



Istituto Nazionale di Fisica Nucleare



ISTITUTO NAZIONALE DI FISICA NUCLEARE
EUROPEAN ORGANIZATION FOR NUCLEAR RESEARCH

CHANNELING 2026
CHARGED & NEUTRAL PARTICLES CHANNELING
PHENOMENA

Brindisi – Italy, September 20-25, 2026

Chairmen: S. DABAGOV, L. PALUMBO, F. ZIMMERMANN



The 11th International Conference

Channeling 2026

Charged & Neutral Particles Channeling Phenomena

Brindisi (Puglia) - Italy

September 20 - 25, 2026

organised by

Istituto Nazionale di Fisica Nucleare – Laboratori Nazionali di Frascati
European Organization for Nuclear Research – CERN

under high sponsorship by

SIF – Italian Physical Society

in cooperation with and sponsored by

Sapienza University of Rome

EPITA MARVEL¹

X Channel LNF

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The series of the International conference “Channeling – Charged & Neutral Particles Channeling Phenomena” organised by the Italian National Institute for Nuclear Physics (INFN) in collaboration with other world research facilities and research initiatives is devoted to the common discussion on advances in physics of coherent/incoherent interaction of relativistic and nonrelativistic hadrons and leptons (protons, ions, electrons, muons and related antiparticles) in strong electromagnetic fields of various origins and structures, from solid amorphous and crystalline, to laser and plasma based ones. Since the first meeting, the Channeling topics have been extended over the interaction of radiations and beams (wide broad electromagnetic radiations, atoms, and neutrons) in various structured media as well as meta-materials to be investigated at the channeling physics approach. Main present applications of the channeling physics relate to the future accelerators, storage rings and radiation optics projects. Channeling phenomenology can be applied to describe other mechanisms of interaction of both charged and neutral particle beams in external electromagnetic fields casing the research areas from crystal and capillary based accelerators, undulators, waveguides, and x-ray/neutron micro- and nano-optical elements.

The conference subjects cover basic theoretical and experimental research aspects together with several well-known techniques for applications in scientific instrumentation for large-scale experiments at famous accelerator centers as well as laboratory table-top studies. Last editions of the Channeling meetings are being organised by INFN together with CERN – the European Organization for Nuclear Research, and other famous research centers in Europe, Asia and America, where intense studies on interaction of relativistic particles interactions in crystals have been performing since long time.

The Channeling conference represents a special opportunity for a wide interdisciplinary community interested to know contemporary and future research in the field of relativistic/nonrelativistic beams, radiations interaction in solids as well as both radiations and beams propagation in micro- and nano-channel structures. These conference series are the milestone for the experts and young scientists looking for up-to-date investigations regarding the next generation of accelerators and photon sources, exploiting the opportunity not only to know but also to contribute to

¹ Supported by the European Union’s Horizon Europe RIA programme.



the latest international initiatives within related studies. To push and enhance at most the participation to Channeling 2026 the Committees strongly encourages the participation and presentations of young colleagues, postdocs, PhD students, postgraduate/undergraduate students.

The scientific program of Channeling 2026 will be composed of invited reports and lectures as well as oral and poster presentations and selected round tables. The organization of the event and the program will foresee and stimulate any kind of formal and informal discussion.

@ Conference topics

- *coherent scattering of relativistic charged particles in strong fields;*
- *crystal channeling, volume capture and volume reflection of hadron and lepton beams;*
- *energetic ion interactions processes (backscattering and channeling of low energy ions, high energy ion channeling);*
- *electromagnetic radiation by relativistic charged particles in periodic structures (coherent bremsstrahlung, channeling radiation, transition radiation, diffraction radiation, parametric x-ray radiation, LPM effect, free electron lasers, Compton scattering, Cherenkov radiation-based phenomena, quantum coherence radiation phenomena);*
- *channeling of radiations in capillary systems (micro- and nano-channeling, micro-channel plates, nanotubes, nano-porous);*
- *novel techniques for beams handling and acceleration (channeling-based acceleration, plasma wake-fields, cross-laser fields, crystal assisted collimation, plasma-ion channels, capillary channeling);*
- *advanced x-ray and neutron optics (capillary/polycapillary optics, compound refractive optics, micro- and nano-focusing, beams and radiations waveguides);*
- *applications based on channeling phenomena (beams shaping, positron sources, powerful radiation sources, diagnostic tools, novel x-ray table-top instruments, channeling for advanced electronic materials studies, etc.)*

Channeling 2026 will host a satellite workshop -

NanoAc 2026 - Workshop on Applications of Nanostructures in the Field of Accelerator Physics

(Chairs: J. Resta-Lopez, G. Xia, B. Lei, G. Franchetti)

- *the NanoAc project brings together experts from various disciplines, including **plasma physics, accelerator physics, solid-state physics, materials science, computer science, engineering, industrial nanotechnology, spectroscopy, and others**, to address complex challenges in the use of **nanostructured materials in accelerator science**.*



@ International Advisory Committee

X. Artru, R. Assmann, H. Backe, S. Bertolucci, S. Boogert, A. Bracco, G. Cavoto, R. Carrigan, H. Deng, I. Endo, E. Gschwendtner, V. Guidi, F. Ferroni, N. Kalashnikov, F. Komarov, W. Lu, A. Mkrtchyan, K. Oide, A. Pathak, A. Potylitsyn, W. Scandale, M. Strikhanov, T. Tajima, E. Tsyganov, U. Uggerhoj, J. Urakawa, J. Wei, C. Welsch, U. Wienands, M. Zepf

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@ Program, Abstracts, and Proceedings

Program: The scientific program of the conference will include invited presentations by the experts in the field of the Channeling 2026 topics, selected oral presentations, and poster sessions.

The conference will start with the **Channeling Primer** session and followed at the end of the session by welcome mixer on **Sunday, September 20, afternoon** (Ex Convento Santa Chiara, Via Santa Chiara, 2 – 72100 Brindisi). The Primer session will include some formal greetings by the Organizers and sponsors of the conference.

On **Monday, September 21**, morning the **Scientific Program** will start at the Conference Hall of the Palazzo GRANAFEI-NERVEGNA (Via Duomo, 20, 72100 Brindisi BR) and continue through the week with a mixture of oral and poster sessions as well as specialized round tables. The program will be concluded by the closing session on **Friday, September 25**. On **Wednesday, September 23** a morning session will be followed by the excursion. The conference dinner is planned on **Thursday, September 24 evening**.

Abstracts: Each author is requested for online submission of the abstract in English **since March 15 by June 30, 2026**, a short online version together with the complete abstract for the Book of Abstracts (as a separate file attached) visiting the page **Abstract & Program**. **The guidelines for Abstracts of Invited, Oral or Poster Contributions in doc, LaTeX** (preferable) styles and the templates of these formats are online available via the related links on the page **Downloads & Dates** as well as a template sample at the end of this announcement. Please, save and upload the abstract under your family name typed in small letters, e.g. **abstract_smith.doc/tex** submitted by Dr. Smith.

Abstracts of all accepted papers, both oral and poster, will be published in the Advanced Program and in the Book of Abstracts, and distributed to all participants at registration.

Proceedings: The Channeling 2026 proceedings will be published as a special, but consecutively numbered, issue of the journal **Results in Physics**. The contents of the Proceedings will consist of invited papers plus a selection of contributed papers.

1. The format, letter-type and layout will be the same as for the regular issues of the Journal. There will be no page charges, however, with possible length limitation (for a **regular paper to be preferably within 4 Results in Physics ready-printed pages**, while for an **invited one to be extended up to 6 Results in Physics**



ready-printed pages).

A manuscript should represent **original work not previously published** and not being considered for publication elsewhere.

- The Publisher requests the submission of the electronic version of the manuscripts. **On-line manuscripts' submission** via the Editorial Manager for Results in Physics Proceedings will be required starting from **October 1, 2026**. The submission deadline of the first version of manuscript is **December 15, 2026**. **All manuscripts should be submitted before this date and the option to submit online via the submission system will be closed after that date.**
- In the meantime, the authors are kindly requested to have **the first drafts** of their manuscripts before the conference, by **September 20, 2026**, to make necessary slight modifications after the conference.
- The authors are requested to select the correct article type when they submit their articles. When submitting the papers, the authors must select “**VSI: Channeling 2026**” as the article type. If the authors select the wrong article type, their paper may end up publishing in a regular issue and not in the special one.

For further information or questions, please, do not hesitate to contact the Organizing committee via e-mail: channeling2026@lists.lnf.infn.it.

@ Registration & Fee & Accommodation

Starting from **March 15, 2026**, participants are invited to register to the conference by filling in the online Registration Form (Indico). The details of your participation should be reported on the registration form to be evaluated by the Organizing Committee and conference secretaries.

Please, visit the official conference web site: <http://www.lnf.infn.it/conference/channeling/2026>, which will be available for access from March 15, 2026.

The conference fee:

	Early registration /by July 15, 2026/	Late registration /since July 16, 2026/	On-site registration /September 20-25, 2026/
Regular	450 €	550 €	600 €
Regular SIF-Member*	350 €	450 €	550 €
Student*	200 €	300 €	400 €
Accompanying	100 €	100 €	100 €

includes the attendance of all conference sessions, technical and social, the publishing of the books of both abstracts and proceedings, etc. The advanced payment at earlier registration allows the participants to have a reduced registration fee (please, note that *the reduction depends on the period of payment and is split in two steps*); this payment should be preferably done via the bank transfer addressed to the bank account specified on the registration page.

* *Proof of the SIF membership should be sent together with the registration form. To become a SIF member, please, visit the web site of the Società Italiana di Fisica - <https://en.sif.it/membership>*

** *Proof of the student status (a student card's copy or a letter by supervisor) should accompany the registration form.*

Simultaneously, a pdf copy of the bank transfer with a note “**Channeling 2026**” **Registration Fee - Last Name/Name**



(together with the student card for students and/or the SIF certificate for members) should be sent to the Organizing Committee via e-mail channeling2026@lists.lnf.infn.it.

Participants should arrange their own accommodation contacting the hotels directly quoting "**Channeling 2026**". All necessary information on the booking procedure is online published; please, for details use the link **Lodging** at <http://www.lnf.infn.it/conference/channeling/2026>, and if necessary do not hesitate to contact the conference secretaries.

@ Important dates *

Abstract submission	by June 30, 2026
Abstract acceptance	by July 5, 2026
Hotel reservation	by July 15, 2026 (participants are requested to secure a room as soon as possible)
Registration:	
early	by July 15, 2026
late	since July 16 by September 25, 2026
Manuscript submission	since October 1, 2026 by December 15, 2026

* *Participants are invited to check periodically the update of the conference deadlines visiting the official web site.*

@ Conference Venue & How to get to the Conference

Channeling 2026 will take place in Brindisi, a city in the southern Italy in the region of Apulia (it: Puglia). Brindisi is the capital of the province of Brindisi, well known as the ancient port city on the Adriatic Sea.

The **meeting venue for the period of September 20 - 25** the **Palazzo GRANAFEI-NERVEGNA** (Via Duomo, 20, 72100 Brindisi (BR)). The conference hall, where all week working sessions will be held, is placed at the Palace.

The conference will start with the **Channeling Primer** session and followed at the end of the session by welcome mixer on **Sunday afternoon September 20** at the **Ex Convento Santa Chiara** (Via Santa Chiara, 2 – 72100 Brindisi, Italy).

Getting to Brindisi is easy thanks to the wide range of transportation options available. The city is a key transportation hub, well connected both by land and by air. In particular:

by air:

Brindisi Airport is well connected with both domestic and international flights, making it a convenient gateway to many destinations along the Adriatic coast;

by train:

Brindisi railway station is an important rail hub that links the city to several destinations across Italy. High-speed trains allow travelers to reach Brindisi efficiently and comfortably from cities such as Rome, Milan, and Bologna;

by sea:

The Port of Brindisi serves as both an arrival and departure point for ferries and cruise ships, connecting the city with other Mediterranean destinations, including crossings across the Adriatic Sea to Greece and Albania.



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@ Weather

Brindisi has a Mediterranean climate, with mild and fairly rainy winters, and hot, sunny summers. The city is located on the northern coast of the Salento peninsula, in southern Italy, in the Apulia region. The average temperature in the coldest month (February) is **10 °C**, while in the warmest month (August) it reaches **26 °C**.

The months of **September and October are particularly wonderful** in southern Italy, with pleasant temperatures and sunny days. However, it is advisable to **bring a windbreaker or light jacket**, just in case of occasional bad weather during your visit.



@ Instructions to Authors of Abstracts for Oral or Poster Contributions:

The Title is Written in Bold, Times New Roman 12, Centered

Author ^a, Author ^b: Times New Roman 12, centered

^a Institute: Times New Roman 10, centered

^b Institute: Times New Roman 10, centered

There must be one blank line between the title, the authors' names and their affiliation and two blank lines between the affiliation and the beginning of the body text without any punctuation mark at the end of these lines. Authors and affiliation must not exceed one line each. The name of the corresponding author is underlined.

All abstracts must be written in English and occupy a maximum of 1-page A4 written in Times New Roman 12, alignment in mode "justify". Please make sure to respect the following margins: top, bottom, right: 25 mm; left: 30 mm.

Reference citations [1] are shown in the text by a number in brackets and follow one double space below the body text under the heading "References".

No figures, images or photos have to be included in the abstract.

In order to ensure a smooth abstract booklet preparation, please do not insert text or references in "footnote" mode or other encoding.

References

1. The heading "References" follows one double space below the body text in Times New Roman 10 bold.
2. L.J. Marshal, and G. Talleni, Phys. Rev. A **43** (2001) 5897.