



2022 SUMMER PROGRAM

May 29 to September 18, 2022

The program of the Aspen Center for Physics is based on individual and collaborative research and the informal exchange of ideas. Research interests include astrophysics, biophysics, condensed matter physics, dynamical systems, elementary particle physics, mathematical physics and statistical physics. In an environment free from normal distractions, the stimulating interaction among participants with diverse interests and backgrounds is one of the most fruitful aspects of the program. Opportunities for collaboration and for initiating new research are always available as colleagues from a variety of subfields are present throughout the summer. In addition to the unstructured program of Individual Research and Working Groups, Informal Workshops are also scheduled. Our operations and protocols may be modified based on CDC recommendations and we will update our website with information about the upcoming season as it becomes available.

INDIVIDUAL RESEARCH – any physicist can apply in this category **May 29 to Sept 18**

WORKING GROUPS – for 2 to 6 collaborators **May 29 to Sept 18**

INFORMAL WORKSHOPS

Interplay of Fundamental Physics and Machine Learning **May 29 to June 19**

Large-Scale Structure Cosmology beyond 2-Point Statistics **May 29 to June 19**

Fundamental Physics and Astrophysics with the Next Generation of Gravitational-Wave Detectors **June 5 to July 3**

Learning Dynamical Models from Biophysical Data **June 19 to July 10**

Programmable Quantum Matter: Many-Body Physics in the Era of Quantum Advantage **June 19 to July 17**

Physics and Information Capabilities of Highly Entangled Quantum Matter **July 10 to July 31**

Plasmas in Strong Gravity **July 17 to Aug 7**

Novel States of Matter and Topological Particles in Bulk Quantum Materials **July 31 to Aug 21**

Effective Field Theories: From Quarks to the Cosmos **Aug 7 to Aug 28**

Geometry and the Quantum **Aug 14 to Sept 4**

Random Geometry in Statistical Physics, Condensed Matter, and Quantum Gravity **Aug 21 to Sept 18**

Searching for New Physics from the Nuclear to the LHC Scale and Beyond **Aug 28 to Sept 18**

Higher Symmetry and Quantum Field Theory **Sept 4 to Sept 18**

Physicists who wish to pursue a serious program of research at the Center are invited to apply. Applications by small working groups and independent researchers are *strongly encouraged*.

The Aspen Center for Physics is committed to providing an inclusive and welcoming environment for all. The Center does not discriminate based on personal factors including (but not limited to) race, color, national or ethnic origin, alienage, age, religion, creed, sex, sexual orientation, gender identity or expression, marital status, political affiliation or philosophy, disability or veterans' status. An effort is also made to select a diversity of participants from a wide field of physics, ranging in experience from post-doctoral fellows to senior scientists, and representing a variety of institutions. Special consideration is given to physicists who have never participated or who have not participated recently. While there are no experimental facilities available, experimentalists are encouraged to participate in the Center's programs.

Many summer participants bring their families with them to Aspen. Numerous childcare and day-camp options are available within the Aspen/Snowmass area and current information and advice is available through the Center and local websites. Weekly picnics at the Center give families an opportunity to meet and share activities.

Individual participants must provide for their own expenses from their contracts, grants, fellowships or regular appointments. Through the National Science Foundation Grant # PHY-1607611, the Center provides partial financial support for the housing we arrange. Limited financial support is available for young physicists, women, members of underrepresented groups, and those with childcare obligations. Requests for financial support may be submitted through our application.

APPLICATION DEADLINE – JANUARY 31, 2022

MORE DETAILED INFORMATION AND ONLINE APPLICATIONS AT
<https://aspenphys.org/physicists/index.html>

PROPOSALS FOR THE 2023 SUMMER WORKSHOPS ARE INVITED

Proposal information is available on our website at
<http://aspenphys.org/physicists/proposals/index.html>

For full consideration, proposals should be submitted by June 15, 2022.

Those received after this date will be considered only in exceptional circumstances.

PROPOSALS FOR THE 2023 WINTER CONFERENCES ARE ALSO INVITED
The deadline to submit them is January 15, 2022

The Aspen Center for Physics is committed to a significant participation of women and under-represented groups in all of its programs.

ASPEN CENTER FOR PHYSICS

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