

**1st**  
**AFI - SYMPOSIUM**  
**>From the Vacuum to the Universe<**

**19-20 October 2007**

**University of Innsbruck**

**Claudiasaal**  
**Herzog-Friedrich-Straße 3 – 6020 Innsbruck, Austria**  
(in the old town)

New developments in particle and astrophysics offer exciting opportunities to explore the physics of the vacuum, its manifestations in the subatomic world and its consequences for the large scale structure of the Universe. From the QCD to the TeV scales, studies of quark confinement, LHC physics and Higgs boson searches plus neutrinos, cosmic rays and astrophysical probes of dark matter promise to reveal vital new information about the structure of the Universe.

This meeting, composed of 11 colloquium talks and discussion sessions, will explore these fundamental issues.

**Programme:**



**Reinhard Alkofer**  
Institute of Physics / SICQFT – Karl-Franzens-University, Graz

*Quark Confinement: the Hard Problem of Hadron Physics*



**Celine Boehm**  
Laboratoire d'Annecy-le-Vieux de Physique theorique

*Dark matter signatures*



**Mieke Bouwhuis**  
NIKHEF – Nationaal instituut voor subatomaire fysica, Amsterdam

*The Antares neutrino telescope*



**Caroline Collard**  
LAL - Laboratoire de l'Accélérateur Linéaire, Orsay

*LHC Higgs and Extra Dimension Searches*



**Carlos de los Heros**

Department of Nuclear and Particle Physics –Uppsala University

*Astroparticle physics from the cold: Results and perspectives of IceCube*



**Antonaldo Diaferio**

Dipartimento di Fisica Generale Amedeo Avogadro –Univ. of Torino

*Large scale structure of the Universe and evidence for dark matter*



**Fabienne Kunne**

CEA, DAPNIA/SPhN, Saclay

*Spinning the proton*



**Johann Marton**

SMI – Austrian Academy of Sciences, Vienna

*A new high sensitivity test of the Pauli exclusion principle*



**Joachim Mnich**

DESY, Hamburg

Status of and early expectations from the LHC



**Silvia Pascoli**

Institute for Particle Physics Phenomenology, Dept. of Physics,  
Durham University

*Neutrino physics between discoveries and questions for the future*



**Birgit Sattler**

Institut für Ökologie, University of Innsbruck

*Evening lecture: Ice and Life*

All talks will be 40 minutes plus 10 minutes for discussion. The science programme will begin on Friday morning and finish Saturday lunch time.

A registration fee of 30 euros per participant will be requested to cover coffee breaks and an evening buffet (including wine) on the Friday evening.

For practical catering reasons, the total number of participants is limited.

For information and request for invitation please contact:

► [Steven.Bass@uibk.ac.at](mailto:Steven.Bass@uibk.ac.at) before October 10, 2007.

Applications from students are welcome (please advise which group and whether Ph D student, diploma, or which semester for undergraduates).

## Draft programme:

	Friday	Saturday
09.00	Welcome - Vicerector for Research: Tilmann Märk - Head of the Frankreich Schwerpunkt: Eva Lavric	
09.10	Mnich	Bouwhuis
10.00	Boehm	De los Heros
10.50 – 11.20	Coffee	Coffee
11.20	Collard	Pascoli
12.10	Marton	
13.00 - 15.00	lunch break	trains to Vienna and Graz at 13.20-13.30; to Geneva at 14.30.
15.00	Alkofer	
15.50	Kunne	
16.40 - 17.10	Coffee	
17.10	Diaferio	
18.00	Sattler	
19.00	Buffet	

### Local organisation

(University of Innsbruck):

Steven Bass

Florian Schallhart

Barbara Tasser

Institute for Theoretical Physics

Frankreich Schwerpunkt

Italien-Zentrum

This meeting is organised in collaboration with the Bundesministerium für Wissenschaft und Forschung, the University of Innsbruck, the Frankreich Schwerpunkt and the Italien-Zentrum of the University of Innsbruck with support from the University and the Austrian Science Fund, FWF, through grant P17778.

### Travel information:

The meeting site is in the Innsbruck old town, 10 minutes from the main train station and 20 minutes taxi from airport. Train connections are available at [www.oebb.at](http://www.oebb.at). Train via Zuerich is suggested for participants travelling from Geneva.

For people coming by air, there are flights through Frankfurt and Vienna. Please check the connections and fares at both:

[www.lufthansa.com](http://www.lufthansa.com)

and

[www.aua.com](http://www.aua.com) (Austrian Airlines)

A map of Innsbruck is available at: [www2.innsbruck.at/WebCity/FrontController](http://www2.innsbruck.at/WebCity/FrontController)

The meeting room of the symposium is in: <http://www.uibk.ac.at/italienzentrum/kontakt.html>

For information about hotel possibilities and attractive excursions on Saturday afternoon: [www.tiscover.at](http://www.tiscover.at)

