**Ph.D course in Astrophysics and Cosmology**

**Head of the Ph.D course: Prof. Carlo Baccigalupi**

**Web site:** [**Astrophysics and Cosmology**](http://www.sissa.it/ap/)

**Research lines:**

* Analysis of Astrophysical & Cosmological Datasets,
* Physical Cosmology, Early Universe & Cosmic Microwave Background,
* Dark Matter, Energy & Cosmological Large Scale Structure,
* Galaxy Formation & Evolution,
* High Energy Astrophysics,
* Stellar Physics,
* Compact Objects & Gravitational Waves
* AstroChemistry

**Fellowships available: 1**

**Admission: Academic and scientific qualifications + oral exam (remotely/presence)**

**Beginning of the Courses: 1 October, 2024**

**Evaluation of academic and scientific qualifications:** 30 points

**Access to Oral Exam:** minimum mark of 21/30 on academic and scientific qualifications (max. 15 candidates)

**Evaluation of Oral Exam:** 70 points

**Total Evaluation:** 100 points

**To be considered eligible, candidates must pass all the phases (academic qualifications, and interview) with a minimum mark of 7/10 or equivalent.**

**Deadline for online submission of applications: 27th August, 2024**

**Oral Exam: 10th and 11th September, 2024**

**Results of all evaluations will be notified by email.**

**Ph.D course in Cognitive Neuroscience**

**Head of the Ph.D course: Prof. Mathew E. Diamond**

**Web site:** [**Cognitive Neuroscience**](http://www.sissa.it/cns/)

**Research lines:**

* Intelligence, personality & cognitive reserve
* Neuronal bases of Visual perception
* Neuronal bases of Time perception
* SISSA Explorations into the Neuronal foundations of Sensory Experience Lab (SENSEx)
* Language, reading, and statistical learning
* Neural computation approaches to memory and brain organization
* Computational bases of perception and cognition"

**Fellowships available: 2**

**Admission: Academic and scientific qualifications + written exam + oral exam (remote)**

**Beginning of the Courses: 1 October, 2024**

**Evaluation of academic and scientific qualifications:** 10 points

**Access to Written Exam:** minimum mark of 7/10 on academic and scientific qualifications

**Evaluation of Written Exam:** 40 points

**Access to Oral Exam:** minimum mark of 28/40 in the written exam evaluation

**Evaluation of Oral Exam:** 50 points

**To be considered eligible, candidates must pass all the phases (academic qualifications, and interview) with a minimum mark of 7/10 or equivalent.**

**Written Exam: 5-6 September, 2024**

**Oral Exam: 16 September, 2024**

**Results of all evaluations will be notified by email.**

**Ph.D course in Functional and Structural Genomics**

**Head of the Ph.D course: Prof. Remo Sanges**

**Web site:** [**Functional and Structural Genomics**](https://phdgenomics.sissa.it/)

**Research lines:**

Functional genomics

Cerebral cortex development

Prion biology

Computational genomics

Neurodevelopmental and neurodegenerative disorders

Bioinformatics

Neurogenomics

Structural biology

Molecular and cellular biology

Evolutionary and comparative genomics

Drug discovery

Invertebrates neurogenetics

Epitranscriptomic modulation of CNS development and function

Aging

**Fellowships available: 1**

**Admission: Academic and scientific qualifications + oral exam (remotely/presence)**

**Beginning of the Courses: 4th November, 2024**

**Evaluation of academic and scientific qualifications:** 30 points

**Access to Oral Exam:** minimum mark of 21/30 on academic and scientific qualifications (max. 15 candidates)

**Evaluation of Oral Exam:** 70 points

**Total Evaluation:** 100 points

**To be considered eligible, candidates must pass all the phases (academic qualifications, and interview) with a minimum mark of 7/10 or equivalent.**

**Deadline for online submission of applications: 27th August, 2024**

**Oral Exam: 16th and 17th September, 2024**

**Results of all evaluations will be notified by email.**

**Ph.D course in Geometry and Mathematical Physics**

**Head of the Ph.D course: Prof. Ugo Bruzzo**

**Web site:** [**Geometry and Mathematical Physics**](http://www.math.sissa.it/content/geometry-and-mathematical-physics-0)

**Research lines:**

* Integrable systems in relation with differential, algebraic and symplectic geometry, as well as with the theory of random matrices, special functions and nonlinear waves, Frobenius manifolds.
* Geometry of moduli spaces of sheaves and of curves, their deformation theory and virtual classes also in relation with supersymmetric gauge theories, strings, Gromov-Witten invariants, orbifolds and automorphisms.
* Quantum groups, noncommutative Riemannian and spin geometry, applications to models in mathematical physics.
* Mathematical methods of quantum mechanics.
* Mathematical aspects of quantum Field Theory and String Theory.
* Symplectic geometry, sub-riemannian geometry, stochastic geometry, real algebraic geometry.
* Geometry of quantum fields and strings.
* Complex differential geometry.
* Generalized complex geometry.

**Fellowships available: 1**

**Admission: Academic and scientific qualifications + oral exam (remotely)**

**Beginning of the Courses: 1st October, 2024**

**Evaluation of academic and scientific qualifications:** 30 points

**Access to Oral Exam:** minimum mark of 21/30 in the academic and scientific qualifications evaluation.

**Evaluation of Oral Exam:** 70 points

**To be considered eligible, candidates must pass all the phases (academic qualifications, and interview) with a minimum mark of 7/10 or equivalent.**

**Deadline for online submission of applications: 27th August, 2024**

**Oral Exam: to be defined (early September, 2024)**

**Results of all evaluations will be notified by email.**