

# Muon Collider 2011



## Report of Contributions

Contribution ID: **0**

Type: **not specified**

## Welcome

*Monday, 27 June 2011 09:05 (10 minutes)*

**Presenter:** KIM, Young-Kee (FNAL)

**Session Classification:** Plenary 1

Contribution ID: 1

Type: **not specified**

## Physics at a TeV Lepton Collider

*Monday, 27 June 2011 09:15 (45 minutes)*

**Primary author:** Dr EICHTEN, Estia (Fermilab)

**Presenter:** Dr EICHTEN, Estia (Fermilab)

**Session Classification:** Plenary 1

Contribution ID: 2

Type: **not specified**

## **Muon Collider Accelerator R&D**

*Monday, 27 June 2011 10:00 (45 minutes)*

**Primary author:** PALMER, Robert (Brookhaven National lab)

**Presenter:** PALMER, Robert (Brookhaven National lab)

**Session Classification:** Plenary 1

Contribution ID: 3

Type: **not specified**

## **Muon Accelerator Program**

*Monday, 27 June 2011 11:05 (45 minutes)*

**Primary author:** Dr ZISMAN, Michael (Lawrence Berkeley National Laboratory)

**Presenter:** Dr ZISMAN, Michael (Lawrence Berkeley National Laboratory)

**Session Classification:** Plenary 2

Contribution ID: 4

Type: **not specified**

## **Detector R&D for Lepton Colliders**

*Monday, 27 June 2011 11:50 (30 minutes)*

**Primary author:** BRAU, James (Univ. of Oregon)

**Presenter:** BRAU, James (Univ. of Oregon)

**Session Classification:** Plenary 2

Contribution ID: 5

Type: **not specified**

## **Macine Detector Interface 1**

*Monday, 27 June 2011 14:00 (1 hour)*

**Primary author:** Dr MOKHOV, Nikolai (Fermilab)

**Presenter:** Dr MOKHOV, Nikolai (Fermilab)

**Session Classification:** Plenary 3

Contribution ID: 6

Type: **not specified**

## Machine Detector Interface 2

*Monday, 27 June 2011 15:00 (30 minutes)*

**Primary author:** Dr ROBERTS, Tom (Muons, Inc.)

**Presenter:** Dr ROBERTS, Tom (Muons, Inc.)

**Session Classification:** Plenary 3



Contribution ID: 7

Type: **not specified**

## **Ionization Cooling**

*Tuesday, 28 June 2011 09:00 (45 minutes)*

**Primary author:** Prof. BROSS, Alan (Fermilab)

**Presenter:** Prof. BROSS, Alan (Fermilab)

**Session Classification:** Plenary 4

Contribution ID: 8

Type: **not specified**

## Physics Benchmarks

*Tuesday, 28 June 2011 09:45 (45 minutes)*

**Primary author:** Prof. BATTAGLIA, Marco (UCSC and LBNL)

**Presenter:** Prof. BATTAGLIA, Marco (UCSC and LBNL)

**Session Classification:** Plenary 4

Contribution ID: 9

Type: **not specified**

## CLIC

*Wednesday, 29 June 2011 09:00 (45 minutes)*

**Primary author:** ADLI, Erik (SLAC/University of Oslo)

**Presenter:** ADLI, Erik (SLAC/University of Oslo)

**Session Classification:** Plenary 5

Contribution ID: **10**

Type: **not specified**

## **New Detectors for Muon Collider**

*Wednesday, 29 June 2011 09:45 (45 minutes)*

**Primary author:** LIPTON, Ronald (Fermilab)

**Presenter:** LIPTON, Ronald (Fermilab)

**Session Classification:** Plenary 5

Contribution ID: 11

Type: **not specified**

## Synergy with Neutrino Factory

*Thursday, 30 June 2011 09:45 (45 minutes)*

**Primary author:** GEER, Steve (FNAL)

**Presenter:** GEER, Steve (FNAL)

**Session Classification:** Plenary 6

Contribution ID: 12

Type: **not specified**

## Project X

*Thursday, 30 June 2011 09:00 (45 minutes)*

**Presenter:** NAGAITSEV, Sergei (Fermilab)

**Session Classification:** Plenary 6

Contribution ID: 13

Type: **not specified**

## **WG1 report**

*Friday, 1 July 2011 09:00 (45 minutes)*

**Presenters:** Dr HILL, Christopher (FNAL); XIA, Lei; NELSON, Tim

**Session Classification:** Plenary 7

Contribution ID: 14

Type: **not specified**

## **WG2 Report**

*Friday, 1 July 2011 09:45 (45 minutes)*

**Session Classification:** Plenary 7



Contribution ID: 15

Type: **not specified**

## Summary of Critical Issues

*Friday, 1 July 2011 11:10 (45 minutes)*

**Presenter:** Dr PALMER, Robert B (Brookhaven National lab)

**Session Classification:** Plenary 8

Contribution ID: 16

Type: **not specified**

## Progress and Collaboration

*Friday, 1 July 2011 11:55 (30 minutes)*

**Presenters:** Dr LIPTON, Ronald Lipton (Fermilab); GEER, Steve (FNAL)

**Session Classification:** Plenary 8

Contribution ID: 17

Type: **not specified**

## **Background Simulation Overview**

*Tuesday, 28 June 2011 10:50 (20 minutes)*

**Presenter:** Dr STRIGANOV, Sergei (Fermilab)

**Session Classification:** Working Group 1

Contribution ID: **18**

Type: **not specified**

## **Calorimetry Studies for Muon Collider using ILCroot**

*Wednesday, 29 June 2011 15:50 (30 minutes)*

**Presenter:** DI BENEDETTO, Vito (INFN-Lecce)

**Session Classification:** Working Group 1

Contribution ID: **19**

Type: **not specified**

## **Muon Collider Tracking Studies in ILCroot**

*Tuesday, 28 June 2011 11:30 (20 minutes)*

**Presenter:** Dr MAZZACANE, Anna (Fermi National Accelerator Laboratory)

**Session Classification:** Working Group 1

Contribution ID: 20

Type: **not specified**

## **Vertex and tracker Si detector hits for MARS/ILCroot simulated beam backgrounds in 1.5 TeV muon collider**

*Tuesday, 28 June 2011 11:10 (20 minutes)*

**Presenter:** TARENTIEV, Nikolai (Carnegie Mellon U, USA)

**Session Classification:** Working Group 1

Contribution ID: 21

Type: **not specified**

## Physics Issues

*Tuesday, 28 June 2011 14:00 (45 minutes)*

**Presenter:** Prof. GUNION, John (UC Davis)

**Session Classification:** Working Group 1

Contribution ID: 22

Type: **not specified**

## **SUSY and Dark Matter at the MC**

*Tuesday, 28 June 2011 14:45 (45 minutes)*

**Presenter:** Dr FOX, Patrick (Fermilab)

**Session Classification:** Working Group 1



Contribution ID: 23

Type: **not specified**

## Physics Scenerios

Contribution ID: 24

Type: **not specified**

## Benchmarks

**Presenters:** Dr EICHTEN, Estia (Fermilab); Prof. BATTAGLIA, Marco (UCSC and LBNL)

Contribution ID: 25

Type: **not specified**

## **Initial LCSIM Studies**

**Presenters:** KOZMINSKI, Joseph (Lewis University, Northern Illinois University); Dr LIPTON, Ronald Lipton (FERmilab)

Contribution ID: 26

Type: **not specified**

## **Simulation Plans and Strategy**

**Presenter:** PARA, Adam (Fermilab)

Contribution ID: 27

Type: **not specified**

## **Hadron Calorimeter State of the Art as Applied to MuC**

Contribution ID: 28

Type: **not specified**

## **Electromagnetic Calorimeter State of the Art as Applied to MuC**

**Presenter:** FREY, Ray (University of Oregon)

Contribution ID: 29

Type: **not specified**

## **Tracking State of the Art as Applied to MuC**

Contribution ID: **30**

Type: **not specified**

## **Electromagnetic Calorimetry for Lepton Colliders**

*Thursday, 30 June 2011 11:15 (30 minutes)*

**Presenter:** FREY, Ray (University of Oregon)

**Session Classification:** Working Group 1



Contribution ID: **31**

Type: **not specified**

## Dual Readout Calorimeter

Contribution ID: 32

Type: **not specified**

## **Spyder Calorimeter Studies**

Contribution ID: **33**

Type: **not specified**

## **Working Session**

*Thursday, 30 June 2011 14:00 (1h 30m)*

**Presenter:** Dr LIPTON, Ronald Lipton (Fermilab)

**Session Classification:** Working Group 1

Contribution ID: **34**

Type: **not specified**

## **Fast Timing Studies**

**Presenter:** Dr ABRAMS, Robert (Muons, Inc.)

Contribution ID: 35

Type: **not specified**

## TPCs

Contribution ID: **36**

Type: **not specified**

## **Tracker Model Discussion**

*Thursday, 30 June 2011 15:50 (30 minutes)*

**Session Classification:** Working Group 1

Contribution ID: 37

Type: **not specified**

## **Calorimeter Model Discussion**

*Thursday, 30 June 2011 16:20 (20 minutes)*

**Session Classification:** Working Group 1

Contribution ID: **38**

Type: **not specified**

## **Physics Models Discussion**

*Thursday, 30 June 2011 16:40 (20 minutes)*

**Session Classification:** Working Group 1



Contribution ID: 39

Type: **not specified**

## Round Table

*Monday, 27 June 2011 15:50 (1 hour)*

**Presenters:** MACFARLANE, David (SLAC National Accelerator Lab); BRAU, James (Univ. of Oregon); ROSNER, Jonathan (University of Chicago); Dr PALMER, Robert B (Brookhaven National lab); KIM, Young-Kee (FNAL)

**Session Classification:** The Future of Lepton Colliders

Contribution ID: 40

Type: **not specified**

## **Calorimetry Studies for Muon Collider using ILCroot**

**Presenter:** DI BENEDETTO, Vito (INFN-Lecce)

Contribution ID: 41

Type: **not specified**

## Computing Infrastructure

**Presenter:** Dr WENZEL, Hans (Fermilab)

Contribution ID: 42

Type: **not specified**

## **Benchmarks**

*Wednesday, 29 June 2011 10:50 (40 minutes)*

**Presenters:** Dr EICHTEN, Estia (Fermilab); Prof. BATTAGLIA, Marco (UCSC and LBNL)

**Session Classification:** Working Group 1

Contribution ID: 43

Type: **not specified**

## Initial LCSIM Studies

**Presenters:** KOZMINSKI, Joseph (Lewis University, Northern Illinois University); Dr LIPTON, Ronald Lipton (FERmilab)

Contribution ID: 44

Type: **not specified**

## **Simulation Plans and Strategy**

*Wednesday, 29 June 2011 11:30 (20 minutes)*

**Presenter:** PARA, Adam (Fermilab)

**Session Classification:** Working Group 1

Contribution ID: 45

Type: **not specified**

## Computing Infrastructure

*Wednesday, 29 June 2011 11:50 (20 minutes)*

**Presenter:** Dr WENZEL, Hans (Fermilab)

**Session Classification:** Working Group 1

Contribution ID: 46

Type: **not specified**

## **Discussion of accelerator impact of physics scenerios**

*Tuesday, 28 June 2011 15:50 (1h 10m)*

**Presenter:** GEER, Steve (FNAL)

**Session Classification:** Working Group 1



Contribution ID: 47

Type: **not specified**

## **Hadron Calorimetry for LC and Beyond**

*Wednesday, 29 June 2011 14:00 (30 minutes)*

**Presenter:** CHAKRABORTY, Dhiman (Northern Illinois)

**Session Classification:** Working Group 1

Contribution ID: 48

Type: **not specified**

## **Towards a Compensatable Muon Collider Calorimeter with manageable Backgrounds**

*Wednesday, 29 June 2011 14:30 (50 minutes)*

**Presenter:** Dr RAJA, Rajendran (Fermilab)

**Session Classification:** Working Group 1

Contribution ID: 49

Type: **not specified**

## **Working Session**

*Wednesday, 29 June 2011 16:20 (40 minutes)*

**Session Classification:** Working Group 1

Contribution ID: 50

Type: **not specified**

## Tracking for Lepton Colliders

*Thursday, 30 June 2011 11:45 (30 minutes)*

**Presenter:** NELSON, Tim (SLAC)

**Session Classification:** Working Group 1

Contribution ID: 51

Type: **not specified**

## Fast Timing Studies

*Thursday, 30 June 2011 10:50 (25 minutes)*

**Presenter:** Dr ABRAMS, Robert (Muons, Inc.)

**Session Classification:** Working Group 1

Contribution ID: 52

Type: **not specified**

## **Discussion of Benchmarks Optimization**

*Wednesday, 29 June 2011 14:00 (45 minutes)*

**Presenter:** HILL, Christopher (FNAL)

**Session Classification:** Theory

Contribution ID: 53

Type: **not specified**

## **Strong Dynamics at a MC**

*Wednesday, 29 June 2011 15:50 (30 minutes)*

**Presenter:** MARTIN, Adam (Fermilab)

**Session Classification:** Theory

Contribution ID: 54

Type: **not specified**

## **Strong Dynamics and Lattice**

*Thursday, 30 June 2011 14:30 (30 minutes)*

**Presenter:** FLEMING, George

**Session Classification:** Theory



Contribution ID: 55

Type: **not specified**

## QCD Issues

*Thursday, 30 June 2011 14:00 (30 minutes)*

**Presenters:** STAVENGA, Gerben (Fermilab); GIELE, Walter

**Session Classification:** Theory

Contribution ID: **56**

Type: **not specified**

**TBA**

**Presenter:** KRIBS, Graham

Contribution ID: 57

Type: **not specified**

## **(Some of the) Particle Physics on the way to the Muon Collider**

*Thursday, 30 June 2011 15:00 (30 minutes)*

**Presenter:** DEGOUVEA, Andre

**Session Classification:** Theory

Contribution ID: 58

Type: **not specified**

## **Phase rotation, separation & merging**

*Wednesday, 29 June 2011 11:00 (20 minutes)*

**Primary author:** Dr NEUFFER, David (Fermilab)

**Presenter:** Dr NEUFFER, David (Fermilab)

**Session Classification:** Working Group 2

Contribution ID: 59

Type: **not specified**

## **MICE**

*Wednesday, 29 June 2011 11:20 (20 minutes)*

**Presenter:** Dr CONEY, Linda (UC Riverside)

**Session Classification:** Working Group 2

Contribution ID: **60**

Type: **not specified**

## Cooling

*Wednesday, 29 June 2011 11:40 (35 minutes)*

**Presenter:** Dr ROBERTS, Thomas (Muons, Inc.)

**Session Classification:** Working Group 2

Contribution ID: **61**

Type: **not specified**

## **Discussion**

*Wednesday, 29 June 2011 12:15 (15 minutes)*

**Session Classification:** Working Group 2

Contribution ID: **62**

Type: **not specified**

## **Acceleration**

*Thursday, 30 June 2011 11:00 (35 minutes)*

**Presenter:** Dr BOGACZ, Alex (Jefferson Lab)

**Session Classification:** Working Group 2



Contribution ID: **63**

Type: **not specified**

## Ring lattices

*Thursday, 30 June 2011 11:35 (25 minutes)*

**Presenter:** Dr ALEXAHIN, Yuri (Fermilab)

**Session Classification:** Working Group 2

Contribution ID: **64**

Type: **not specified**

## **Fast Ramping 750 GeV Muon Synchrotron**

*Thursday, 30 June 2011 12:00 (20 minutes)*

**Presenter:** Prof. SUMMERS, Don (Univ. of Mississippi)

**Session Classification:** Working Group 2

Contribution ID: 65

Type: **not specified**

## Discussion

*Thursday, 30 June 2011 12:20 (10 minutes)*

**Session Classification:** Working Group 2

Contribution ID: **66**

Type: **not specified**

## **Task force on Project X for MC**

*Tuesday, 28 June 2011 10:50 (10 minutes)*

**Presenter:** Dr GOLLWITZER, Keith (Fermilab)

**Session Classification:** Working Group 2

Contribution ID: 67

Type: **not specified**

## **A possible solution**

*Tuesday, 28 June 2011 11:05 (20 minutes)*

**Presenter:** NAGAITSEV, Sergei (FNAL)

**Session Classification:** Working Group 2

Contribution ID: **68**

Type: **not specified**

## **Discussion of proton driver for MC**

*Tuesday, 28 June 2011 11:30 (10 minutes)*

**Session Classification:** Working Group 2

Contribution ID: **69**

Type: **not specified**

## **Target baseline**

*Tuesday, 28 June 2011 11:45 (15 minutes)*

**Presenter:** Prof. MCDONALD, Kirk (Princeton University)

**Session Classification:** Working Group 2

Contribution ID: 70

Type: **not specified**

## **Simulations of Hg jets with beam**

*Tuesday, 28 June 2011 12:05 (15 minutes)*

**Presenter:** KIRK, Harold (Brookhaven National Laboratory)

**Session Classification:** Working Group 2



Contribution ID: 71

Type: **not specified**

## Existing tools and needs

*Thursday, 30 June 2011 15:50 (15 minutes)*

**Presenter:** FERNOW, Richard (Brookhaven National Laboratory)

**Session Classification:** Working Group 2

Contribution ID: 72

Type: **not specified**

## Effects in absorbers

*Thursday, 30 June 2011 16:10 (15 minutes)*

**Presenter:** Dr PAUL, Kevin (Tech-X Corporation)

**Session Classification:** Working Group 2

Contribution ID: 73

Type: **not specified**

## **Space charge and beam-beam simulations**

*Thursday, 30 June 2011 16:30 (30 minutes)*

**Presenter:** Dr RYNE, Robert (LBNL)

**Session Classification:** Working Group 2

Contribution ID: 74

Type: **not specified**

## Discussion

*Thursday, 30 June 2011 17:05 (15 minutes)*

**Session Classification:** Working Group 2

Contribution ID: 75

Type: **not specified**

## **PbBi experience**

*Tuesday, 28 June 2011 14:00 (20 minutes)*

**Presenter:** GROESCHEL, Friedrich

**Session Classification:** Working Group 2

Contribution ID: 76

Type: **not specified**

## Hg experience

*Tuesday, 28 June 2011 14:20 (20 minutes)*

**Presenter:** TROTTER, Steven (ORNL)

**Session Classification:** Working Group 2

Contribution ID: 77

Type: **not specified**

## Capture and radiation management

*Tuesday, 28 June 2011 14:40 (25 minutes)*

**Presenter:** KIRK, Harold (Brookhaven National Laboratory)

**Session Classification:** Working Group 2

Contribution ID: 78

Type: **not specified**

## Discussion

*Tuesday, 28 June 2011 15:05 (25 minutes)*

**Session Classification:** Working Group 2



Contribution ID: 79

Type: **not specified**

## Recent MTA results

*Wednesday, 29 June 2011 14:00 (25 minutes)*

**Presenter:** Prof. TORUN, Yagmur (Illinois Institute of Technology)

**Session Classification:** Working Group 2

Contribution ID: **80**

Type: **not specified**

## **Theory without B field**

*Wednesday, 29 June 2011 14:25 (25 minutes)*

**Presenter:** WANG, Juwen (SLAC)

**Session Classification:** Working Group 2

Contribution ID: **81**

Type: **not specified**

## **Theory with B field**

*Wednesday, 29 June 2011 14:50 (25 minutes)*

**Presenter:** Dr STRATAKIS, Diktys (University of California, Los Angeles)

**Session Classification:** Working Group 2

Contribution ID: **82**

Type: **not specified**

## **Discussion**

*Wednesday, 29 June 2011 15:15 (15 minutes)*

**Session Classification:** Working Group 2

Contribution ID: **83**

Type: **not specified**

## **Radiation Hardness of LTS and HTS superconductors**

*Wednesday, 29 June 2011 15:50 (25 minutes)*

**Presenter:** OGITSU, Toru (KEK)

**Session Classification:** Working Group 2

Contribution ID: **84**

Type: **not specified**

## **HTS issues including quench protection**

*Wednesday, 29 June 2011 16:15 (25 minutes)*

**Presenter:** SHEN, Tengming (Fermilab)

**Session Classification:** Working Group 2

Contribution ID: 85

Type: **not specified**

## **R&D towards 40T solenoids at BNL**

*Wednesday, 29 June 2011 16:40 (20 minutes)*

**Presenter:** Dr GUPTA, Ramesh (BNL)

**Session Classification:** Working Group 2

Contribution ID: **86**

Type: **not specified**

## **R&D towards 40T solenoids at Fermilab**

*Wednesday, 29 June 2011 17:00 (20 minutes)*

**Presenter:** LOMBARDO, Vito (Fermilab)

**Session Classification:** Working Group 2



Contribution ID: 87

Type: **not specified**

## Summary of mini-Workshop

*Thursday, 30 June 2011 14:00 (20 minutes)*

**Presenter:** TOMPKINS, John (FNAL/TD/MSD)

**Session Classification:** Working Group 2

Contribution ID: **88**

Type: **not specified**

## **MARS simulation of ring energy deposition**

*Thursday, 30 June 2011 14:20 (30 minutes)*

**Presenter:** Dr MOKHOV, Nikolai (Fermilab)

**Session Classification:** Working Group 2

Contribution ID: **89**

Type: **not specified**

## **MARS simulation of truly open mid-plane**

*Thursday, 30 June 2011 14:50 (20 minutes)*

**Presenter:** Dr DING, Xiaoping (UCLA)

**Session Classification:** Working Group 2

Contribution ID: **90**

Type: **not specified**

## **Discussion**

*Thursday, 30 June 2011 15:10 (20 minutes)*

**Session Classification:** Working Group 2

Contribution ID: **91**

Type: **not specified**

## **Organization**

*Monday, 27 June 2011 09:00 (5 minutes)*

**Session Classification:** Plenary 1

Contribution ID: 92

Type: **not specified**

## Physics Cases for Muon Colliders

*Wednesday, 29 June 2011 14:45 (20 minutes)*

**Presenter:** HAN, Tao (University of Wisconsin)

**Session Classification:** Theory

Contribution ID: 93

Type: **not specified**

## **The A0-H0 Resonances**

*Wednesday, 29 June 2011 16:20 (15 minutes)*

**Presenter:** Dr CLINE, David (UCLA Physics & Astronomy)

**Session Classification:** Theory

Contribution ID: 94

Type: **not specified**

## **A Light Dilaton at the Muon Collider**

*Wednesday, 29 June 2011 16:50 (20 minutes)*

**Presenter:** BAI, Yang

**Session Classification:** Theory



Contribution ID: 95

Type: **not specified**

## **Comments on Dark Matter at an MC**

*Wednesday, 29 June 2011 16:35 (15 minutes)*

**Presenter:** KRIBS, Graham

**Session Classification:** Theory