

Neutrino-matter interactions in the standard model and beyond

Date: 19.06.2024 - 21.06.2024
Location: Lecture hall of the ULB, S1|20 R.01, Magdalenenstr. 8,
basement, next to the "LesBAR"

Wednesday, June 19th

- 09:00 - 09:05 Welcome
- 09:05 - 10:20 Invited talk 1: **Kirsty Duffy** on
Neutrino interactions: why we care, how to measure them, and what we've learned
(Focus on MicroBooNE and DUNE)
- 10:20 - 10:45 Break
- 10:45 - 12:00 Invited talk 2: **Joanna Sobczyk** on
Theory of neutrino interactions at intermediate energies
- 12:00 - 13:40 Lunch break
- 13:40 - 15:00 Contributed talks (see details on 2nd page)
- 15:00 - 15:30 Break
- 15:30 - 16:30 Question and discussion session

Thursday, June 20th

- 09:00 - 10:15 Invited talk 3: **Javier Menéndez** on
Obtaining reliable neutrinoless $\beta\beta$ decay nuclear matrix elements:
a nuclear structure challenge
- 10:15 - 10:45 Break
- 10:45 - 12:00 Invited talk 4: **Giovanni Benato** on
Experimental searches for $\beta\beta$ decay(s) with germanium and bolometric detectors
- 12:00 - 12:05 Group picture
- 12:05 - 13:40 Lunch break
- 13:40 - 15:30 Contributed talks (see details on 2nd page)
- 15:30 - 16:00 Break
- 15:30 - 16:30 Question and discussion session
- 18:00 Social dinner at Indian Spicy (please indicate interest in registration)

Friday, June 21st

- 09:00 - 10:15 Invited talk 5: **Baha Balantekin** on
Neutrinos in astrophysics and nucleosynthesis
- 10:15 - 10:45 Break
- 10:45 - 12:00 Invited talk 6: **Zewei Xiong** on
Neutrino oscillations and their role in core-collapse supernova
- 12:00 - 13:30 Lunch

Contributed talks - details

Wednesday, June 19th

- 13:40 - 14:00 [Faruk Alp](#) on
Neutron matter as a Fermi liquid
- 14:00 - 14:20 [Francesco Marino](#) on
Ab initio studies of nuclear matter and electromagnetic response of open-shell nuclei
- 14:20 - 14:40 [Jan Kuske](#) on
Complete survey of r-process conditions
- 14:40 - 15:00 [Margarida Companys](#) on
Eigenvector continuation in nuclear many-body theory
- 15:30 - 15:50 [Pierre Arthuis](#)[†] on
Improved nuclear bulk properties from chiral interactions

Thursday, June 20th

- 13:40 - 14:00 [Cedric Wenz](#) on
IMSRG from an implementational point of view
- 14:00 - 14:20 [Melissa Mendes](#)[†] on
Investigating a possible quark-hadron phase transition with neutron star cooling
- 14:20 - 14:40 [Finia Jost](#) on
Core-collapse supernova yields for galactic chemical evolution
- 14:40 - 15:00 [Francesca Bonaiti](#) on
Electric dipole polarizability in medium-mass nuclei

[†] Invited talks by SFB 1245 postdocs

Code of conduct

All participants are expected to abide by the **SFB 1245 Code of Conduct**, given below in abbreviated form:

As SFB 1245 members:

We behave professionally and respectfully.

We foster a welcoming and inclusive work environment.

We conduct research with professional integrity, honesty, and following ethical standards.

We do not tolerate harassment.

We do not tolerate bullying.