

Princeton Center for Theoretical Science

The Princeton Center for Theoretical Science is dedicated to exploring the frontiers of theory in the natural sciences. Its purpose is to promote interaction among theorists and seed new directions in research, especially in areas cutting across traditional disciplinary boundaries.

The Center is home to a corps of Center Postdoctoral Fellows, chosen from nominations made by senior theoretical scientists around the world. A group of senior Faculty Fellows, chosen from science and engineering departments across the campus, are responsible for guiding the Center. Center activities include focused topical programs chosen from proposals by Princeton faculty across the natural sciences. The Center is located on the fourth floor of Jadwin Hall, in the heart of the campus “science neighborhood”. The Center hopes to become the focus for innovation and cross-fertilization in theoretical natural science at Princeton.

Faculty Fellows

Igor Klebanov, Director
Ned Wingreen, Associate Director
Jeremy Goodman
Duncan Haldane
Andrej Košmrlj
Mariangela Lisanti
Frans Pretorius
Silviu Pufu
Eliot Quataert
Shinsei Ryu

Center Postdoctoral Fellows

Vir Bulchandani 2020-2023	Minjae Cho 2021-2024
Giorgio Cipolloni 2021-2024	Scott Collier 2020-2023
Trevor GrandPre 2022-2024	David Hosking 2022-2025
Brooke Husic 2020-2023	Jonah Kudler-Flam 2022-2025
Yves Kwan 2022-2025	Alejandro Martinez-Calvo 2021-2024
Elias Most 2020-2023	Anirudh Prabhu 2022-2025
Carolyn Raithel 2020-2023	Rhine Samajdar 2022-2025
Frank Schindler 2020-2023	Nicole Shibley 2021-2024

To find out more about Center Postdoctoral Fellowships and Programs see: <https://pcts.princeton.edu>



Simons Confinement Collaboration Inaugural Workshop

September 8-10, 2022

Organizers

Igor Klebanov
Bernardo Zan

SIMONS FOUNDATION

Simons Confinement Collaboration Inaugural Workshop

Thursday, September 8, 2022

10:45 – 11:15 coffee

11:15 – 11:45 Remarks by David Spergel, Greg Gabadadze, Herman Verlinde

11:45 – 12:15 Igor Klebanov "Overview of the Simons Collaboration on Confinement and QCD Strings"

12:15 – 1:30 lunch

1:30 – 2:10 Sergei Dubovsky "Scattering on the worldsheet of long confining strings"

2:10 – 2:50 Andreas Athenodorou "The confining string and the axion: a lesson from the Lattice"

2:50 – 3:10 Coffee break

3:10 – 3:50 V. Parameswaran Nair "Remarks on Yang-Mills theory on CP^2 "

3:50 – 4:30 Phiala Shanahan "New algorithms and machine learning for lattice field theory"

4:30 – 5:00 Break

5:00 – 6:00 -- Discussion on QCD Strings led by Ofer Aharony

6:00 Reception at PCTS

Friday, September 9, 2022

9 – 9:30 coffee

9:30 – 10:10 Michele Caselle "Recent results on the confining string in non-abelian Lattice Gauge Theories"

10:10 – 10:40 Victor Gorbenko "Future directions for the study of long confining strings"

10:40 – 11:10 break

11:10 – 11:50 Raju Venugopalan "The Pomeron: past, present and future"

11:50 – 12:30 Tomasz Skwarnicki "Discoveries of Exotic Hadrons"

12:30 – 2 lunch

2:00 – 2:40 Matthias Gaberdiel "The string dual of free $N=4$ SYM"

2:40 – 3:20 Theodore Jacobson "1-form symmetry versus large N QCD"

3:20 – 4:00 Alexander Polyakov "Gauge fields and strings. From the old notebooks"

4:00 – 4:30 coffee break

4:30 -- 6 pm – Panel on Understanding Confinement moderated by David Gross:

Juan Maldacena, Nathan Seiberg, Edward Witten

6:00 Dinner at PCTS

Saturday, September 10

8:30 – 9:00 coffee

9:00 – 9:40 – Grigory Tarnopolsky "DMRG approach to QCD models"

9:40 – 11:00 -- five 15-minute talks

Ross Dempsey "Adjoint QCD2 at Finite N "

Maria Neuzil "Universal deformations"

Justin Kulp "Confinement and Holomorphic Twists of $N=1$ SYM"

Matthew Yu "Infrared phases of QCD in two dimensions"

Shahzad Zare "Yang-Mills Glueballs vs. Closed (Bosonic) Strings"

11:00 – 11:30 break

11:30 – 12:30 Discussion

12:30 – 2:00 lunch