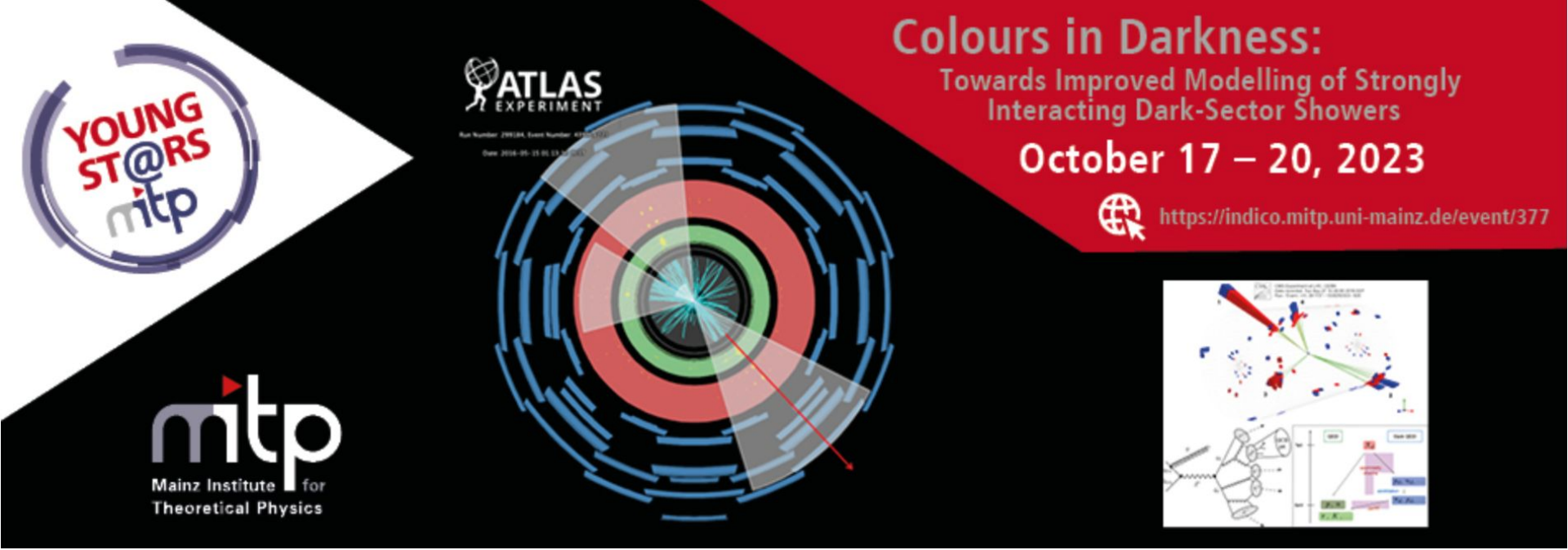

Sukanya Sinha
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17/10/2023

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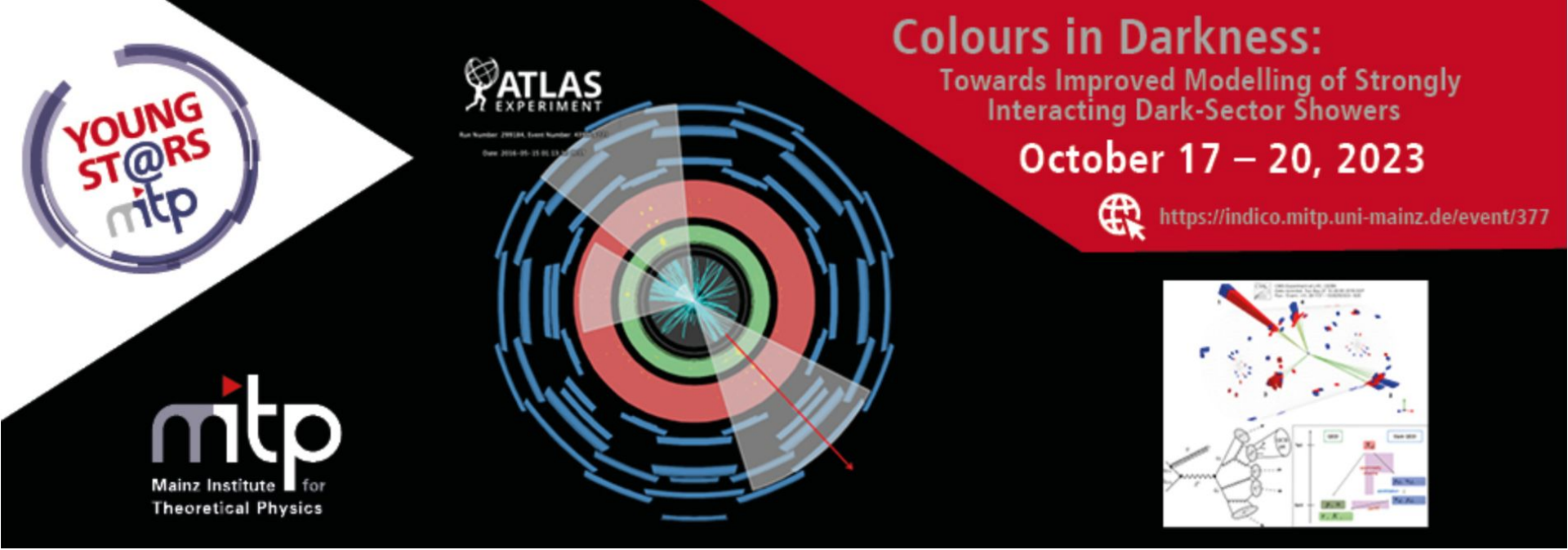

Thanks to the whole MITP Youngst@rs team, especially Dominika and Olly for helping with the workshop logistics!

Scope of the workshop

Aim to build collaboration and motivate cross-talk between the experimental and theory community dedicated towards developing and understanding the strongly interacting dark sector.

→ understanding the current status of the dark showering module within Monte Carlo generators like Pythia and Herwig, as well as establishing a set of realistic benchmark models that will drive future search strategies.

Link to a live google doc here.

→ to be used as rolling minutes after each talk

→ also for guiding the open discussion sessions that are planned at the end of each day.

At the end of the workshop, we plan to have a Workshop summary report, which will then be uploaded on Zenodo. If you are interested in helping with even a small subset of the summary report, please reach out to me. Any help will be appreciated!

Programme of the Workshop

Day1: Dark showers: Theory and Generator perspective

Day2: Dark showers: Experimental perspective (Run-2 results, lessons learnt, tools/analysis techniques developed)

Day3: Dark showers: Reinterpretability/reproducability of experimental results, and new final-state signatures

Day4: Plans for ways forward

Programme of the Workshop

Day1: Dark showers: Theory and

Day2: Dark showers: Experim
tools/analysis techniques develo

Day3: Dark showers: Reinterpret
final-state signatures

Day4: Plans for ways forward

Speaker List

1. **Pedro Schwaller** [Emerging jets Phenomenology]
2. **Tim Cohen** [Semi-visible jets Phenomenology]
3. **Deepak Kar** [Semi-visible jets ATLAS result]
4. **Dilia Maria Portillo Quintero** [Dark jet resonances ATLAS result]
5. **Louie Dartmoor Corpe** [Reinterpretation tools]
6. **Aran Garcia-Bellido** [Semi-visible jets CMS result]
7. **Jannicke Pearkes** [Emerging jets CMS result]
8. **Suchita Kulkarni** [Pythia8 Hidden Valley module]
9. **Nishita Desai** [Alternative Hidden Valley configurations]
10. **Dominic Stafford** [Herwig7 dark shower module]
11. **Matt Strassler** [Dark showers: theory paradigm]
12. **Jon Butterworth** [Constraints on new theories using RIVET]
13. **Mark Goodsell** [Dark matter and dark sector complementarity]

Programme of the Workshop

Day1: Dark showers: Theory and Generator perspective

Day2: Dark results, lessons learnt, tools/analysis

Day3: Dark sh perimental results, and new final-state sig

Day4: Plans fo