

Research Area 3

Top & Higgs Physics

General Meeting 2026

10 June 2026

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MEETS
FLAVOR

**Search for new
phenomena in strong
and weak interactions**

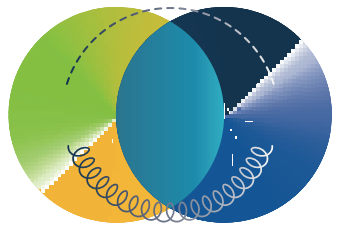


Key Researchers	Bechtle, Bell, Bernlochner, Cristinziani, Delitzsch, Desch, Diez Pardos, Dingfelder, Drees, Dreiner, Duhr, Fleck, Hiller, Huber, Kilian, Knue, Kröninger, T. Lenz, Stamou
Coop. Partners	Maltoni, Worek
Objectives	• Precision measurements and predictions at the highest accessible energies. • Search for additional sources of CP violation in top-quark and Higgs decays. • Connect measurements and predictions between all energy scales to search for BSM effects.
Cluster Professors	W3 BSM Phenomenology (TH), together with RA2 W2 Heavy Particles at ATLAS (EXP)

+ links to IAL.

 **N.B.:** This is the list of key researchers from the proposal.

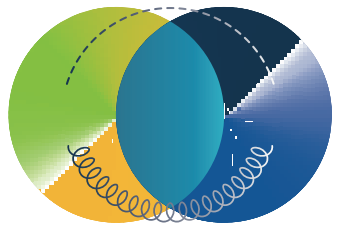
This list is not exhaustive!



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The scientific program in the proposal

1. Precise Predictions for SM observables
2. Top-quark & Higgs-boson couplings
3. Search for new phenomena at high energies
4. Connecting low & high energy scales



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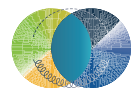
What had happened since then..?



RA3 Kick-off meeting: 07 October 2025.

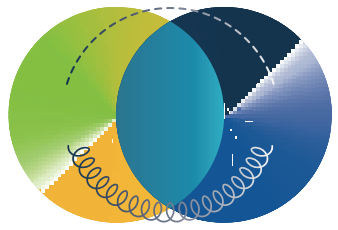
RA3 Convenors: Markus Cristinziani (USi)

Claude Duhr



We identified 5 Cross-functional Research Teams:

- Simulation (Convenor: **Andrea Knue** (UDo))
- Rare Prozesses (Convenor: **Tatjana Lenz** (UBo))
- SMEFT (Convenor: **Christian Grefe** (UBo))
- Tagging (Convenor: **Diptaparna Biswas** (USi))
- Algebraic Tools (Convenor: **Vlad Shtabovenko**)



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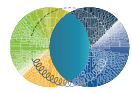
What had happened since then..?



The cluster officially started operating in 2026.



We had an open call for funding proposals.



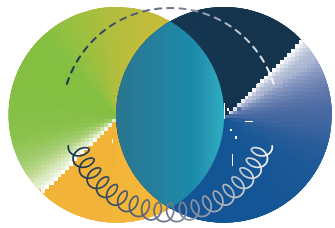
In total, we received 20 project applications from 22 PIs.



Available funding: $10.09 + 3.00 = 13.09$ FTEs.



In order to maximize the opportunities, we decided to merge some projects, and to only fund 1.5 FTE per project.

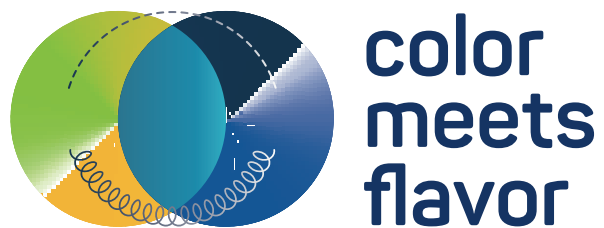


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List of funded projects

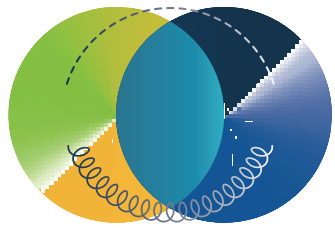
Bell, Shtabovenko	Multiloop FeynCalc
Krieg, Witzel	Grad. flow Λ and α with 4 fermions
Cristinziani	Quark-Gluon tagging using a unified jet flavour tagging algorithm
Diez Pardos	ttbar precision measurements and interpretation
Kilian	Whizard for LHC: $t\bar{t}$ and $t\bar{t}X$
Knue	Pseudo-bound state in ttbar

merged



List of funded projects

Duhr, Maltoni	Constraining anomalous Higgs Self-Couplings in gluon-fusion
Greife, Bechtle, Desch, Hiller,	Higgs potential, high-Scale models & SMEFT for future collider measurements
Schopf	Search for FCNC in top-quark decays to a Higgs boson and a charm or up quark
T. Lenz	Search for new signatures in CP-violating 2HDM

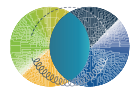


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Inauguration Ceremony



The official Cmf Inauguration Ceremony will take place on 1 July 2026 from 16.00.



Everybody is invited! ➡ Please register!

<https://indico.hiskp.uni-bonn.de/event/1559/>



RA3 contributions:

- Flash Presentation by Elisabeth Schopf.
- RA3 Stand: ATLAS Lego set
Theory blackboard
Detector pieces
Other Ideas?
- Any volunteers to help with the RA3 Stand?