



Introduction to MCnet and MCnetITN3

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MCnetITN3

- **Funded for four years**
 - April 1st 2017 – March 31st 2021
- **540 student months**
 - 11 x 36-month PhDs (vs 6 PhDs + 8 RAs)
 - 144 short-term student-months (vs 142)
- **€972,000 research, training & networking**
 - 4 schools (+ 2 overseas)
 - 8 meetings
 - 4 training events
 - Training + travel + visitors + secondments



MCnet

- A network of physicists dedicated to developing Monte Carlo event generators, and related tools, for the LHC and other particle physics experiments
- Formed in 2006
- Funded by the EU since 2007
- To add value to the individual research of our nodes and projects, to pool our training efforts, and to develop common solutions to common problems



MCnetITN3

- An EU Horizon 2020 funded Innovative Training Network
- April 2017 – March 2021
- ~ 4M Euros
 - 11 PhD studentships
 - 144 student-months short-term studentships
 - ~40 studentships



MCnetITN3

- **Beneficiaries:**
 - Manchester, Durham, Glasgow, UCL
 - Göttingen, Karlsruhe, Louvain, Lund
- **Academic Partners:**
 - CERN, Heidelberg, Monash, SLAC
 - + Fermilab
- **Non-Academic Partners:**
 - blue yonder, d-fine, IBA, B12



MCnetITN3

- **Projects:**

- Herwig

- Pythia

- Sherpa

- Madgraph

- Plugin

- Ariadne/DIPSY & HEJ

- CEDAR

- Rivet, Professor, hepforge, HEPDATA, CONTUR

- LHAPDF, HepMC



MCnetITN3

- Schools:

- 2017 Lund, July 3rd – 7th

- 2018 Prato, Tuscany (Monash), July 23rd – 27th

- 2019 UCLondon

- 2020 Karlsruhe

- + 2 outside Europe (USA + Far East?)

- + Scientific Computing School



Secondments

- Non-academic secondment of long-term PhD students
 - 11 students, normally 3 months in their second year (September 2018–August 2019)
- Academic secondment of long-term PhD students
 - 11 students, normally 6 months in their third year (September 2019–August 2020)
 - including to Monash & SLAC (non-EU)



Future Directions

- The individual projects have clearly-defined priorities and plans
- Common themes
 - Further precision (NNLO inclusive, NLO multi-jet)
 - Quantification of precision
 - EW corrections / multi-EW boson emission
 - further improvements to BSM simulation
- Opportunities for inter-project collaboration...