an array of new ideas for their own research programs.

Over the years, this meeting has documented the progress of research in genetic recombination and genome rearrangements. With the topics beginning many decades ago as poorly understood genetic phenomena, participants have witnessed the development of highly productive models and the reduction of key processes into increasingly well-understood biochemical systems. The reactions discussed hold the key to future efforts to manipulate genomes, with all of its implications. Recombination is now seen as the key to successful meiosis and to the repair of stalled replication forks. Genetic instabilities underlying syndromes causing cancer predisposition, serious nervous disorders, many birth defects, and immune deficiencies are dissected at these meetings. The explosion of available sequence data from cancer genomes provides a deluge of information on genome alterations. The development of new sequencing technology enables researchers to analyze genomes of single cells. These emerging fields were prominently featured at the meeting.
The meeting brings together a very broad, international, and interdisciplinary group – with expertise ranging from Genetics to Structural Biology – interested in these topics. The conference facilities provided an excellent environment for interactions throughout the meeting, during formal presentations, poster sessions, meals and informal gatherings. The intimate format of the meeting, which included a large number of graduate students, postdoctoral fellows, and junior and senior scientists, allowed for frequent and cordial discussions between all participants.

Forty-seven speakers were invited to present talks, in addition to one keynote speaker. Fourteen additional talks were solicited on the basis of submitted abstracts. These talks were arranged by topic during the eight formal sessions and one keynote address. Sixteen (34%) of the invited speakers were women, a group that included 4 of the 8 session chairs. Overall, 30% of the invited speakers were new and had not presented at the Genetic Recombination and Genome Rearrangements meeting since at least 2009. Most of these were at or below the Assistant Professor level, continuing a traditional commitment to providing speaking opportunities for younger scientists.

Three poster sessions with 80 poster presentations in total were very highly attended, an outcome facilitated by the conference schedule. This allowed for increased discussions and information transfer among attendees. A bound volume containing the abstracts of the invited speaker presentations and poster presentations arranged by sequence facilitated the viewing and further enhanced interactions.

Eight formal sessions and one keynote address were held. The formal sessions were entitled: 1) Biochemistry of recombination and mechanisms, 2) Replication, repair and recombination in eukaryotes, 3) Eukaryotic recombination genetics, 4) Genome rearrangements and evolution, 5) Meiosis, 6) Replication, repair and recombination in prokaryotes, 7) Maintenance of genome integrity, and 8) Recombination mechanisms. The formal sessions were held in the morning and late afternoon, with a single evening session. Formal presentations within the sessions were kept relatively short, providing more time for discussions and decreasing the fatigue sometimes associated with longer sessions. This also left the participants energized for the evening poster sessions. An outstanding keynote address by Stephen Kowalczykowski from the University of California, Davis was delivered on the evening of the first day.

Per FASEB’s policy, a “Meet the Experts” session was held, which was highly successful. Learning from previous experience, the session was reorganized as an extended 2 hour lunch on Tuesday. Lunch tables were organized by the 8 sessions with all speakers of a particular session being present at the dedicated tables. Participants self-selected, which table they wanted to join, and engaged in stimulating free-flowing discussions over lunch and beyond. Feedback from the participants about this format was very positive.

Discussions during each of the formal sessions were energetic and featured broad participation. The format of a mixture of longer 20 minute talks with 5 minutes for questions and shorter 12 minutes talks with 3 minutes for questions provided ample opportunity for edifying discussion after each talk. This meeting is built on an ethic of extensive presentation of unpublished data, and that tradition was upheld. The venue
for the meeting provided an intimate and informal setting, allowing for high-quality interactions within the planned sessions, meals, free time during the afternoons, and during the evening poster sessions in addition to the Meet the Experts session. The enthusiasm for this meeting venue was reinforced by a vote of participants during the business session on the last day and is reflected in the survey. An astounding 94.3% of the respondents plan to attend the next meeting and would recommend this meeting to others. Notably, only a single respondent (1%) would not recommend this meeting to others.

The survey reflected that the participants continue to view this conference as the top venue for the field. The major programmatic suggestion was to provide the infrastructure to have all posters be displayed throughout the entire conference, and the organizers of the next conference are committed to realize this suggestion. While the venue received high ratings for its quality and convenience, there was general disappointment about the quality of the food. Overall the surveys indicate a high degree of satisfaction with the scientific program and organization as well as significant enthusiasm to continue this meeting in the current format and scientific orientation.

Both Kristen Hagy and Nan Nootenboom, who was the on-site FASEB contact were enormously helpful and efficient. Their efforts contributed significantly to the success of the meeting. We look forward to working with them in future meetings.

Funding to support this meeting was obtained from a number of sources including the FASEB Summer Research Conferences, National Cancer Institute (Award Number R13CA176986), National Science Foundation (MCB-1313692), March of Dimes, Novus Biologicals, Promega Corporation, Ludwig Institute for Cancer Research, European Molecular Biology Organization, Cellectis, New England Biolabs, Landes Biosciences, Fanconi Anemia Research Fund, and PLoS Genetics. Funds were used to defray registration expenses of the speakers as well as junior and minority scientists and meeting activities.

The business meeting was held at the end of session 7. There was unanimous agreement to hold the next conference in the summer of 2015, and the group voted for Steamboat Springs as their first choice for the 2015 meeting. The organizing chair for the next meeting will be this year’s co-chair Dr. Michael Lichten, from the National Cancer Institute. Next year’s co-chair will be Dr. Tanya Paull from the University of Texas, Austin. Both organizers are very highly respected members of our field and energetic participants in past meetings.

The future of the FASEB Recombination and Genome Rearrangement Meeting at Steamboat is in very capable hands, and I am confident that Michael and Tanya will continue building upon the foundation of this enjoyable and informative meeting, and that this meeting will remain the vanguard of our field.

Wolf-Dietrich Heyer, Ph.D. Chair

Michael Lichten, Ph. D. Co-Chair
### Genetic Recombination & Genome Rearrangements
#### Past Conference Organizers

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<tr>
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<th>Name</th>
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December 16, 2011

Dr. Asma Nusrat  
Emory University School of Medicine  
Dept of Pathology & Laboratory Medicine  
Atlanta, GA USA

Re Proposal #: 13-09

Dear Dr. Nusrat:

We would like to thank you for submitting a proposal for the 2013 FASEB Summer Research Conference series. After careful consideration by the Advisory Committee, the proposal entitled, "Gastrointestinal Tract XV: Epithelia, Microbes, Inflammation and Cancer" has been approved.

However the committee had the following suggestions:

- The submitted proposal does not indicate which speakers have confirmed. Please specify which speakers have confirmed, making an effort to confirm all session chairs.

- The proposal should have a more detailed plan for the Meet the Expert session. Please note that this is a time for attendees (especially students/junior investigators) to meet and network with the "experts" of your program.

The committee requests that you make every effort to include young investigators (poster presentation or a short talk) as early as possible within the conference agenda. This will have an enormous impact on one’s experience at the conference. This will also allow other participants to learn early on about their work and will then greatly increase interaction.

We will soon begin the process of developing the conference schedule and will let you know the location and date of your conference as soon as this has been decided. Please keep in mind, location and date preferences are not guaranteed however we do our best to give you your first choice. In February, an Organizer Manual will be posted at our website (www.faseb.org/SRC) to assist you in your conference planning efforts.

Please be aware that by agreeing to be an Organizer/Co-organizer of a FASEB Summer Research Conference, that should you decide to cancel the conference for any reason, you will be held responsible for any fees related to the cancellation (i.e., fees charged by the host location).
The Summer Research Conferences have been very successful over the years due to the commitment and dedication of the Organizers. On behalf of the Federation and the Summer Research Conferences Advisory Committee, your efforts in contributing to the success of the program are sincerely appreciated. A copy of this letter has also been sent to your co-organizer(s).

Please do not hesitate to contact the SRC office by telephone at (301) 634-7010 or via the emails listed below with any questions. We look forward to working with you on this project over the next few years.

Sincerely,

[Signature]

Jessica Lyons
Conference Manager
FASEB Summer Research Conferences
jlyons@faseb.org

[Signature]

Emily Benson
Conference Manager
FASEB Summer Research Conferences
ebenson@faseb.org

[Signature]

Robin Crawford
Conference Manager
FASEB Summer Research Conferences
rcrawford@faseb.org