

INPE Advanced Course - I A Roadmap for Cosmology (In Honor of Prof. Jayme Tiomno)

September 12-16, 2005
São José dos Campos, SP Brazil



Invited Lecturers

Scott Dodelson



Robert R. Caldwell



Piero Madau



Advisory Board

A. Olinto (U. Chicago, USA), E. Kolb (Fermilab, USA),
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Local Organizing Committee (INPE)

C. A. Wuensche, C.V. Rodrigues,
H. V. Capelato, O. D. Miranda, R. R. de Carvalho

Sponsors:



For more information contact:

C. A. Wuensche, C.V. Rodrigues, H. V. Capelato, O. D. Miranda, R. R. de Carvalho

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Rationale

Cosmology is one of the fastest growing fields of research, with a vast amount of cosmological data available already today, and a veritable avalanche coming in the near future. There is an obvious need for educating current students while reconsidering basic concepts and establishing a roadmap for cosmology. The main objective of the first INPE Advanced Course is to present and discuss the different aspects of current research in cosmology, for both Brazilian and international participants. The lectures will begin by focusing on fundamental issues like special and general relativity, world models, and Friedmannology, establishing the basis for more advanced subjects, like dark energy, CMB anisotropies, lensing, and the thermal history of the universe. The final goal is to yield a complete view of the subject, stimulating the attendee to conduct independent and competitive research in this area. The topics were selected in such a way as to cover a broad spectrum of interests, whether theoretical or observational.

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This course is mostly intended for researchers, postdocs, and graduate students in physics/astronomy, particularly those enrolled on a Ph.D. program. Second year graduate students (in a M.Sc. program) will be also considered.

Graduate students and postdocs are encouraged to bring a short presentation of their thesis work (Power Point style) so that they can make an informal presentation during the meeting (time and location will be arranged for it).

Program

Relativistic Cosmology (Dr. Robert R.Caldwell - Dartmouth College/USA)

- 1) Special and General Relativity
- 2) World Models
- 3) Friedmannology
- 4) Dark Energy

The Thermal History of the Universe (Dr. Piero Madau - UCSC/USA)

- 1) Cosmogonic Preliminaries
- 2) Thermal History of the Intergalactic Medium
- 3) Dawn of Galaxies and Cosmological Reionization
- 4) First Stars, First Black Holes
- 5) Pre-heating and Pre-enrichment Abstract:

Structure Formation (Dr. Scott Dodelson - Univ. of Chicago & Fermilab/USA)

- 1) Fundamental Physics
- 2) Primary CMB Anisotropies
- 3) Secondary CMB Anisotropies
- 4) Weak Lensing

Schedule for the Lectures:

- 09:00 - 10:00 Dr. Robert R.Caldwell
- 10:00 - 11:00 Coffee Break
- 11:00 - 12:00 Dr. Scott Dodelson
- 12:00 - 14:00 Lunch Break
- 14:00 - 15:00 Dr. Piero Madau
- 15:00 - 16:00 Coffee Break
- 16:00 - 17:00 Extra Activity

The language of the school is English

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Registration Form

The registration deadline is July 31st, 2005. The number of participants will be limited to a maximum of 200 due to the capacity of the venue.

We do not have funds to assist in travel expenses. We plan on providing some financial support to the graduate students attending the meeting. However, that is dependent on the support we receive from the financial agencies. The attendants will be notified about it by August 15th.

Bus transportation from the hotels to the conference building will be provided by the organizers.

Registration Closed

To change or cancel your registration, please contact the organizers on cosmologyschool@das.inpe.br.

For more information contact:

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For hotel reservations, we would like to offer you the options listed below. However, we strongly encourage all participants to book accommodation at the Ibis hotel, which provides good service and reasonable rates. Please indicate what type of room you like to book (see below) and the arrival and departure dates. The majority of rooms have two beds. We therefore encourage people to share a room with another school participant. The LOC is willing to provide a 'random' matching of names for participants who agree to share a room. Of course, participants can make their own arrangements to share a room with someone else they know will be attending. Please indicate your wish on the registration form.

US\$ 1,00 = R\$ 2,50
Hotels

Shelton Inn Hotel ****
Av. Dr. Nelson D'Ávila, 233
Phone: (12) 3941-8588
All credit cards are accepted
Single room = R\$75,00 (Monday to Thursday) - R\$75,00 (Friday to Sunday)
Double room = R\$98,00 (Monday to Thursday) - R\$98,00 (Friday to Sunday)

Urupema ***
Av. 9 de julho, 1037
Phone: (12) 3921-1599
Fax: (12) 3921-1919
Visa and Mastercard credit cards are accepted
Single room = R\$58,00 + tax
Double room = R\$68,00 + tax
Triple room = R\$84,00 + tax

Novotel ****
Av. Dr. Nelson D'Ávila, 2200
Phone: (12) 3928-1011
All credit cards are accepted
Single room = R\$168,00 (Monday to Thursday) - R\$139,00 (Friday to Sunday) + tax
Double room = R\$193,00 (Monday to Thursday) - R\$139,00 (Friday to Sunday) + tax

Ibis ***
Av. Cidade Jardim, 101, Jd Satélite
Phone: (12) 2139-5950
Fax: (12) 2139-5955
Av. Dr. Jorge Zarur, 81 - Torre 1, Jardim Apolo.
Phone: (12) 3904-2400
Fax: (12) 3904-2401
All credit cards are accepted
Single room = R\$85,00 (Monday to Thursday) - R\$75,00 (Friday to Sunday)
Double room = R\$85,00 (Monday to Thursday) - R\$75,00 (Friday to Sunday)

Intervale Othon
Rua Lupércio Antonio dos Santos, 31
Phone : (12) 3925 5500
Single room = R\$98,00 + tax
Double room = R\$104,00 + tax
Site: <http://www.intervaleothon.com.br>
Click to see the map of Othon Hotel

San Marco **
Av. Ademar de Barros, 457
Phone: (12) 3922-5244
Satander room: (Single = R\$ 55,00) - (Double = R\$75,00) - (Triple = 95,00)
Executive room: (Single = R\$ 60,00) - (Double = R\$ 80,00)
Luxe room: (Single = R\$ 65,00) - (Double = R\$ 85,00)

Participants who want to contact the hotel directly please make sure you mention the INPE Advanced Course for special rates.

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São José dos Campos (SJC)

With an estimated population of 589.000 inhabitants in 2004, SJC is, presently, the largest and most important city of the Paraíba Valley, in the northeastern part of São Paulo state. Its area was first occupied in 1590 by a cattle farm, where today is the borderline of São José dos Campos and Jacarei cities. It received the status of town in April 22, 1864 and received its present name in 1871.

SJC is one of the largest industrial and technological centers of the country and the home of well known research centers, such as the Instituto Nacional de Pesquisas Espaciais (INPE), the Centro Tecnológico Aeroespacial (CTA), the Instituto Tecnológico da Aeronáutica (ITA), the Universidade do Vale do Paraíba (UNIVAP), and the Universidade Estadual Paulista "Julio de Mesquita Filho" (UNESP). São José dos Campos is also the home of EMBRAER (Empresa Brasileira de Aeronáutica), the 4th largest aircraft company in the world, the largest and second oldest GM (General Motors) plant in Brasil, started 1958, and many other technological and electronics industries, totaling more than 700 companies.

Due to its privileged geographical position, between the mountain chains of Mantiqueira and Serra do Mar, SJC is very close to excellent leisure opportunities at the beach or up in the mountains. It is located between the metropolitan areas of Rio de Janeiro, 300 km North, in Rio de Janeiro state, and São Paulo (80 km South), the two largest consumption and production centers in the country.

How to get to SJC from São Paulo International Airport (Guarulhos)

By Car

From São Paulo International Airport to São José dos Campos take the Rodovia Presidente Dutra (Highway São Paulo-Rio de Janeiro. Distance: 79 Km = 50 Miles) or take the Rodovia Ayrton Senna (Rodovia dos Trabalhadores), drive 65 km and then merge to Rodovia Presidente Dutra driving more 23 km until São José dos Campos-SP (total of 88 km).

By Bus - Company Pássaro Marrom

Telephone numbers: (011) 6445-2505, 6445-3783 and 6445-3811
(012) 3921-9892

Place:

Terminal of Passengers 1 - wing A - Arrival Floor
Terminal of Passengers 2 - wing D - Arrival Floor

Schedules of exits from the Airport to São José dos Campos:
08:00 - 13:00 - 17:15 - 22:00

Schedules of exits from São José dos Campos to the Airport:
06:30 - 10:30 - 15:30 - 20:00

Ticket Price: R\$ 15,00 = US\$ 7,00

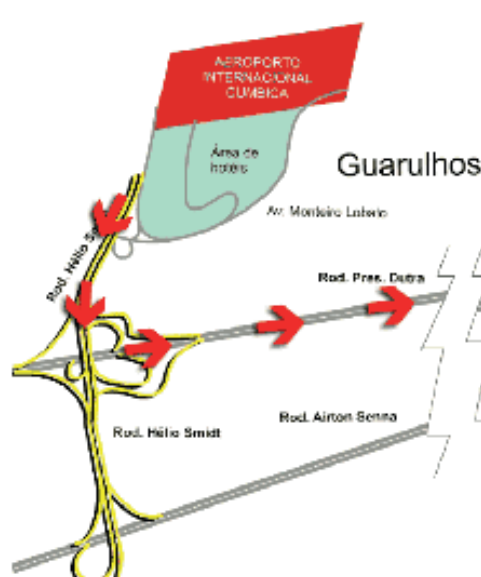
By Taxi - Special Taxis

Telephone Number: (011) 6440-7070.

Place:

Terminal of Passengers 1 - wing B - Arrival Floor
Terminal of Passengers 2 - wing C - Arrival Floor
Service: 24h00.

Estimated Price: R\$ 200,00 = US\$ 90,00



Region Main Attractions

São José dos Campos

Parque da Cidade (City Park)

Former house of the Olivio Gomes family. The architectonic design is signed by Rino Levi and landscaping is by Roberto Burle Marx. The park has a great nature area, lake and artificial island, besides tracks for hiking.

Santos Dummont Park

Located in the neighborhood of Vila Adyana, close to downtown São José dos Campos, the park has fish-breeding lakes and lots of birds and has 2 elementary schools. The park houses a unit of the third prototype of the Bandeirante airplane, used by the old National Aeronautics and Space Commission, presently, INPE - National Institute for Space Research. Its located on Rua Eng. Prudente Meirelles de Moraes, 1000.

Banhado (Marsh)

The marshes of São José dos Campos are one of the most beautiful sights of the city, a true postcard. Its green area can be seen form many sites. Locals like to enjoy sunsets there.

Campos do Jordão

Parque Estadual de Campos do Jordão (Campos do Jordão State Park)

Created in 1941, the park, also known as "Horto Florestal", offers tracks to hiking, snack-bar, ice-cream parlor, chapel, greenhouse, gymnastics area and picnic areas, restaurant, and souvenir shop. Open daily (from 8 a.m. to 8 p.m.). Address: Av. Pedro Paulo.

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