

GGI 20th Anniversary



16-17 March
GGI Arcetri, Firenze

2005: Inaugural Conference




The Galileo Galilei Institute for Theoretical Physics
Arcetri, Florence

Inaugural Conference

September 19 - 21, 2005



Galileo Galilei

List of Speakers:
Guido Altarelli, Nima Arkani-Hamed, Jean-Paul Blaizot, Stefano Catani, Mirjam Cvetič, Thibault Damour, Savvas Dimopoulos, Zoltan Fodor, Fabiola Gianotti, David Gross*, Igor Klebanov, David Kutasov, Vittorio Lubitz, Martin Lüscher, Slave Mukhanov, Giorgio Parisi, Alexander Polyakov, Massimo Porrati*, Joseph Polchinski, Alex Pomarol, Lisa Randall, Uros Seljak, Luca Silvestrini, Alessandro Strumia, Raffaele Tripliccione, Matias Zaldarriaga*

* To be confirmed

Advisory Committee:
R. Barbieri, M. Ciafaloni, P. Di Vecchia, A. Mueller, G. Parisi, G. Veneziano (chair)

Local Organizing Committee:
F. Bonechi, A. Cappelli, R. Casalbuoni, F. Colomo, S. De Curtis, M. Grazzini, G. Pettini

GGI: <http://www.fi.infn.it/GGI/>
Conference website: <http://www.fi.infn.it/GGI/conference/>

2006: first Workshop




The Galileo Galilei Institute for Theoretical Physics
Arcetri, Florence



Galileo Galilei

Workshop at the Galileo Galilei Institute in Spring 2006
May 2nd - June 30th
New Directions Beyond the Standard Model in Field and String Theory

The beginning of the LHC experimental program in 2007 makes it urgent to undertake a detailed study of possible extensions of the Standard Model that offer an explanation for the origin of the electroweak scale and its correlation with other scales in particle physics. In recent years new ideas on the hierarchy problem have been proposed with a great impact in particle phenomenology and cosmology. On the formal side, the gauge-string duality conjecture has led to new computational methods for studying strongly-coupled gauge theories, and D-brane engineering has provided new realizations of gauge symmetry and supersymmetry breaking. Moreover recent compactifications of string theory have also showed the possibility of stabilising all moduli fields, opening the way to a thorough phenomenological analysis. The purpose of the workshop, which includes a short conference, is to bring together leading string and field theory experts to share ideas and stimulate the interaction between these communities in preparation for the exciting LHC experimental results.

The main topics of the workshop include:

1. Electroweak symmetry breaking
2. Supersymmetric models and supersymmetry breaking
3. String vacua and model building
4. Warped compactifications and holography
5. Modifications of gravity and cosmological implications

Organisers: Carlo Angelantonj (University of Torino), Emilian Dudas (Ecole Polytechnique Paris and LPTFORSy), Tony Gherghetta (University of Minnesota), Alex Pomarol (Universitat Autònoma de Barcelona).

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Today

**G. Veneziano and F. Ferroni will present
historical remarks on the genesis and evolution of GGI**



Tomorrow

**A. Lerda and S. De Curtis will complete the overview
on the activities**

After two decades, the GGI is a reference for the international theoretical physics community



Activities centered around two pillars

- Extended workshops on the most advanced topics in theoretical physics (60)
- Topical schools for PhD students and young fellows (67)

Excellence witnessed by three indicators



- n. of participants > 600/year, > 50% from abroad
- > 1600 international scientific publications which acknowledge GGI
- 2 Simons grants for Institutes in less than 10 years

2026: 100 years from the publication of the work of E. Fermi, carried out in this department, on the quantization of the perfect monoatomic gas

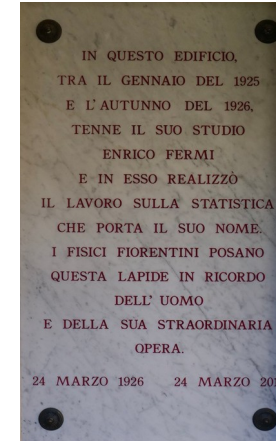
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Zur Quantelung des idealen einatomigen Gases ¹⁾.

Von E. Fermi in Florenz.

(Eingegangen am 24. März 1926.)

Wenn der Nernstsche Wärmesatz auch für das ideale Gas seine Gültigkeit behalten soll, muß man annehmen, daß die Gesetze idealer Gase bei niedrigen Temperaturen von den klassischen abweichen. Die Ursache dieser Entartung ist in einer Quantelung der Molekularbewegungen zu suchen. Bei allen Theorien der Entartung werden immer mehr oder weniger willkürliche Annahmen über das statistische Verhalten der Moleküle, oder über ihre Quantelung gemacht. In der vorliegenden Arbeit wird nur die von Pauli zuerst ausgesprochene und auf zahlreiche spektroskopische Tatsachen begründete Annahme benutzt, daß in einem System nie zwei gleichwertige Elemente vorkommen können, deren Quantenzahlen vollständig übereinstimmen. Mit dieser Hypothese werden die Zustandsgleichung und die innere Energie des idealen Gases abgeleitet; der Entropiewert für große Temperaturen stimmt mit dem Stern-Tetrodeschen überein.



E. Fermi, Zeitschrift fuer Physik 36 (1926) 902
E. Fermi, Rend. Accad. Lincei 3 (1926) 145

Special thanks to

- The INFN Executive Board and the INFN President A. Zoccoli
- The INFN CSN4 and its President G. Degrassi
- The former GGI Director S. De Curtis
- The GGI Scientific Committee and the GGI Centre Council
- Colleagues from Florence INFN Unit and Physics Department and their Directors G. Passaleva and D. Fanelli
- The technical and administrative Staff: A. Anichini, A. Attardi, S. Costanzi, M. Morandini, M. Ridi
- The OC's and all the speakers of this workshop
- The INFN Communication Office

