

September 12th, 2023

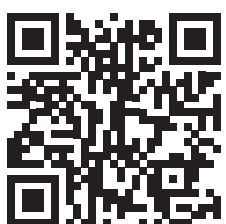
Accademia Nazionale dei Lincei
Roma, Palazzo Corsini Via della Lungara, 10

SOLAR **NEUTRINO** PHYSICS AT LNGS: **Borexino and Gallex** E X P E R I M E N T S

SPEAKERS:

Giampaolo **Bellini**, Wick **Haxton**,
Till **Kirsten**, Luciano **Maiani**,
Giorgio **Parisi**, Alexei **Smirnov**,
Lucia **Votano**, Antonio **Zoccoli**

For registration and info: <https://borexino-gallex.sites.lngs.infn.it>



ACCADEMIA NAZIONALE DEI LINCEI



International Symposium on Solar Neutrino Physics at LNGS

The study of solar neutrinos is a fruitful interdisciplinary research topic that had a tremendous impact on both neutrino and astroparticle physics. It led to some of the most significant recent breakthroughs in those fields and greatly improved our understanding of the nuclear reactions that power the Sun and the other stars.

Since its establishment in the 1980s, the [Gran Sasso National Laboratory](#) (LNGS) of [INFN](#) has been deeply involved in this field, with [Gallex](#) (later prolonged as GNO) and [Borexino](#) experiments. After over 35 years, this line of research eventually ended with the shutdown of the Borexino detector in October 2021.

Two years after the conclusion of this scientific endeavor, the symposium will present a retrospective that examines themes, results and implications on both neutrino physics and stellar astrophysics of these researches. It will feature contributions from some of the most prominent scientists in the field, who will report on the achievements at LNGS as part of the international effort which began in the 1960s to investigate the properties of neutrinos from the Sun.

Organizing Committee:

- Giovanni Losurdo (INFN Pisa e Accademia dei Lincei)
- Luciano Maiani (INFN e Università di Roma "La Sapienza", Accademia dei Lincei)
- Marco Pallavicini (INFN e Università di Genova)
- Ezio Previtali (Laboratori Naz.li del Gran Sasso, INFN e Università Milano Bicocca)
- Gioacchino Ranucci (INFN Milano)

Scientific secretariat:

- Nicola Rossi (INFN LNGS)

Symposium web pages:

- <https://borexino-gallex.sites.lngs.infn.it> (Agenda INFN)
- <https://www.lincci.it/it/manifestazioni/solar-neutrino-physics-lngs>

Live streaming of the symposium will be available at the following URL:

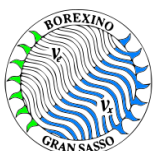
- <https://www.youtube.com/@AccademiaNazionaledeiLincei>

For more information about the experiments:

- Borexino: <https://borex.lngs.infn.it>
- Gallex/GNO:
https://www.mpi-hd.mpg.de/lin/research_history.en#gallex
<https://en.wikipedia.org/wiki/GALLEX>
https://doi.org/10.1142/9789811204296_0003




ACCADEMIA
NAZIONALE
DEI LINCEI



Solar Neutrinos Astrophysics at LNGS: Borexino and Gallex Experiments

 Tuesday Sep 12, 2023, 10:00 AM → 5:30 PM Europe/Rome

 Accademia Nazionale dei Lincei

 Marco Pallavicini (INFN e Università di Genova) , Ezio Previtali (Laboratori Naz.li del Gran Sasso, INFN e Università Milano Bicocca)

10:00 AM → 1:05 PM Morning Session

Convener: Marco Pallavicini (INFN e Università di Genova)

10:00 AM	Welcome from Lincei Speaker: Giorgio Parisi (La Sapienza University & INFN Roma 1)	🕒 10m
10:10 AM	Welcome from INFN Speaker: Antonio Zoccoli (Presidente INFN)	🕒 10m
10:20 AM	Neutrinos at Gran Sasso: the beginnings 45 min plus 5 min discussion Speaker: Luciano Maiani (La Sapienza University & INFN Roma 1)	🕒 50m
11:10 AM	Coffee break	🕒 15m
11:25 AM	The Gallex experiment 45 min plus 5 min discussion Speaker: Till Kirsten (Max-Planck-Institut für Kernphysik, Heidelberg)	🕒 50m
12:15 PM	The Borexino experiment 45 min plus 5 min discussion Speaker: Gianpaolo Bellini (University of Milano & INFN Milano)	🕒 50m

1:05 PM → 3:00 PM Lunch break

3:00 PM → 5:30 PM Afternoon Session

Convener: Ezio Previtali (Laboratori Naz.li del Gran Sasso, INFN e Università Milano Bicocca)

3:00 PM	Impact of the Borexino and Gallex results on the interpretation of the solar neutrino data in term of neutrino flavor conversion 45 min plus 5 min discussion Speaker: Alexei Smirnov (Max-Planck-Institut für Kernphysik, Heidelberg and ICTP Trieste)	🕒 50m
3:50 PM	Coffee break	🕒 15m
4:05 PM	Astrophysical implications for the understanding of the Sun and the stars of the solar neutrino results from Borexino and Gallex 45 min plus 5 min discussion Speaker: Wick Haxton (University of California)	🕒 50m
4:55 PM	Closing remarks Speaker: Lucia Votano (INFN)	🕒 35m