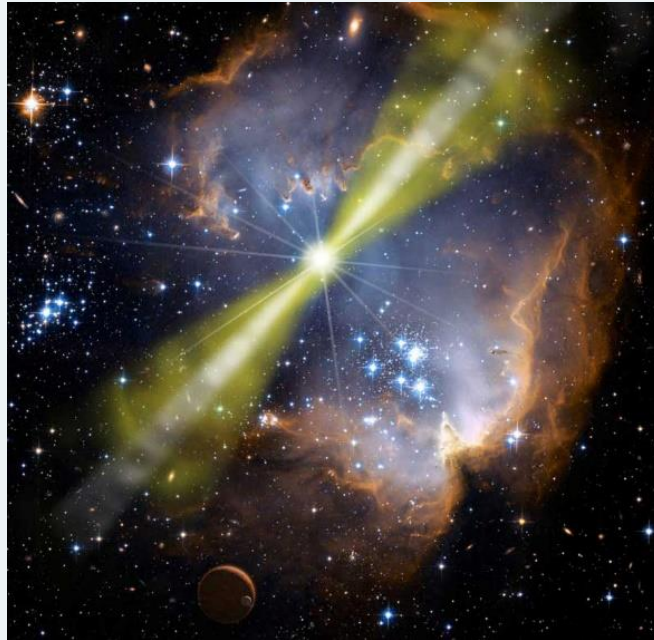


Cosmic Explosions and Galactic Life



Artist's impression of a gamma-ray burst shows the two intense beams of relativistic matter emitted by the black hole. (Image Credit: NASA/Swift/Mary Pat Hrybyk-Keith and John Jones)

Online Seminar with **Tsvi Piran** (Hebrew University of Jerusalem, Israel)

Thursday, 10th February 2022 | 17:00h CET | 11:00h EST

The stars that seem to us everlasting, are not eternal. Every once in a while we witness distant cosmic explosions. Dying stars explode in Supernovae, spreading essential elements for life that were synthesized deep in their cores. Kilonovae arise when compact binaries merge, producing heavier elements such as Gold and radioactive elements like Uranium, Plutonium and Thorium. A typical Supernova explosion in our Milky Way Galaxy can be seen during daylight, but it is not harmful. Some Supernova and Kilonova harbor powerful jets that drive dangerous Gamma-Rays Bursts. If sufficiently nearby these could destroy life. The higher rate of Gamma-Ray Bursts in the inner regions of the Milky Way delineate the habitable Galactic zone, possibly explaining the Fermi paradox.

Tsvi Piran is the Schwarzmann chair for theoretical physics at the Hebrew University of Jerusalem. Piran graduated in 1976 from the Hebrew University and was a research fellow at Oxford, UT Austin and the Institute for Advanced Study in Princeton. He was a visiting Professor at Harvard, Columbia and NYU and a distinguished Moore Scholar at Caltech. Piran's research spans numerous aspects in theoretical astrophysics ranging from inflation at the early universe to the mysterious gamma-ray bursts. He has published more than 500 scientific papers and is one of the most highly cited astrophysicists. Piran received the Lagrange award from the Lagrange institute in Paris in 2015 and the EMET prize from the Israeli prime minister's office in 2019.

Please click on [this Link for the Zoom Session >>](#)

Meeting ID: 852 6990 9362 Password: 459004

We are looking forward to the talk and to your participation.
Feel free to share this announcement and the link with your colleagues.

Note: The Zoom Link, ID and Password are for all Game Changers Seminars the same.

*ISSI's Game Changer Seminar Series was started in July 2020 – partly motivated by the pandemic – as weekly online seminars. Starting with “**Missions that Changed the Game in Solar System, Astrophysics and Earth Sciences**”, the focus shifted in 2021 to “**Ideas and Findings about the Solar System, the Universe and our Terrestrial Environment**” of which the new series of talks will be a part.*

[Join Zoom Session "Cosmic Explosions" with Tsvi Piran](#)

Save the Dates for the Upcoming Online Seminars

17th February 2022, 17h CET – **SETI, Breakthrough Listen** with J. Tarter

24th February 2022, 17h CET – **Life in Extreme Environments** with R. Amils

3rd March 2022, 17h CET – **The Habitable Zone Revisited** with D. Catling

10th March 2022, 17h CET – **Is Water and Rock all that is Needed? Geology, Life and Habitability** with F. Westall

17th March 2022, 17h CET – **Life as an Agent of Sustaining Habitability** with A. Chopra

24th March 2022, 17h CET – **Tracers of Life – Tracers of Habitability** with I.L. ten Kate

31st March 2022, 17h CEST – **Space Weather, Space Climate and Habitability** with T. Dudok de Witt

7th April 2022, 17h CEST – **Galactic Habitability** with P. Dayal

Previous Online Seminar

"Origin of Life" with Antonio Lazcano (School of Science, National Autonomous University of Mexico, Mexico)

Webinar recorded on January 27, 2022

<https://issibern.us14.list-manage.com/track/click?u=51de28ad9120232dba84ebdb1&id=a4a00e840b&e=bd a81913f7>

Visiting Scientists Application

ISSI invites researchers of all career stages to submit a research proposal to spend time at ISSI as a Visiting Scientist. Applications can be submitted at any time and are evaluated by the ISSI directorate on a monthly basis.

ISSI has – through its history – supported short visits of individual scientists to its premises in Bern, in addition to its International Teams, Workshops, Working Groups and Forums program. The many visits over the years by eminent scientists have left a prominent mark on the institute. Given its success, the directorate has recently decided to make this opportunity more

accessible by offering a web interface for applications at <https://www.issibern.ch/visiting-scientist-application/>

ISSI offers support for short term visits of a week up to one or two months. However, the program is limited and competitive, and the ISSI directorate expects to approve no more than one or two visiting scientist applications each month.

[Details and Application for Visiting Scientist](#)

