

ICTP – [The Abdus Salam International Centre for Theoretical Physics](#), Trieste, Italy

## **smr1302/Bulletin**

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BULLETIN No. 1 SMR. 1302 (August 2000)

WINTER SCHOOL ON LASER SPECTROSCOPY AND APPLICATIONS

(19 February - 2 March 2001)

Miramare - Trieste, Italy

The Abdus Salam International Centre for Theoretical Physics (ICTP), in collaboration with the Optical Society of America (OSA), will organize a Winter School on Laser Spectroscopy and Applications, to take place from 19 February to 2 March 2001. This Bulletin contains preliminary information and the Request for Participation form.

### DIRECTORS

Prof. W. Demtröder (Universität Kaiserslautern, Germany)

Prof. M. Inguscio (Università di Firenze, Italy).

### LOCAL ORGANIZER

Prof. G. Denardo (ICTP University of Trieste)

### PURPOSE AND NATURE

The School will introduce scientists to basic modern spectroscopy, through a programme of lectures by international experts, group discussions and laboratory demonstrations. The aim is to provide the background needed to follow the most advanced literature.

### MAIN TOPICS

Basic instrumentation of modern spectroscopy

Spectrometers, interferometers, detectors, lambdameters

Sensitive techniques in absorption- and emission- spectroscopy

Modulation techniques, opto-acoustic and optothermal spectroscopy  
cavity-ringdown-spectroscopy, laser-induced fluorescence, REMPI,  
applications

Special techniques for Doppler-free spectroscopy

Saturation- and polarisation spectroscopy, two-photon-spectroscopy,  
optical double-resonance techniques spectroscopy in collimated  
molecular beams, applications

Time-resolved spectroscopy

Nano-, pico- and femtosecond lasers, detection of short pulses,  
applications

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Some recent developments in laser spectroscopy

Optical cooling, BEC, atomic interferometers, atomic lasers, possible applications

Applications of spectroscopy in chemistry, biology and medicine

NMR, ESR, tomography, photodynamic therapy, CARS

Applications in environmental studies

Infrared laser-spectroscopy, LIDAR, femtosecond-terawatt lasers

VUV, soft x-ray and photo-electron spectroscopy

Auger effect, XPS, ESCA, EXAFS

The LAMP (Laser, Atomic and Molecular Physics) programme will include group discussions and internal seminars by participants. Those who intend to deliver a seminar are expected to come to the ICTP prepared with all the material needed for their talk.

The School is organized in collaboration with ICS-UNIDO for the part relevant to instrumentation and computing for spectroscopy.

### PARTICIPATION

Scientists and students from all countries that are members of the United Nations, UNESCO or IAEA may attend the School. Although the main purpose of the ICTP is to help researchers from developing nations through a programme of training activities within a framework of international cooperation, students and postdoctoral scientists from developed countries are also welcome to attend. As the School will be conducted in English, participants must have a good working knowledge of that language.

As a rule, travel and subsistence expenses of the participants are borne by the home institution. However, limited funds are available for some participants from developing countries, to be selected by the organizers. Such financial support is available only for those who attend the entire activity. Every effort should be made by candidates to secure support for their fare (or at least half fare) from their home country. There is no registration fee to attend the School.

Those wishing to participate should complete and return the "Request for Participation" form, to be found at the bottom of this Bulletin No. 1 (also obtainable via e-mail: [smr1302@ictp.trieste.it](mailto:smr1302@ictp.trieste.it), using as subject "get announcement", or via WWW Server: <http://www.ictp.trieste.it/>) to:

the Abdus Salam International Centre for Theoretical Physics  
Winter School on laser spectroscopy and applications  
(c/o Ms. Marina de Comelli)  
Strada Costiera 11  
I-34014 Trieste, Italy

Deadline for receipt of applications: 1 November 2000

N.B.: If sending an application by e-mail, please save and send

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file attachments in RTF format.

The decision of the Organizers will be communicated to all candidates as soon as possible thereafter.

Telephone: +39 - 040 - 2240305  
Telex: 460392 ICTP I  
Telefax: +39 - 040 - 224531  
E-mail: smr1302@ictp.trieste.it

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PLEASE DETACH HERE

NOTE: Better resolution if printed using COURIER 10

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Do you wish to also attend the ICS Training Course on:

"Applied spectroscopy techniques and instrumentation", Trieste,  
5 - 9 March 2001 ?

Yes \_\_\_\_\_ No \_\_\_\_\_

If yes, please request the relevant Application Form from :

International Centre for Science and High Technology (ICS) - UNIDO  
AREA Science Park  
Padriciano 99  
34012 Trieste (Italy)

Tel: +39 - 040 - 9228125  
Fax: +39 - 040 - 9228122

Email: vanessa.varnier@ics.trieste.it

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UNITED NATIONS EDUCATIONAL, SCIENTIFIC AND CULTURAL ORGANIZATION  
and  
INTERNATIONAL ATOMIC ENERGY AGENCY

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the ABDUS SALAM INTERNATIONAL CENTRE FOR THEORETICAL PHYSICS

Strada Costiera 11	Telephone:	+39-040-2240305
I-34014 Trieste	Telex:	460392 ICTP I
Italy	Telefax:	+39-040-224531
	E-mail:	SMR1302@ictp.trieste.it

REQUEST FOR PARTICIPATION

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Kindly note, if sending an application by e-mail, please save and send file attachments in RTF format.

WINTER SCHOOL ON LASER SPECTROSCOPY AND APPLICATIONS

19 FEBRUARY - 2 MARCH 2001

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INSTRUCTIONS

Each question must be answered clearly and completely. Type or print in ink. If more space is required, attach additional pages. This form should be forwarded to:

the Abdus Salam International Centre for Theoretical Physics  
Winter School on Laser Spectroscopy  
(c/o Ms. M. de Comelli)  
Strada Costiera 11, I-34014,  
Trieste, Italy

to arrive no later than 1 November 2000.

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A recent photograph of the candidate should be attached here, signed legibly on the reverse.

NOTE: This request will be processed only if the permanent address (and present address, if different) is clearly indicated. The ICTP cannot process any visa request, unless all requested personal data are provided.  
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P E R S O N A L   D A T A

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SURNAME/FAMILY Name:

MAIDEN Name (For women only, if applicable):

First name:

Middle name(s):

Sex:



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Mailing address - please indicate whether: Permanent \_\_\_ Present \_\_\_  
Home \_\_\_\_\_

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Name and address of person to notify in case of emergency - Relationship:

Tel. No.

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\* I agree that my e-mail address(es) may be made public on the ICTP WWW  
page: YES \_\_\_\_\_ NO \_\_\_\_\_

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EDUCATION (higher degrees)

University or equivalent Name and place	Years attended From	to	Degrees
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Seminars, summer schools, conferences or research

Name and place	Year
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SCIENTIFIC EMPLOYMENT AND ACADEMIC RESPONSIBILITY

Research Institution or University Name and place	Period of duty From to	Academic responsibilities
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Present employment and duties, and foreseen employment upon return to home country after the activity:

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Have you participated in past ICTP activities? If yes, which?

Yes \_\_\_ No \_\_\_\_\_

Are you applying to any other 2001 ICTP activities? If yes, which?

Yes \_\_\_\_\_ No \_\_\_\_\_

Mention briefly your previous research experience, and explain your reasons for wishing to participate in this activity:

NB: Our Scientific Information System keeps track of all applications made by the candidate to earlier ICTP activities. As a consequence, when the subject of the present activity is far from your previous applications, an explanation (not more than 200 words) of your change of interest should be included.

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PRESENT FIELD OF INTEREST (please indicate on the list below your TWO primary fields of interest, in order of priority).

10. PHYSICS OF CONDENSED MATTER

- 11. Solid State Physics
- 12. Atomic and Molecular Physics
- 13. Materials Science
- 14. Surfaces and Interfaces
- 15. Statistical Physics
- 16. Computational Physics in Condensed Matter

20. PHYSICS OF HIGH AND INTERMEDIATE ENERGIES

- 21. High Energy and Particle Physics

- 22. Relativity, Cosmology and Astrophysics
- 23. Plasma Physics
- 24. Nuclear Physics
  
- 30. MATHEMATICS
  - 31. Applicable Mathematics, including:
    - Mathematical Ecology,
    - Systems Analysis
    - Mathematical Economy
    - Mathematics in Industry
  - 33. Algebra
  - 34. Geometry
  - 35. Topology
  - 36. Differential Equations
  - 37. Analysis
  - 38. Mathematical Physics
  
- 40. PHYSICS AND ENERGY
  - 41. Physics of Nuclear Reactors
  - 42. Physics of Controlled Fusion
  - 43. Non-Conventional Energy (Solar, Wind others)
  - 44. Nuclear Energy related technologies
  
- 50. PHYSICS AND ENVIRONMENT
  - 51. Solid Earth Geophysics
  - 52. Soil Physics
  - 53. Climatology and Meteorology
  - 54. Physics of the Oceans
  - 55. Physics of Desertification
  - 56. Physics of the Atmosphere, Troposphere, Magnetosphere, Aeronomy
  - 57. Environmental Monitoring and Remote Sensing
  
- 60. PHYSICS TEACHING
  - 61. English
  - 62. French
  - 63. Spanish
  - 64. Arabic
  
- 80. MISCELLANEOUS
  - 81. Others
  - 82. Digital Communications Computer Networking
  
- 90. PHYSICS OF THE LIVING STATE
  - 91. Neurophysics
  - 92. Biophysics
  - 93. Medical Physics
  
- AO. APPLIED PHYSICS
  - A1. Physics in Industry
  - A2. Microelectronics
  - A3. Fibre Optics for Communications
  - A4. Instrumentation



- A5. Synchrotron Radiation
- A6. Non-destructive Evaluation
- A7. Lasers
- AA. Applied Superconductivity

B1. SPACE PHYSICS

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Kindly supply a keyword description of your current scientific activities, as follows (strictly within indicated lengths) :

1) Area of research: (e.g. LASER PHYSICS)

\_\_\_\_\_

(no more than 15 characters)

2) Specific topic of interest: (e.g. LASER SPECTROSCOPY)

\_\_\_\_\_

(no more than 30 characters)

List your scientific publications including books and articles (authors, title, Journal) in the period 1995-2000:

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Kindly state any positions you hold in the scientific administration of your Institution or any of the national scientific Institutions.

It would be of assistance to the Selection Committee if this request for participation were accompanied by a letter of recommendation, especially for junior physicists,

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Indicate below your proficiency in the English language

Reading: Good	___	Writing: Good	___	Speaking: Good	___
Average	___	Average	___	Average	___
Poor	___	Poor	___	Poor	___

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APPLICABLE ONLY FOR CANDIDATES FROM DEVELOPING COUNTRIES (Important:  
Owing to limited funds, support for travel will be granted only in  
exceptional cases. Therefore, every effort should be made by applicants to  
secure support for their fare (or at least a partial contribution) from  
their home country).

Request for Financial Assistance: (Please tick ONE box only)

___	Full Travel + Subsistence	___	Subsistence only
___	Half Travel + Subsistence	___	No financial support requested

I certify that if granted funds for my  
travel, I shall attend the whole activity

.....  
Signature

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I certify that the statements made by me above are true and complete. If  
accepted, I undertake to refrain from engaging in any political or other  
activities which would reflect unfavourably on the international status of  
the ICTP. I understand that any breach of this undertaking may result in the  
termination of the arrangements relating to my visit at the Centre.

\_\_\_\_\_  
Signature of applicant

\_\_\_\_\_  
Date

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