

international conference on accelerator and large
experimental physics control systems

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First Announcement and Call for Abstracts

4 > 8 October 1999
Stazione Marittima
Trieste, Italy



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international conference on accelerator and large experimental physics control systems

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Trieste, Stazione Marittima

Organized by

Sincrotrone Trieste, Italy

Co-organized by

EPCS, European Physical Society Interdivisional Group on Experimental Physics Control Systems
INFN, Istituto Nazionale di Fisica Nucleare

Sponsored by

Area Science Park

AAPPS, Association of Asian Pacific Physics Societies

CNR, Consiglio Nazionale delle Ricerche

Commissariato del Governo nella Regione Friuli-Venezia Giulia

Comune di Trieste

European Commission

ENEA, Ente per le Nuove tecnologie, l'Energia e l'Ambiente

EPS, European Physical Society

ICS-UNIDO, International Centre for Science and High Technology

ICTP, International Centre for Theoretical Physics

IEEE-NPSS, Nuclear and Plasma Sciences Society of the IEEE

IFAC, International Federation of Automatic Control

IFIP, International Federation for Information Processing

Provincia di Trieste

Regione Friuli-Venezia Giulia

SIF, Società Italiana di Fisica

SISSA, Scuola Internazionale Superiore di Studi Avanzati

Università degli Studi di Trieste

For further information:

ICALEPCS'99

Conference Secretariat

Sincrotrone Trieste

S.S. 14 – Km. 163,5 Basovizza

34012 Trieste, Italy

Tel. +39-040-375-8534

Fax. +39-040-375-8058

E-mail: icalepcs@elettra.trieste.it

WWW: <http://www.elettra.trieste.it/ICALEPCS99>

INTRODUCTION

ICALEPCS'99, the seventh biennial International Conference on Accelerator and Large Experimental Physics Control Systems, will be held in Trieste, Italy, from the 4th to the 8th of October 1999 hosted by Sincrotrone Trieste. It will take place at the "Stazione Marittima", Trieste's Congress Center located on the sea front facing the Adriatic and within five minutes walking distance from the city centre. The "Stazione Marittima" was inaugurated in 1936 when the ship 'Vulcania' built by the Italia-Span company undertook her maiden trip on the North America route; the building has recently been restored as the Congress Center of the city. The early October weather is generally very nice and ideal for visiting Italy.

PARTICIPATION

All those involved worldwide in the field of controls and having an interest in the challenging aspects relating to Experimental Physics are invited to participate and to contribute.

SCIENTIFIC PROGRAMME

ICALEPCS'99 will cover the field of controls of particle accelerators, detectors, telescopes, nuclear fusion devices, nuclear reactors, etc. Both hardware and software aspects of Experimental Physics control systems will be considered.

ICALEPCS'99 will concentrate on how controls can contribute to the overall success of an Experimental Physics project. With this objective in mind, different technology and engineering issues will be covered. State-of-art technology will be reviewed in terms of the possibilities it offers to deal with systems of increasing complexity within restricted budgets. Engineering aspects which are becoming increasingly more important in today's Experimental Physics controls scenario, such as requirements engineering and project management, will be considered. Emphasis will be on sharing experiences and techniques in these fields. Application of solutions from the industrial world will also be presented and discussed.

The Conference Scientific Programme will involve oral and poster sessions, workshops, seminars, tutorials and round-table discussions on specific subjects.

Abstracts are solicited for the following topics. The final organization in Sessions will depend on the material received.

Status Reports (R-01)

- > Status reports of new projects or important re-engineered ones are solicited
- > Reports on relevant events held elsewhere concerning any of the following topics

Please note that depending on the topic handled in the Status Report, the presentation may be held at the start of the corresponding topical Session.

Project Engineering and Management (M-01)

- > Requirements gathering (light weight) and "verification"
- > Project planning, Cost estimating, Productivity, Quality
- > Systems' Integrity
- > Outsourcing
- > Managing large collaborations

Evolution of a Control System: Maintenance, Upgrading, Re-Engineering (E-01)

- > System Maintainability
- > Reliability
- > Migration from Laboratory Systems to/from Industrial Systems
- > Control System Tuning
- > Evolution of controls in the course of the history of an Experimental Physics facility (e.g. what did it contribute to its operation, ...)

Selecting and Integrating Industrial Systems in Experimental Physics Controls (I-01)

- > Stress on experience with selection and integration of industrial systems (SCADA, ...)
- > COTS (COTS operation under radiation condition (e.g. test bench at CERN), ...)
- > OPC, Soft PLC
- > Inexpensive Systems
- > Freeware reliability and viability
- > Commercial versus Home-made
- > Integration of various PLCs and Fieldbusses
- > Reliability of PLC systems compared with other systems

Software Technologies (S-01 to S-03)

Configuration and Databases (S-01)

- > Configuration, Modeling of equipment, ...
- > Databases (real-time, for configuration, ...)

Object Oriented technologies (S-02)

Distributed Computing Software (S-03)

- > Distributed computing software (Java, Active X, Middleware, Corba, COM/DCOM, ...)
- > Componentware (Applicability to controls, Component Execution Platforms, ...)
- > Web and Remote Participation Technologies (Security, Remote Operation, ...)

Hardware Technologies (H-01 to H-02)

Infrastructures (H-01)

- > PC's
- > Distributed computing hardware
- > Networks and Communication, Switched versus Routed
- > Busses, PCI/PMC, Raceway, ...
- > Timing Systems
- > Protection Systems

Enabling Technologies (H-02)

- > New Processors, DSP's, ...
- > Programmable Devices and Toolsets, FPGA, VLSI development, ...
- > Radiation hardened hardware

Process Tuning and Feedback Systems (F-01)

- > Fuzzy Logic, Neural Networks, "Intelligent" Control Systems, ...
- > Expert Systems
- > Tools
- > Automation, Sequencing, ...
- > Hardware architectures (e.g. deterministic networks) and software techniques

We also solicit subjects for workshops, seminars, tutorials and round-table discussions. Workshops and tutorials will be held before the Conference, i.e. Thursday 30th September – Friday 1st October '99. Seminars and round-tables will be held during the Conference period.

The next following list of subjects has been suggested but is by no means restrictive: other suggestions are welcome and should be directed to the ICALEPCS'99 Secretariat.

Workshops

- > Software Sharing (SOSH)
- > EPICS
- > Slow Controls for Particle Detectors

Seminars

- > Controls in a non-Experimental Physics facility (e.g. chemical industry, ...)
- > Application of Intelligent Systems in industry

Tutorials

- > Software Engineering (e.g. Requirements Engineering, ...)
- > Java, Corba, COM/DCOM, Componentware...
- > Industrial systems (SCADA, OPC, PLC, ...)
- > Middleware (e.g. ASAP (Asynchronous Scalable Application Adapter for Multi-Processing))
- > Network Technology (ATM, GigaEthernet...)
- > System redundancy versus reliability

Round-Table

- > Industrial systems versus home-made ones
- > WINTEL (Windows & INTEL) versus the rest of the world

CLASSIFICATION OF PAPERS

Authors are asked to specify whether they would prefer their paper to be presented orally or as a poster. However, on the basis of the abstracts, the International Scientific Advisory Committee (ISAC) may need to modify this classification so as to fit closely within the frame and spirit of the Conference. Some of the presentations will be *invited*.

Whereas in the past invited papers were limited to oral presentations, we will extend this also to posters. *Invited posters* will be selected on their particular relevance. As it is expected that these will attract a wider audience, they will be given some more space.

ABSTRACTS

Submitted abstracts should reach the ICALEPCS'99 Secretariat by Friday, 19 March 1999.

They must be prepared and classified according to the "Rules for Submission of Abstracts" (see Annex I). Authors are required to take special care of the Category (see Annex II) and "keywords" they themselves attribute to their contributions as these will be used to position the contribution within the programme sessions at the Conference. Abstracts will be published on the World Wide Web (WWW) before the Conference and an Abstract Booklet will be available upon registration at the Conference. Queries concerning the submission of abstracts should be directed to the Conference Secretariat.

Since no contribution will be accepted for publication only, any paper accepted for presentation that is not presented either orally or as poster at the Conference will be excluded from the Proceedings.

PROCEEDINGS

The Proceedings will be produced electronically from the files submitted by the contributors. Instructions for the preparation of the electronic files for the Proceedings will be mailed to submitting authors with following Announcements and will also be available on WWW. The Proceedings will be published as soon as possible after the Conference in CD-ROM and book format. Accepted papers will be available also on WWW.

TRANSACTIONS

The publication of Transactions might be considered if it raises sufficient demand. Those interested in Transactions should tick the appropriate box in the Pre-registration Form.

POSTER SESSIONS

Instructions for the preparation of posters will be mailed to the authors with following Announcements and will also be available on the WWW. Posters are encouraged to be complemented by life-demos on Personal Computers that will be setup in the poster room. With the objective of stimulating authors creativity, a "Best Poster Prize" for each of the poster sessions will be awarded.

INDUSTRIAL PROGRAMME

EXHIBITION, SEMINARS, COMMERCIAL PRESENTATIONS

ICALEPCS's Industrial Exhibition will be placed within the Conference facilities to encourage contacts and good interaction. If you wish to participate or know a company who intends to participate to the Industrial Exhibition, please contact the Industrial Liaison closest to you:

Francesco Antonangeli

Sincrotrone Trieste
S.S. 14 – Km. 163.5
34012 Basovizza, Trieste
Italy

E-mail: antonangelif@elettra.trieste.it

Tel: +39-040-375-8594

Fax: +39-040-375-8058

Sharon Lackey

Fermi National Accelerator Laboratory
Beams Divisions Accel. Controls Dept.
MS 307, P.O. Box 500
Batavia, IL 60510-0
U.S.A.

E-mail: slackey@fnal.gov

Tel: +1-630-840-4453

Fax: +1-630-840-8590

Tadahiko Katoh

KEK, High Energy Acc. Research Org.
KEKB Controls Group, Accelerator Lab.
1-1 Oho, Tsukuba, 305-0801
Japan

E-mail: tadahiko.katoh@kek.jp

Tel: +81-298-64-5312

Fax: +81-298-64-0321

Raymond Rausch

CERN
CH - 1211 Geneva 23
Switzerland

E-mail: raymond.rausch@cern.ch

Tel: +41-22-767-4793

Fax: +41-22-767-2008

Rudolf Pose

Joint Institute for Nuclear Research (JINR)
ul. Joliot-Kurie, RU-141 980 Dubna
Moscow Region
Russia

E-mail: rpose@cv.jinr.ru

Tel: +7-09621-62218

Fax: +7-09621-65145

Detailed information concerning the arrangements for the Exhibition will be available by contacting the Industrial Exhibition Manager:

Cristiana Fiandra

The Office
Via San Nicolò, 14
34121 – Trieste
Italy

E-mail: Exhib@theoffice.it

Tel: +39-040-368-343

Fax: +39-040-368-808

The Conference Industrial Programme will include parallel sessions for industrial seminars or tutorials that are of relevance to the subjects handled during the Conference. Of particular interest are, for example, the current trends in technology and the evolution of industrial standards.

Representatives from industry will also be given the opportunity to hold commercial presentations to which they can invite potential customers.

EUROPEAN PHYSICAL SOCIETY (EPS) INTERDIVISIONAL GROUP ON EXPERIMENTAL PHYSICS CONTROL SYSTEMS (EPCS)

The European Physical Society (EPS) Interdivisional Group on Experimental Physics Control Systems (EPCS) is an association of specialists involved in control systems for Experimental Physics processes such as particle accelerators, tokamaks, reactors, lasers, telescopes, etc.

The objectives of the EPCS Group are:

- > establish contacts between EPCS specialists worldwide;
- > stimulate exchange of information and international collaboration;
- > promote standardization of Experimental Physics control systems.

Since its foundation in March 1986, 43 Organizations worldwide have joined the Interdivisional Group. Digital Equipment Corporation (Europe) and Hewlett-Packard sponsor the Interdivisional Group. High-tech industrial companies are joining as Associate or Corporate members in order to stay abreast of the latest developments in the field of Experimental Physics controls.

The Interdivisional Group is managed by a Board whose members have prominent positions in controls and related technologies in their Organizations.

Communication with other Organizations are established through Official Contact Persons (OCP), or Representatives, who are officially nominated by their directorate.

Activities and joint projects are handled by Working Groups (W.G.) set up by, and reporting to the Board.

During ICALEPCS'99 the EPCS Group will be holding its Board Meeting and General Assembly.

EPCS PRIZE

During ICALEPCS'99, the EPCS Prize for young outstanding Experimental Physics control engineers will be awarded. For more information see:

<http://www.ihep.ac.cn/ins/IHEP/div10/icalepcs/prize.html>.

ICALEPCS ON THE WORLD WIDE WEB

Information concerning the organization of the Conference, the programme and abstracts of ICALEPCS'99 will be made available regularly on the WWW at:

<http://www.elettra.trieste.it/ICALEPCS99> and on the following mirror-site:

<http://www.aps.anl.gov/conferences/mirrored/www.elettra.trieste.it/ICALEPCS99>

PRE-REGISTRATION FORM

Use one of the following ways to submit the Pre-registration Form:

- > Fill in and submit the Form on the WWW (accessed through <http://www.elettra.trieste.it/ICALEPCS99>)
- > Send it by e-mail to: icalepcs@elettra.trieste.it
- > Send it to the ICALEPCS'99 Secretariat by postal mail or fax using the Form enclosed with the present Announcement.

Please fill the Pre-registration Form completely and return it **before 19 February 1999**.

REGISTRATION FEE

The Registration Fee will be as follows:

Before 15 June 1999:

> for Members of Sponsoring Societies:	It. Lire	750.000
> for Non-members:	It. Lire	800.000
> for each accompanying person:	It. Lire	130.000

After 15 June 1999:

> for Members of Sponsoring Societies:	It. Lire	820.000
> for Non-members:	It. Lire	870.000
> for each accompanying person:	It. Lire	170.000

The Conference participants fee covers the cost of one copy of the Proceedings (CD-ROM or paper), the welcome cocktail, the Conference banquet and a one-day tour to Venice. The accompanying person fee includes the welcome cocktail and the Conference banquet.

FINANCIAL SUPPORT

Limited financial support will be available for qualified participants whose home institutions cannot afford the full costs.

The deadline for the submission of requests is 19 Feb. 1999. In order to be considered for financial support, please make sure that you tick the appropriate box in the Pre-registration Form and that this form reaches the ICALEPCS'99 Secretariat **before 19 February 1999**.

SOCIAL PROGRAMME AND VISITS

Welcome Cocktail

A get-acquainted Welcome Cocktail will be offered to all participants on Sunday evening, 3rd of October.

Conference Banquet

The Conference Banquet will take place at "Villa Manin", the largest and most beautiful Venetian villa in the region.

Conference Tour to Venice

A one day guided Conference Tour to Venice will be organized for registered participants. The visit will include *Piazza S. Marco*, the Cathedral, *Palazzo Ducale* and a walk along the picturesque canals.

Tour of the ELETTRA Laboratory

A tour of ELETTRA, one of the brightest synchrotron light sources in the world, and its Laboratories will be organized for all participants.

A 3 or 4 days tour to Tuscany will be organized in conjunction with ICALEPCS'99, covering the pre/post conference weekend. A companions' social programme of activities will also be presented. Refer to Annex III for more details.

First Announcement/Annex I

RULES FOR SUBMISSION OF ABSTRACTS TO ICALEPCS'99

Methods of Submission

Abstracts must reach the ICALEPCS'99 Secretariat by the deadline for the submission of abstracts:

Friday, 19 March 1999. Authors have the possibility to submit abstracts in the following ways:

- 1> **Preferred method:** Authors equipped with a WWW browser should use the electronic Abstract Submission Form (accessed through <http://www.elettra.trieste.it/ICALEPCS99>);
- 2> Authors may submit abstracts by e-mail to icalepcs@elettra.trieste.it, annexed to e-mail, or on diskette - for use on a Macintosh or PC (Word only) - **No LaTeX will be accepted for abstracts;**
- 3> Authors with no means of electronic submission should send their abstracts by postal mail or fax to:

ICALEPCS'99

Conference Secretariat

Sincrotrone Trieste

S.S. 14 – Km. 163,5 Basovizza

34012 Trieste, Italy

Tel. +39-040-375-8534

Fax. +39-040-375-8058

Guidelines for the Preparation of Abstracts

In case you **cannot use** a WWW browser for abstract submission, follow the guidelines below and see the example opposite for the preparation of your abstract to be transmitted by a method specified under points 2 and 3 above.

Size and Layout:

- > One continuous (unbroken sequence), single-spaced paragraph
- > One vertical space before footnotes, if any
- > Width of printed area: 82.5 mm (3 1/4 in.)
- > Height: variable up to 105 mm (4 1/8 in.)
- > Abstract should not exceed 200 words in length
- > Use only TIMES (roman, bold or italic) or Symbol fonts. **10 pt minimum**

Contents Listed in sequence:

- > Title of Paper (first letter of each main word capitalized)
- > Authors names in capital letters, in alphabetical order, principal author underlined. Group authors by affiliation
- > Affiliations should be abbreviated, with capitalization as in the title
- > Dash
- > Text (body of abstract)
- > One blank vertical space (if there are footnotes)
- > Indicate references to title or authors with ^{“**“}“**“, etc.
- > Indicate footnotes to text with [1], [2] etc.

Important

Authors are reminded that it is their responsibility to properly classify their abstracts. The classification will ensure that their paper is properly placed within the Conference programme. As much as possible refer to the suggested list "Categories of Abstracts for ICALEPCS'99" (Annex II) and add keywords. If you think your paper does not fall within one of the suggested categories, please give some additional detailed notes as it may allow us to define further sessions.

Note that the submitting authors will receive all correspondence from the ICALEPCS'99 organizers relating to the contribution. It is assumed that submitting authors will present the paper for oral presentation if it is so selected. The names of submitting authors/persons who will make oral presentations will be underlined in the Abstracts booklet. If a person other than the submitting author presents the paper then this should be mentioned.

Below is a sample abstract intended purely as an example of how the abstract should appear.

First Comments on the Preparation of ICALEPCS'99 Papers for Electronic Publication*, D. BULFONE,

SINCROTRONE TRIESTE; A.J. DANEELS, C. PETIT-JEAN-GENAZ, CERN – Papers presented at ICALEPCS'99 [1] will be published on CD-ROM and on WWW. This publication method requires special care on the part of authors with the preparation of their papers, particularly for the inclusion of graphics and the use of fonts. Strict editorial rules for paper submission will be published in following Announcements. We would like to thank the EPAC Secretariat for the many useful suggestions they gave us on this subject and will try to take advantage of their experience.

* Work supported by ICALEPCS'99.

[1] Please, don't forget to send your Pre-registration Form.

Submitting Author Information

First Name and Family Name

Affiliation

Full Address

Country Zip Town

Tel. Fax.

E-mail address

Category Number (see AnnexII)

Preferred presentation category: oral poster

Keywords (not more than five)

Additional Notes (if any)

If a person other than the submitting author is to present a paper selected for oral presentation, indicate name, address, etc.

First Announcement/Annex II

CATEGORIES OF ABSTRACTS FOR ICALEPCS'99

- R 01 Status Reports
- M 01 Project Engineering and Management
- E 01 Evolution of a Control System: Maintenance, Upgrading, Re-Engineering
- I 01 Selecting and Integrating Industrial Systems in Experimental Physics Controls

Software Technologies

- S 01 Configuration and Databases
- S 02 Object Oriented Technologies
- S 03 Distributed Computing Software

Hardware Technologies

- H 01 Infrastructures
- H 02 Enabling Technologies
- F 01 Process Tuning and Feedback Systems

First Announcement/Annex III

PRELIMINARY INFORMATION CONCERNING EXCURSIONS AND COMPANION SOCIAL PROGRAMME PLANNED IN CONJUNCTION WITH ICALEPCS'99

Pre/Post Conference Tour to Tuscany

A 3 or 4 days pre/post Conference tour to Tuscany will be organized according to the preferences received. Please, answer the relevant questions in the Pre-registration Form.

Participants will visit Florence, the capital of Italian Renaissance and its beautiful monuments and the most important museums. The Tour will continue with a stop to San Gimignano and its towers, Pisa and the world famous *Piazza dei Miracoli*. Siena with its famous *Piazza del Palio* will also be visited.

During these days participants will be offered the unique opportunity to taste both wines and food of one of the most interesting regions of Italy.

Companions' Programme

An attractive companions' programme will be organized, including tours and cultural activities like:

Italian Art Lessons and related excursions: visit Miramare Castle, snow-white and surrounded by the sea, built between 1856 and 1860, the home to Maximilian of Hapsburg and Charlotte of Belgium. It subsequently became Amedeo of Aosta's residence. The park surrounding the castle is also wonderful, especially owing to the variety of trees that Maximilian himself chose and planted, which are now an invaluable heritage.

See also Aquileia, which preserves many memories of its illustrious past. The imposing remains of the river port, the severe colonnade of the Forum, the remains of the luxurious noble residences and those of the public Baths leave no doubt as to the greatness and opulence of this old town of the Upper Adriatic, even after the destruction by Attila in 452.

Excursion to the surrounding countryside: visit the Carso and its stark rocks, vegetation and Sumac leaves that provide an exciting view during autumn; also the "Grotta Gigante"; one of Europe's largest caves, the central hall of which is so large it could contain St. Peter's Cathedral. Outside the cave there is a Speleological Museum of great interest.

Italian cuisine lessons

Tasting of local wines

International Scientific Advisory Committee

[Co-chaired by Daniele Bulfone, Sincrotrone Trieste and Axel J. Daneels, CERN]

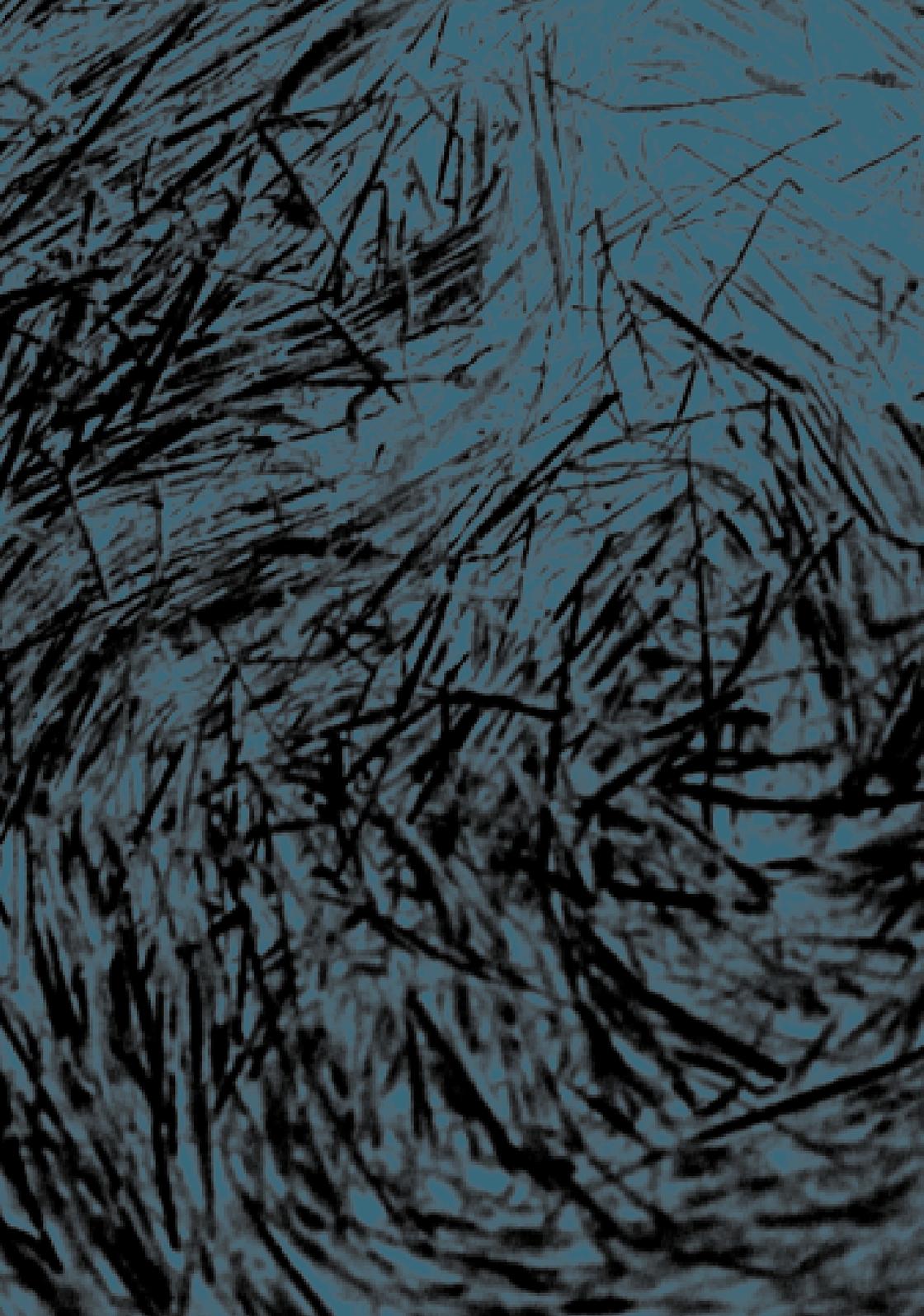
G. Baribaud	CERN, Switzerland	S.A. Lewis	LBL, USA
T. Blumer	PSI, Switzerland	I.M. MacLeod	Univ. Witwatersrand, S. Africa
D. Bulfone	Sincrotrone Trieste, Italy	W.P. McDowell	ANL, USA
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B. Falcidieno	CNR, Italy	G. Raupp	Max-Planck-Inst., Germany
J.G. Franco	LNLS, Brazil	R. Rausch	CERN, Switzerland
J.-F. Gournay	CEA-Saclay, France	G. Rinaldi	CNR, Italy
D.P. Gurd	LANL, USA	V. Schmidt	JET, UK
K. Hsu	SRRC, R.O.C	M. Serio	INFN, Italy
T. Huang	HIRFL, China	R. Steiner	BNL, USA
J.W. Humphrey	SLAC, USA	A. Sytin	GSI, Germany
R.C. Juras	ORNL, USA	R. Tanaka	IHEP, Russia
N. Kanaya	KEK, Japan	B.J. Vaidya	SPRING-8, Japan
T. Katoh	KEK, Japan	W.A. Watson	CAT, India
T. Kimura	JAERI, Japan	H.F. Weehuizen	TJNAF, USA
W.-D. Klotz	ESRF, France	J. Zhao	NAC, S. Africa
I.S. Ko	PAL-POSTECH, Korea		IHEP, China
S. Lackey	FNAL, USA		

Programme Committee

G. Baribaud	CERN, Switzerland	A.J. Daneels	CERN, Switzerland
D. Bulfone	Sincrotrone Trieste, Italy	T. Katoh	KEK, Japan
W. Busse	HMI, Germany	M.M. Mouat	TRIUMF, Canada

Local Organizing Committee

A. Abrami	Sincrotrone Trieste	M. Nadalin	Sincrotrone Trieste
A. Accettulli	Sincrotrone Trieste	G. Paolucci	Sincrotrone Trieste
I. Andrian	Sincrotrone Trieste	R. Pugliese	Sincrotrone Trieste
F. Antonangeli	Sincrotrone Trieste	M. Stofa	Sincrotrone Trieste
C.J. Bocchetta	Sincrotrone Trieste	S. Tazzari	INFN-LNF Frascati, Univ. Roma II
F. Bottaro	Sincrotrone Trieste	R. Tommasini	Sincrotrone Trieste
D. Bulfone	Sincrotrone Trieste [chairman]	A. Vacchi	INFN, Trieste
G. D'Eliso	Sincrotrone Trieste	R.P. Walker	Sincrotrone Trieste
R. Duimich	Sincrotrone Trieste [secretary]	I. Weffort	Sincrotrone Trieste
D. Favretto	Sincrotrone Trieste		
I. Massarotti	Sincrotrone Trieste		





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Trieste, Italy