Geneve 30/03/2020

Curriculum Vitae

Surname: Musco
First Name: Ilia

EDUCATION

11/2001 – 4/2006	**Ph.D. in Astrophysics** at the "International School for Advanced Studies" (S.I.S.S.A.), Trieste, Italy. **Supervisor:** *Prof J.C. Miller* **Thesis Title:** "Primordial Black Hole Formation" **Date of achievement:** 6 April 2006
10/1994 – 11/2000	**Bachelor/Master Degree in Physics**, University of Trieste (Italy).

CURRENT POSITION

9/2019 – 3/2020	**Researcher** at the Department of Theoretical Physics of the University of Geneva.

PREVIOUS POSITIONS

4/2018 – 8/2019	**Postdoc** at Institut de Ciències del Cosmos (ICC), University of Barcelona (*http://icc.ub.edu*).
10/2014 – 9/2017	**CNRS Postdoc** at Laboratoire Univers et Théorie (LUTH) Observatoire de Paris/Meudon (*www.luth.obspm.fr*).
1/2009 – 12/2011	**Postdoc** at the Centre of Mathematics for Applications (CMA), University of Oslo (UIO), Norway. (*www.cma.uio.no*).
3/2006 – 12/2007	**Postdoc** at the School of Mathematical Sciences (Astronomy Unit) of the Queen Mary University of London (QMUL) (*www.maths.qmul.ac.uk*). **Note:** This position was funded by "*Fondazione Italiana della Riccia*".

AWARDS: **Hartle prize** from the **International Society on General Relativity and Gravitation** for one of the best talks given by PhD students during the International Conference GR17 (Dublin 2004).

2016 - 2017	**Davide Crema**, co-supervision of master student at the University of Milano Bicocca.
2018 - 2019	**Alba Kalaja**, co-supervision of master student at the University of Barcelona (visiting student from the University of Padova), now PhD student in Groningen.
2019 - 2020	**Theodoros Papanikolaou**, co-supervision of a PhD student of APC (University of Paris), visiting Geneva for a collaboration.

TEACHING

May 2015	Course on **Relativistic Hydrodynamics, Gravitational Collapse and Black Hole formation** for Master and PhD students at the University Federico II of Napoli.
2010 – 2011	Course on **Partial Differential Equations** (INF-MAT 3360) at the Informatics Department of the University of Oslo (UIO).
9/2004 – 2/2005	**University Tutor** of Physics for the first year physics students at the University of Trieste (Italy).
10/2006 – 12/2007	**Teaching Assistant** for student course work at the "School of Mathematical Sciences (Astronomy Unit), Queen Mary University of London.

MAJOR COLLABORATIONS

2019 - Now	Member of the LISA consortium, involved within the project on Primordial Black Holes.

CAREER BREAKS

2008 (12 months)	Temporary teacher at secondary school during this period
1/2012 - 9/2014	Because of family problems I left Academia for almost 3 years.

SUPERVISION

TRACK RECORD

- I am recognized as a **leading expert** in the research topic of **Primordial Black Hole (PBH) formation**, using numerical simulations performed with a personal AMR (adaptive mesh refinement) numerical code developed during my PhD.
- **The paper "*Threshold for primordial black holes: Dependence on the shape of the cosmological perturbations*" - *Phys.Rev. D* 100 (2019) no.12, 123524 - has been selected as an Editors' suggestion.**
- Since 2004 I gave several public talks during international meetings, and I have been invited to give seminars in various University around the world. In particular :
  - November 2013: **invited speaker** for the international workshop on *Wormholes and Primordial Black Holes* in Nagoya (Japan).
  - May 2018: **invited speaker** for the workshop on *Primordial Black Holes* at CERN (Geneva).
  - March 2020: **invited speaker** for the International Conference *Friends of Friends 2020* to be held in Cordoba (Argentina)

- During my research career **I have lived in different European countries**, establishing a wide networks of contacts and collaborations with several collaborators in different places.
- **My work is interdisciplinary, and combines numerical relativity with early Universe cosmology.**