Summer Program Networking Sessions
Facilitator Bios and Research Interests

Below are short bios of all the facilitators who have graciously agreed to lead these networking sessions and help high school students meet them and other like-minded peers. Check out these anonymized bios on the following 8 pages and use them to help make your selections of facilitators and their sessions. You may choose as many as you wish using the form provided.

Quantum Field / High Energy Theory

QFT01
I'm going to be a junior at Princeton this fall studying physics and applied math. I attended a Midwestern public school where we had to petition the school in order to offer AP Physics, and despite my general interest in science and math had no intention to study physics in college until senior year of high school. Now, I'm interested in particle physics, mathematical physics, and have been doing experimental research on massive neutrinos this summer. Would love to chat to anyone about research, studying physics without a lot of background, or anything else!

QFT02
My session will discuss physics across scales. I was raised in a very religious background, and consequentially never attended any high school which offered physics courses. I discovered physics on my own in my early twenties and took my first physics class when I was 24. I started my undergraduate career at the school nearest to my house, CUNY Brooklyn College, and then transferred to SUNY Stony Brook, where I got my BS double majoring in physics and math. I then spent a year at Stony Brook doing research in theoretical physics with one of the professors there, followed by a year in India where I did research as a Fulbright scholar. I am currently a physics graduate student at Caltech. My interests are in the intersection between mathematics and theoretical physics, particularly in understanding the formal aspects of quantum field theories.

QFT03
I am a rising senior studying physics at Caltech. In terms of research, I am mainly interested in theoretical (condensed matter and high energy) and mathematical physics.

QFT04
I graduated in 2019 from the California Institute of Technology, where I majored in physics and performed research in experimental condensed matter physics and theoretical planetary science. I am now pursuing a PhD in high energy theory at Harvard, where I plan on studying aspects of quantum gravity and holography.

Atmospheric Physics

ATM01
My session will focus on the power of non-fiction books in physics. If you study physics you will never have a dull moment; not only because it's an exciting subject but also because you are always surrounded by extraordinary minds. I recently graduated in Physics and now awaiting to start my Ph.D. in Atmospheric physics. I thoroughly enjoy atmospheric physics and quantum mechanics. Throughout my undergraduate degree, I have actively been involved in research works and scientific papers.

Condensed-Matter Physics

CM01
I graduated from Caltech this June with a BSc in Physics and Math. I will be attending MIT in the fall to study condensed matter theory!

CM02
I work in experimental quantum physics, building quantum objects that you can almost see and hold in your hand. At the same time, I'm also interested in other fields of science and technology, and plan to explore a variety of careers after graduate school.

CM03
I am originally from Suceava, Romania. I am starting a PhD in Physics in Condensed Matter in fall 2020 at Cornell University. I graduated from Princeton University and did a master's degree at Cambridge University. In high school, I participated in the International Physics Olympiad, the Asian Physics Olympiad, the National Romanian Physics Olympiad, and the National Selection Team for Physics Olympiad. I organized the online part of the PUPC (Princeton University Physics Competition) and participated in the competition myself during high school. Looking forward to meeting all of you :).

Applied Mathematics

AM01
I grew up in San Marino, California. I studied mechanical engineering at the University of Bristol in England, and have spent the past year at Caltech as a graduate research fellow studying

turbulence in complex flow scenarios. These days, I am a graduate student at Harvard IACS, where I study applied mathematics for numerical analysis, an area of science dedicated to using high-performance computation to solve physics problems. If you're interested in combining computational power and mathematics to learn more about physics, then put me down!

Applied Physics / Materials Science

MS01
I am a first year graduate student at Harvard University. My session will focus on quantum materials/technology. I do research in quantum materials with the goal to explore how these materials will be useful for technological applications. My main background is in quantum physics and using it to study the quantum nature of magnets. I also took a few General Relativity classes and have some experience in researching galaxy formation.

MS02
I am a Physics graduate student at Caltech working on semiconductor characterization and modeling for solar cells. I received my BS in Physics from UIUC, where I did some research on strongly-correlated-electron systems in a condensed matter research group.

MS03
My session will focus on using quantum physics to build information and energy technologies.

I recently graduated from Cornell with a degree in Materials Science and Engineering and a minor in computer science. I'm starting my PhD at the University of Pennsylvania in the Fall. Throughout elementary school, middle school, and high school I was (and still am) very passionate about chemistry and physics. I conducted side projects focused on developing catalysts for hydrogen. In college, my interests shifted towards developing new materials for electronic and quantum devices.

Throughout all years at Cornell, I worked in a lab which uses a technique called molecular beam epitaxy to engineer new materials for applications in quantum and classical computing atom-by-atom. Over the summers, I did internships at Lawrence Berkeley National lab (where I am currently doing another summer internship), Caltech, and a quantum computing startup called PsiQuantum.

I am pursuing my graduate studies in quantum photonics, an area that involves engineering new devices to control the movement and interaction of individual photons with matter. I am excited about applying theoretical constructs in physics and materials science to engineer novel devices and materials for the information age. I am also passionate about applying machine learning to accelerate the discovery of materials that can be used for these applications.

MS04
I am a first year PhD student at Caltech studying Materials Science. As an undergrad at the University of Pennsylvania, I studied Physics and Materials Science & Engineering. Outside of class, I'm really into conversations about sustainability and politics.

MS05
My session will focus on “the things they don’t tell you about a PhD program”.

I graduated as a physics major (and materials science minor) from Princeton in June 2019 and am currently a second-year PhD student at Caltech in the Materials Science department. I am working in Harry Atwater’s group on nanowire solar cells for space-oriented applications. I got interested in science through astrophysics, which I was inspired to study after watching a Bollywood sci-fi movie. It drove me to pursue STEM above and beyond school-level material. Through my summer research with the SURF program at Caltech after freshman year, however, I realized that I did not enjoy coding all day every day. After overloading on classes in my sophomore year of college and enjoying a semiconductor physics lab class, I gravitated towards materials science. Since then, I have done computational and experimental research on lasers and a variety of solar-cell technologies, aiming to get involved with a mixture of computational and experimental research. I am interested in harnessing my scientific expertise for broad applications in areas of business and policy.

Outside of research, I enjoy singing, dancing, playing the piano and violin, ice-skating, and leading educational outreach initiatives. I was in the Princeton and Caltech Glee Clubs, choirs which focus on classical repertoire, danced in a kpop dance group at Princeton and a ballet and hip-hop group at Caltech before COVID. Along with tutoring, I am leading various programs at Physics Unlimited, including this initiative as well as the virtual summer school and other programs. Additionally, in high school, I co-founded the USA Astronomy and Astrophysics Olympiad (USAAAO) to give American high school students a chance to compete at the International Olympiad of Astronomy and Astrophysics (IOAA). I competed in the IOAA myself in high school and won honorable mention, and today I am still involved with publicity and assisting with test writing.

Biological Physics

BP01
I am a recent graduate from Princeton University (BA Physics, 2020) who is now looking for a job before going on to a PhD at UChicago in Biophysical Sciences in the Fall of 2021. During my time at Princeton I was very involved with women in physics advocacy as one of the cofounders of the Undergraduate Women in Physics student group and the founder of the Women in Physics Mentorship Program. My research interests lie at the interface of neuroscience and physics, but I have had the fortunate opportunity to conduct research in a variety of biophysics topics. I am happy to talk about integrated sciences, biophysics, women's empowerment, balancing activism and science, or anything else!

BP02
Hi physics enthusiasts! I am a physicist from the Bay Area, California. My session will focus on my journey with interdisciplinary research and diversity-promoting work for a more inclusive physics environment.
I earned my bachelor's in Engineering Physics at Stanford University in 2019, and am currently a master's student at the University of Cambridge on the Marshall scholarship, after which I will start my Ph.D. in Physics at MIT.

My research interests are in applying the tools of theoretical physics to better understand biological problems. For example, I wrote my undergraduate thesis on the statistical mechanics of DNA organization in the cell. At Stanford, I initially wanted to major in Bioengineering but slowly gravitated towards Physics because I was fascinated by how a simple set of equations could describe a diverse range of phenomena, from black holes to molecular vibrations. Through my diverse set of research experiences, I found my niche at the intersection of biology and physics.

As a woman of color, I also have faced challenges navigating a field dominated by white men, and spend a lot of my free time on diversity and inclusion work. I also enjoy running, baking, singing, and traveling (pre-pandemic). I am happy to chat about my journey in physics, advice on college admissions, women in physics, interdisciplinary science, and anything else that strikes your curiosity :)

Physics (General)

PH01
I spent my first two years as an undergrad at Santa Rosa Junior College before transferring to Caltech to study physics. When studying physics, I find building an intuitive understanding of the concepts I am required to learn is paramount to my success as well as my appreciation of the content. I enjoy sharing this intuition I have gained in the past year at Caltech and seek out every opportunity to do so.

PH02
Heyo! I'm a physics major from Brooklyn, NY. I went to an Orthodox Jewish high school, had an awful experience in AP Physics, and entered college with the intention of majoring in chemistry. After taking both orgo and some physics courses, I settled on physics. I'm also considering a minor in French or Journalism. In my free time, I draw cartoons, skateboard and learn how to curse in various languages.

PH03
I am a Chinese student studying at Princeton University. I am a rising sophomore, and I intend to major in physics. Before going to Princeton, I have been studying in Beijing, China, and I have tried to study some physics for competitions (though not very successful) in high school. I have been to RSI 18 and it was a wonderful camp.

Engineering / Instrumentation

ENG01
I am a senior undergraduate student of Materials Science and Engineering at Khulna University of Engineering and Technology (KUET). My session will focus on Computer Aided Design and Computer Aided Engineering.

My topic of interests is Computer-Aided Design, Computer-Aided Engineering and Molecular Dynamics. So far, I have two publications in two international journals. And currently, I am working on a triboelectric nanogenerator project. I was also one of the finalists of the WASH Innovation Challenge by UNICEF and BRAC. I love to spend my leisure by modeling various 3D objects. I also love innovations, so I constantly look for new things that are happening around us, and this was the main driving force for my intense interest in physics.

ENG02
I am a PhD student in Physics at Caltech working on developing superconducting parametric amplifiers with quantum-limited noise properties. Prior to settling on this thesis topic, I spent one and a half years in experimental astronomy developing instruments for direct observations of exoplanets. During my undergrad, I did a double major in physics and electrical engineering while doing research in both optics and network communication protocols for 5G.

ENG03
I am a first year PhD student studying mechanical engineering at UIUC. I will be doing research on heat-shielding for hypersonic flight, which is flight occurring at speeds over 5x the speed of sound. I graduated in May 2020 with a BS in materials science and engineering and a minor in fiber science from Cornell University. I'm originally from the northwest suburbs of Chicago. (Go Cubs and Blackhawks!) I love sports and have been active in intramural soccer, basketball and volleyball throughout my time in undergrad. Fun fact, I completed a Spartan race this past March!

ENG04
I recently graduated from UC Berkeley with a BA in physics and a minor in music. I will begin working on a PhD in physics at Caltech this fall. I spent undergrad working on detector development for cosmology experiments, and I plan to continue similar work at JPL during grad school.

Plasma Physics

PL01
I received a physics BA from Willamette University and am currently a 2nd year grad student in at UW Madison. My research area is plasma physics with a focus on application towards fusion energy.

Atomic, Molecular, and Optical Physics

AMO01

AMO01's session will focus on Destigmatizing interdisciplinary science and fostering curiosity professionally and personally.

AMO01 attended the University of Louisville for a double major in Physics and Mathematics, with a minor in electrical engineering. After this he worked at Indiana University as a researcher in experimental nuclear physics doing precision measurement experiments that probed exotic fifth forces, string theories, dark matter, and axions. He now works as an optical physicist working at the Naval Surface Warfare Center doing experiments exploring integrity and resiliency of quantum communications and computing, non-linear optical effects such as femto-second laser filamentation and spontaneous parametric down conversion, integration of photonic and optical components in radar systems, ensuring manufacturing continuity for trusted and assured electronics, and much much more.

He currently lives in Bloomington, IN with his wife and their cat; he regularly runs and hikes in the local forests, plays board games with other enthusiasts, serves on the board of directors for a local maker-space, and does all sort of woodworking, metalwork, and 3D printing. He will begin his PhD in Optical Physics at the University of Arizona in the Fall of 2020 with a full-time fellowship from the Department of Defense.

AMO02

I am a 6th year PhD student in Physics, and my research is in Atomic, Molecular, and Optical physics (AMO). My session will focus on industry careers as well as advocacy in physics.

Between undergrad and grad school, I worked for a year and a half at an Intel/Micron fabrication plant (IM-Flash). I intend to work in industry after my PhD. As a woman in physics, I am very interested in advocacy and accessibility in STEM.

Astronomy / Astrophysics

AST01

I'm an incoming physics graduate student at the Caltech. As an undergraduate student at Berkeley, I worked on a variety of projects involving observations of the Quintuplet star cluster, quantum defects in diamond, and simulations of globular clusters. At Berkeley, I also founded the Beginner's Guide to the Universe, a course to qualitatively outline various fields of physics to non-majors, and participated in the Splash program's teaching initiative towards high school students. I am largely motivated by a strong belief that the wonderful insights of physics and astronomy should be available and accessible to everyone.

AST02
AST02 is an incoming physics PhD student at Caltech, where she also completed her undergraduate degree in physics. She has mostly done research in the field of the direct imaging of exoplanets (planets around stars other than our own sun), focusing on optical instrumentation and data analysis techniques to detect and characterize the signals of planets that can be many, many orders of magnitude fainter than their host stars. Her hobbies include video games, playing music, reading, and making and eating delicious food.

AST03
I am a rising sophomore majoring in Physics at Princeton from Mumbai, India. I have some research experience working with professors (in astro and high energy experiment), and I also enjoy math. Apart from that, I like writing, generally fooling around, and breathing (an essential skill to have).

AST04
I am a third year graduate student at Drexel University in Philadelphia, studying cosmology, gravitational lensing, and dark matter. I grew up in Maryland, attended the University of Maryland where I studied physics and astronomy, as well as working as a teaching assistant and private tutor in math and science.

Beyond Research

BR01
I'm a senior majoring in physics at Princeton University. My interest with physics started in middle school which lead me to participate in the National Physics Olympiad. My passion gave me the opportunity to study at a private high school with a scholarship to prepare for international physics competitions. I was part of the national team of Romania for the International Physics Olympiad, the Asian Physics Olympiad, and other competitions in high school.

Now I'm studying physics at Princeton, but my interests have changed quite a bit. I'm interning as a software engineer over the summer and I've developed a strong interest in finance and statistics. While these interests are very different from physics, I believe physics has given me a strong foundation for all of them. My experience shows that physics can open many doors and it doesn't limit people to just academia. I hope I can answer questions about how to branch out from physics and what physics can offer for people that don't want to stick to academia.