

# Some introductory words

29 October 2018

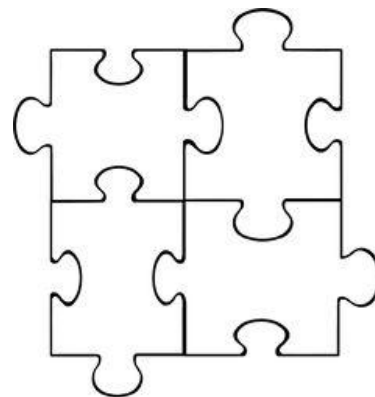
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AKADEMIE DER  
WISSENSCHAFTEN  
IN HAMBURG



# Puzzle of Dark Matter - Assembling the pieces

Dark Matter - one of the biggest puzzles of our times



- Dark matter is searched for in many ways
  - Direct detection experiments
  - Indirect detection searches
  - Collider searches
- How to compare and combine the results from the different searches?
- Which models to use?
- Where to look next?
- Identify areas for future cooperation and development

# Session format

- Four intro and four outlook talks
  - Direct detection
  - Indirect detection
  - Colliders
  - Theory
- All other sessions are organised by model(s) rather than searches

How do different experiments approach the same question from different angles?

## Introductions

11:30 **Overview of indirect detection searches 25'**

Speaker: Moritz Huetten (MPI Physik, Muenchen)

11:55 **Overview of the collider searches 25'**

Speaker: Priscilla Pani (DESY)

12:20 **Overview of the direct detection searches 40'**

Speaker: Prof. Hans Kraus (University of Oxford)

13:00 **Relic density calculations - rules and exceptions 25'**

Speaker: Jan Heisig (Louvain)

## Lunch Break

## SUSY/WIMP

14:30 **Collider Searches: 2HDM-based and SUSY-inspired models 25'**

Speaker: Arely Cortes Gonzalez (CERN)

14:55 **WIMP searches with indirect detection experiments 25'**

Speaker: Lucia Rinchuso (Saclay)

15:20 **Annual Modulation Searches 25'**

Speaker: Florian Reindl (HEPHY & TU Vienna)

15:45 **Identifying WIMPs from data and astrophysical uncertainties 25'**

Speaker: Nassim Bozorgnia (Durham University)

## Coffee Break

## Simplified models and EFT

16:40 **Rich phenomenology of simplified models/EFTs in MET+X final states 20'**

Speaker: Stanislava Sevova (Stanford University)

17:00 **Rich phenomenology of simplified models in mediator searches 20'**

Speaker: William Kalderon (Lund University)

17:20 **Direct detection with nuclear scattering 25'**

Speaker: Dr. Tina Pollmann (Laurentian University)

17:45 **Simplified models/EFT in indirect detection 25'**

Speaker: Patrick Tunney (RWTH Aachen)

18:10 **The status of Dark Matter EFTs with a focus on Higgs portal models 25'**

Speaker: Dr. Sebastian Wild (DESY)

# Panel discussion

- Wednesday morning after the coffee break
- Chaired by Enrico Morgante
- Participants from theory and each experimental area
  - Theory: Michael Duerr
  - Collider: Caterina Doglioni
  - Direct detection: Nassim Bozorgnia
  - (In)direct detection: Jan Conrad
- Topic: frequent/difficult questions that come up during the workshop
- YOUR input in the Q&A's is crucial!