CoEPP

ARC Centre of Excellence for
Particle Physics at the Terascale

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Communications and Outreach Coordinator

- CoEPP began as an Australian-government funded “Centre of Excellence” in mid-2011.
- It was established to coordinate high-energy physics research across a number of significant research centres in Australia.
- University of Adelaide, University of Melbourne, Monash University and University of Sydney.

Brief introduction to CoEPP

A major focus of research within CoEPP is on the ATLAS experiment at CERN.

CoEPP work includes the analysis of Higgs boson decay modes, the development of new and refined theoretical models and analysis techniques, physics beyond the Standard Model, the search for the origin of neutrino mass, fine-tuning constraints in supersymmetric models and the search for dark matter.

Theoretical work underpins the experimental studies, with theorists and experimentalists working collaboratively to investigate the many areas of study within the Centre's research program.

CoEPP outreach program

CoEPP organises a range of outreach activities that are designed to encourage and inspire the next generation of researchers, involve and educate the general public and engage with non-traditional audiences.

The International Masterclass has become CoEPP's flagship activity for high-school students.

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Evolution of masterclass in Australia

2012

Inaugural masterclass

Held at the Australian Synchrotron in Melbourne during ICHEP2012

46 participants

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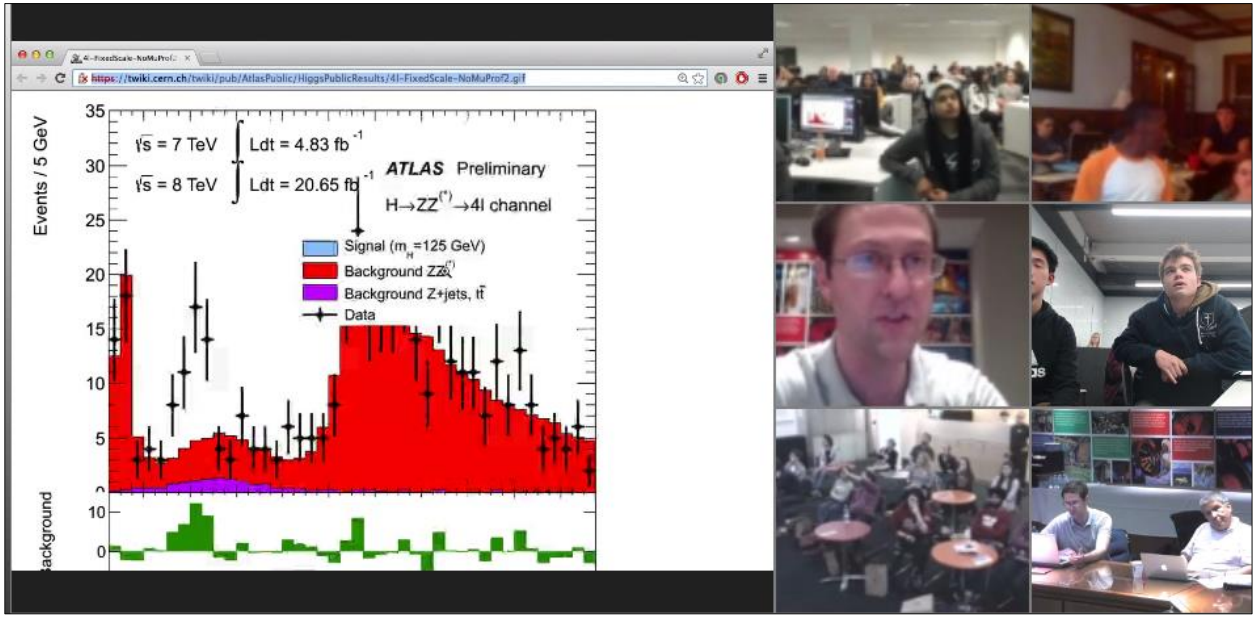
2013

First International Masterclass

Held concurrently in Adelaide, Melbourne and Sydney

97 participants



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2014

- Second international masterclass
- Support provided to some regional participants
- First non-node state attendee
- Trial of “virtual” masterclass

Virtual masterclass trial: 28 November 2014

- Organised in conjunction with the New South Wales Department of Education and Communities (DEC).
- Trialed with a “virtual high school” – the school offers specialist subjects to students from rural and remote areas who have high academic abilities but whose schools would not generally have the capacity to offer specialist or advanced subjects.

- Conferencing software: Adobe Connect.
- Schedule: based on international masterclass
- Content: extended lecture on Standard Model and particle physics fundamentals. Same HYPATIA tutorial.
- Tutors also acted as moderators.
- High school teachers were present at most schools.

Virtual masterclass – next steps

- Continue to provide as part of the virtual high school http://www.aurora.nsw.edu.au/

Responsibilities for next stage of development:

- DEC
  - Develop online resources for the program - multimedia
  - Will use Learncast for content delivery of pdfs, video/ multimedia

- CoEPP
  - Provide advice and assistance to DEC for resource development
  - Provide tutors
  - Liaise with CERN and IPPOG in regards to resource development

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