

# Program

## Sunday, 7 July 2019

17:00 – 21:00 Registration

from 18:30 *BUFFET SUPPER / Informal get together*

## Monday, 8 July 2019

08:00 *BREAKFAST*

09:00 – 09:10 Guido Drexlin                      **Opening and welcome**  
Christian Enss  
Manfred Lindner  
Christian Weinheimer  
John F. Wilkerson

### **Neutrino physics**

09:10 – 09:50 Werner Rodejohann                      **Neutrino Mass and Mixing: Theory Overview**

09:50 – 10:25 Giorgio Gratta                              **The nEXO neutrinoless double beta decay experiment**

10:25 – 11:05 Kathrin Valerius                              **Probing the neutrino mass scale with KATRIN**

11:05 – 11:35 *COFFEE BREAK*

### **Double beta decay**

11:35 – 12:15 Stefan Schoenert                              **Current and future double beta decay experiments with  $^{76}\text{Ge}$**

12:15 – 12:55 Oliviero Cremonesi                              **The CUORE experiment**

13:00 *LUNCH*

# Program

Monday, 8 July 2019

## Electron capture and cosmology

- 14:30 – 15:10 Loredana Gastaldo  $^{163}\text{Ho}$ -based experiments
- 15:10 – 15:50 Maurits W. Haverkort *Ab initio* calculation of the electron capture spectrum of  $^{163}\text{Ho}$
- 15:50 – 16:30 Steen Hannestad Cosmological neutrino bounds
- 16:30 – 16:35 **Conference Photo** (in front of the Physikzentrum/Main entrance)
- 16:35 – 17:05 *COFFEE BREAK*

## Systematics and white paper

- 17:05 – 17:45 Beate Bornschein Tritium Technology for Neutrino Physics
- 17:45 – 18:25 Diana Parno Systematics in direct neutrino-mass experiments
- 18:25 - 18:45 Loredana Gastaldo  
Kathrin Valerius A white paper on direct neutrino mass searches
- 18:45 – 19:00 Stefan Jorda About the Wilhelm and Else Heraeus Foundation
- 19:00 *HERAEUS DINNER at the Physikzentrum  
(cold & warm buffet, free beverages)*

# Program

**Tuesday, 9 July 2019**

08:00            *BREAKFAST*

## **New opportunities**

09:00 – 09:40    Janina Hakenmüller    **Detecting coherent elastic neutrino nucleus scattering**

09:40 – 10:20    Teresa Marrodán Undagoitia    **Neutrino astrophysics in liquid xenon detectors**

10:20 – 11:00    Ezio Previtali    **Results and future perspectives of bolometric double beta decay experiments at LNGS**

11:00 – 11:30    *COFFEE BREAK*

## **Neutrinos and cosmology**

11:30 – 12:15    Thomas Schwetz    **Global analysis of neutrino oscillation results**

12:15 – 13:00    Scott Dodelson    **Cosmological neutrino mass constraints from galaxy clustering and weak lensing**

13:00            *LUNCH*

## **New direct neutrino mass ideas**

14:30 – 15:10    Joseph Formaggio    **Mass Through Frequency: The Project 8 Neutrino Experiment**

15:10 – 15:50    Sebastian Böser    **An atomic tritium source for Project 8**

15:50 – 16:30    Chris Tully    **Relic neutrinos and related techniques with PTOLEMY**

16:30 – 17:00    *COFFEE BREAK*

## **Posters I**

17:00 – 17:50    **Mini Presentation of Posters I**

17:50 – 19:00    **Poster Session I**

19:00            *DINNER* and discussions in the Lichtenberg-Keller

# Program

Wednesday, 10 July 2019

07:30            *BREAKFAST*

## **New technologies**

08:40 – 09:10    Giorgio Gratta

**Distributed Imaging for liquid scintillation detectors**

09:10 – 09:55    Wolfram Pernice

**Superconducting nanowire single particle detectors**

09:55 - 10:40    Sebastian Kempf

**Readout of large-scale cryogenic microcalorimeters by means of microwave SQUID multiplexing**

10:40 – 11:10    *COFFEE BREAK*

## **Tritium-related technologies**

11:10 – 11:30    Christian Weinheimer

**Time-of-flight methods at KATRIN**

11:30 – 12:10    Magnus Schlösser

**Future of tritium beta spectroscopy**

12:10 – 12:50    Alejandro Saenz

**Atomic and Molecular Physics for Neutrino-Mass Experiments**

13:00            *LUNCH*

# Program

Wednesday, 10 July 2019

## Cosmology and double beta decay

- |               |                     |  |
|---------------|---------------------|--|
| 14:30 – 15:10 | Julien Lesgourgues  | <b>Do we trust the standard cosmological model?</b>                        |
| 15:10 – 15:50 | Javier Menendez     | <b>Neutrinoless double-beta decay: insights on nuclear matrix elements</b> |
| 15:50 – 16:30 | Christine Kraus     | <b>Neutrinoless Double Beta Decay with Liquid Scintillator Detectors</b>   |
| 16:30 – 17:00 | <i>COFFEE BREAK</i> |  |

## Posters II

- |               |   |
|---------------|---|
| 17:00 – 17:45 | <b>Mini Presentation of Posters II</b>                  |
| 17:50 – 19:00 | <b>Poster Session II</b>                                |
| 19:00         | <i>DINNER</i> and discussions in the Lichtenberg-Keller |

# Program

Thursday, 11 July 2019

07:30	<i>BREAKFAST</i>	
08:30 – 09:10	Sergey Eliseev	<b>Penning-trap mass spectrometry and neutrino mass</b>
09:10 – 09:50	Andrea Giuliani	<b>Lithium molybdate scintillating bolometers to search for neutrinoless double beta decay of <math>^{100}\text{Mo}</math></b>
09:50 – 10:30	Laura Baudis	<b>Particle physics with liquid xenon detectors</b>

10:30 – 11:00 *COFFEE BREAK*

## **Sterile neutrinos and double beta decay**

11:00 – 11:40	Thierry Lasserre	<b>Evidences and non-evidences for sterile neutrinos</b>
11:40 – 12:20	Susanne Mertens	<b>Search for sterile keV neutrinos</b>
12:20 – 13:00	Steve Elliott	<b>Future Double Beta Decay Experiments</b>

13:00 *LUNCH*

## **Future and final discussion**

14:30 – 15:15	Karsten Heeger	<b>Future of Neutrino Physics</b>
15:15 – 16:00	all	<b>Final discussions</b>
16:00 – 16:10	Guido Drexlin Christian Enss Manfred Lindner Christian Weinheimer John F. Wilkerson	<b>Poster awards and closing remarks</b>

16:10 – 16:40 *COFFEE*

End of the seminar and Departure