



The  
University  
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Sheffield.

# WP1 Objectives

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## Outline:

- ◆ Summary of Artemis strengths
- ◆ Trigger → UCL
- ◆ Electrons/Muons → Saclay, Sheffield, Thessaloniki
- ◆ Jets → MPI, Piza, Sheffield, UCL

1<sup>st</sup> Annual ARTEMIS Meeting, 27-September-2007

# Artemis strengths in ATLAS: reminder for the students

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- ◆ Standard Model: convenor
  - ◆ B Physics: convenor
  - ◆ SUSY: convenor
  - ◆ Jet and EtMiss: convenor
  - ◆ Atlas MC: convenor
  - ◆ Physics Analysis Tools: both convenors
  - ◆  $H \rightarrow 4l$  Analysis: convenor
  - ◆ Muon commissioning and software: convenor
  - ◆ CTB papers: editors
  - ◆ Higgs group validation.
  - ◆ Leadership in EM and Hadronic calibration, Trigger.
  - ◆ Leadership in Phenomenology (Durham)
  - ◆ Leadership in several CSC physics and performance notes
  - ◆ More that I forget
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# Electron/Muon Performance Milestones

Milestone	Deadline	Status	People
Extraction of EM Calibration constants : Fixed Windows, Topol Clusters	10/2007	<b>Done 12.0.X</b>	SHEF
Electron Efficiency/Jet Rejection	12/2007	In Progress	SHEF,AUTH
Electron Low pt studies (Effic/Rejection)	12/2007	In Progress	TBD
Extraction of EM Calibration in CTB	9/2007	<b>Done</b>	SHEF
Electron Shower/ID Isolation Cut Reoptimization	12/2007	In Progress	SHEF
Muon Isolation cut optimisation	12/2007	In Progress	Saclay AUTH
Muon-id algorithm studies	12/2007	In Progress	Saclay AUTH
Develop vertexing tools at the AOD level for $H \rightarrow 4l$ analysis	6/2008	In Progress	SHEF
Develop method to measure the Zbb background with 1fb-1 luminosity	6/2008	In Progress	Saclay SHEF AUTH
Study $b \rightarrow e$ rejection	12/2007	In Progress	As above
Study $c \rightarrow e$ rejection	12/2007	In Progress	As above
Validation of G4.8 with data	12/2007	In Progress	As above
Develop electron/muon performance tools which run automatically every night and provide physics validation.	9/2007	<b>Done</b>	SHEF, Saclay
Recalibration/Intercalibration of EM Calo using $Z/W \rightarrow e$	6/2008	In Progress	Saclay, SHEF

# Jets/EtMiss Performance Milestones

Milestone	Deadline	Status	People
CSC note on comparison Data/MC for CTB data – H6	10/2007	In progress	Max Plank Institute
CSC note on comparison CTB results – H8	10/2007	In progress	V.Giangiobbe, I.Vivarelli, V.Cavasinni, C.Roda
<b>Extraction of Had Calibration constants H1 with jet energy dependence Local Hadron Calibration</b>	10/2007	In Prog for rel	
		13.0.x	I.Vivarelli
		13.0.x	S.Menke
Assesment of jet performance and implementation of jet performance package using MC info	10/2007	In Progress	V.Giangiobbe
Validation of jet performances with in-situ events	10/2008	In Progress	Hodgson
<b>Measurement of energy scale, linearity and resolution using <math>W \rightarrow jj</math> events</b>	12/2008		