

Carter Fest: Black Holes and other Cosmic Systems

Report of Contributions

Contribution ID: 1

Type: **not specified**

Superfluid dynamics in neutron stars

Tuesday, July 5, 2022 4:30 PM (30 minutes)

Presenter: CHAMEL, Nicolas (Université Libre de Bruxelles)

Track Classification: Neutron star interiors

Contribution ID: 2

Type: **not specified**

Thermodynamics with Strings and Walls - a Brandon tribute!

Monday, July 4, 2022 3:30 PM (30 minutes)

Presenter: GREGORY, Ruth (King's College, London)

Track Classification: Cosmic strings and branes

Contribution ID: 3

Type: **not specified**

Relativistic fluids with a twist

Tuesday, July 5, 2022 3:00 PM (30 minutes)

Presenter: ANDERSSON, Nils (Univ. Southampton)

Track Classification: Neutron star interiors

Contribution ID: 4

Type: **not specified**

Stable cosmic vortons in field theory

Monday, July 4, 2022 5:00 PM (30 minutes)

Presenter: BATTYE, Richard (Univ. Manchester)

Track Classification: Cosmic strings and branes

Contribution ID: 5

Type: **not specified**

Binary Black Hole Inspiral

Wednesday, July 6, 2022 10:00 AM (30 minutes)

Presenter: BLANCHET, Luc (IAP)

Track Classification: Black holes

Contribution ID: 6

Type: **not specified**

Super-massive black hole formation from superconducting strings

Monday, July 4, 2022 2:30 PM (30 minutes)

Presenter: BRANDENBERGER, Robert (McGill University)

Track Classification: Cosmic strings and branes

Contribution ID: 7

Type: **not specified**

The Anthropic Principle: 50 Years On

Tuesday, July 5, 2022 11:30 AM (30 minutes)

Presenter: CARR, Bernard (Queen Mary Univ.)

Track Classification: Anthropic principle

Contribution ID: 8

Type: **not specified**

Brandon Carter and black holes

Monday, July 4, 2022 12:00 PM (30 minutes)

Brandon Carter is one of the fathers of modern black hole theory. In my talk I will present some of his key contributions to the topic.

Presenter: CHRUSCIEL , Piotr (Univ. Vienna)

Track Classification: Black holes

Contribution ID: 9

Type: **not specified**

Constructing scalar tensor black holes from Kerr geodesics

Wednesday, July 6, 2022 12:00 PM (30 minutes)

Presenter: CHARMOUSIS, Christos (IJCLab)

Track Classification: Black holes

Contribution ID: 10

Type: **not specified**

Astrobiological evolution and the number of critical steps: reasons for (cautious) optimism?

Tuesday, July 5, 2022 10:30 AM (30 minutes)

Presenter: ĆIRKOVIĆ, Milan (Astron. Obs. Belgrade)

Track Classification: Anthropic principle

Contribution ID: 11

Type: **not specified**

Cosmic Vortons and Particle Physics Constraints with Brandon

Monday, July 4, 2022 4:30 PM (30 minutes)

Presenter: DAVIS, Anne (Univ. Cambridge)

Track Classification: Cosmic strings and branes

Contribution ID: 12

Type: **not specified**

Brandon, Dirac and Fermi

Wednesday, July 6, 2022 12:30 PM (30 minutes)

Presenter: DEFFAYET, Cédric (IAP)

Track Classification: Black holes

Contribution ID: 13

Type: **not specified**

Scaling laws for global defects in cosmology

Monday, July 4, 2022 3:00 PM (30 minutes)

Presenter: DURRER, Ruth (Univ. Genève)

Track Classification: Cosmic strings and branes

Contribution ID: 14

Type: **not specified**

Compact objects in modified gravity

Wednesday, July 6, 2022 11:30 AM (30 minutes)

Presenter: LANGLOIS, David (APC)

Track Classification: Black holes

Contribution ID: 15

Type: **not specified**

Binary black hole astrophysics

Wednesday, July 6, 2022 10:30 AM (30 minutes)

Presenter: LASOTA, Jean-Pierre (IAP)

Track Classification: Black holes

Contribution ID: 16

Type: **not specified**

Carter's inspirations : from BKL conjecture to Stellar Pancakes

Wednesday, July 6, 2022 3:00 PM (30 minutes)

As a beginning researcher I had the chance to benefit from Brandon's wise advice for my early work, from my 1977 thesis on cosmological singularities that he directed to his suggestion to numerically visualize black holes in 1978. Then we could fully collaborate from 1982 to 1986 in a series of pioneering papers on the modelisation of tidal disruption of stars by big black holes.

Presenter: LUMINET, Jean-Pierre (LAM)

Track Classification: Black holes

Contribution ID: 17

Type: **not specified**

Two discs and a missing triangle: the maximally extended Kerr black hole revisited

Tuesday, July 5, 2022 5:00 PM (30 minutes)

Presenter: MACCALLUM, Malcolm (Queen Mary Univ.)

Track Classification: Black holes

Contribution ID: **18**

Type: **not specified**

Symmetry operatotr and separation of variables for the Dirac equation

Tuesday, July 5, 2022 5:30 PM (30 minutes)

Presenter: MCLLENAGHAN, Ray (University of Waterloo)

Track Classification: Black holes

Contribution ID: 19

Type: **not specified**

Neutron stars and the dense matter equation of state

Tuesday, July 5, 2022 3:30 PM (30 minutes)

Presenter: OERTEL, Micaela (LUTH, Obs. Paris)

Track Classification: Neutron star interiors

Contribution ID: 20

Type: **not specified**

Seeing Through CCC

Monday, July 4, 2022 10:30 AM (30 minutes)

Presenter: PENROSE, Roger (Univ. Oxford)

Track Classification: Black holes

Contribution ID: 21

Type: **not specified**

Soft Black Hole Hair

Monday, July 4, 2022 12:30 PM (30 minutes)

Presenter: PERRY, Malcolm (Univ. Cambridge)

Track Classification: Black holes

Contribution ID: 22

Type: **not specified**

Bayesian Reasoning: from the Carter Catastrophe to Testing the No-Hair Theorem

Tuesday, July 5, 2022 2:30 PM (30 minutes)

Presenter: PRIX, Reinhard (AEI Hannover)

Track Classification: Anthropic principle

Contribution ID: 23

Type: **not specified**

Counterfactual universes: smooth, rough or nuclear-free

Tuesday, July 5, 2022 12:00 PM (30 minutes)

Presenter: REES, Martin (Univ. Cambridge)

Track Classification: Anthropic principle

Contribution ID: 24

Type: **not specified**

CVOS model for superconducting cosmic strings

Monday, July 4, 2022 6:00 PM (30 minutes)

Presenter: SHELLARD, Paul (Univ. Cambridge)

Track Classification: Cosmic strings and branes

Contribution ID: 25

Type: **not specified**

From vortons to gravitational wave constraints on cosmic strings

Monday, July 4, 2022 5:30 PM (30 minutes)

Presenter: STEER, Danièle (APC)

Track Classification: Cosmic strings and branes

Contribution ID: 27

Type: **not specified**

Congratulations and Some Happy Memories

Monday, July 4, 2022 6:30 PM (15 minutes)

Presenter: THORNE, Kip (CalTech)

Track Classification: Black holes

Contribution ID: 28

Type: **not specified**

Doomsday revisited: concise anthropic history of our genus Homo

Tuesday, July 5, 2022 10:00 AM (30 minutes)

Presenter: CARTER, Brandon (LUTH, Obs. Paris)

Track Classification: Anthropic principle

Contribution ID: 29

Type: **not specified**

Inflationary cosmic hair

Wednesday, July 6, 2022 2:30 PM (30 minutes)

Primary author: STAROBINSKY, Alexei (Landau Institute for Theoretical Physics RAS)

Presenter: STAROBINSKY, Alexei (Landau Institute for Theoretical Physics RAS)

Track Classification: Black holes

Contribution ID: **30**

Type: **not specified**

Coalescing Binary Black Holes and Gravity Beyond General Relativity

Monday, July 4, 2022 11:30 AM (30 minutes)

Presenter: DAMOUR, Thibault (IHES)

Track Classification: Black holes

Contribution ID: **31**

Type: **not specified**

Welcome address

Monday, July 4, 2022 10:00 AM (30 minutes)

Presenter: FRANÇOIS BOUCHET ET FABIENNE CASOLI

Contribution ID: 32

Type: **not specified**

A visual journey into some Carter-Penrose diagrams

Wednesday, July 6, 2022 3:30 PM (30 minutes)

Although it looks simple, the Schwarzschild metric describes a complicated spacetime that is endowed with two asymptotic regions and two singularities. The situation is even more complicated for charged or spinning black holes. Grasping the complexity of these metrics can fortunately be achieved thanks to the celebrated Carter-Penrose diagrams. However, such diagrams do not allow to guess the complexity of the actual visual aspect of these metrics, that is, how a set of celestial spheres are distorted in the presence of strong gravitational fields. Conversely, addressing this issue necessitates to propagate geodesics in metrics that, most of the time, cannot be covered by a unique coordinate system and for which locating photons and oneself in a causal diagram is mandatory. In this talk, I will show a few movies of what an observer would see when travelling within a few black hole metric maximal analytic extensions: Schwarzschild, Reissner-Nordström and, of course, Kerr.

Presenter: RIAZUELO, Alain (IAP, CNRS, Sorbonne Université)

Contribution ID: 33

Type: **not specified**

Probing supermassive compact objects with GRAVITY and the EHT

Wednesday, July 6, 2022 4:00 PM (30 minutes)

Presenter: VINCENT, Frederic