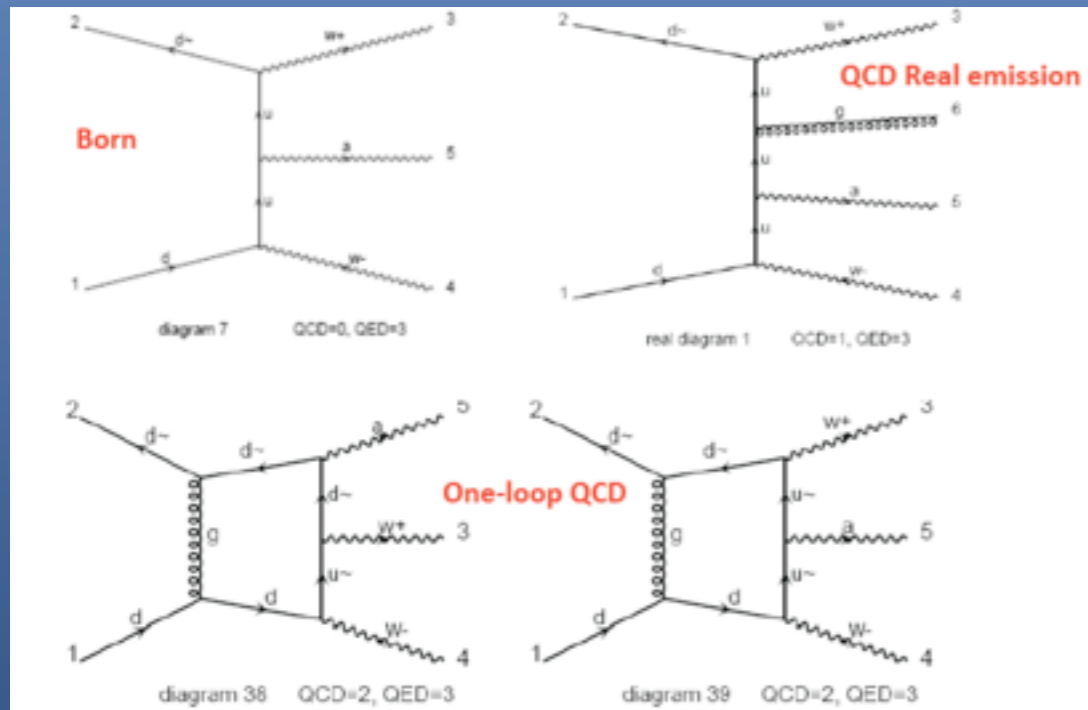


LPC Workshop on Gauge Boson Couplings



The screenshot shows the LHC Physics Center website with the following elements:

- Header:** LPC LHC PHYSICS CENTER and Fermilab logo.
- Navigation:** HOME | VISIT LPC | PHYSICS | PROGRAMS | FELLOWS | COMMUNITY | CALENDAR | ORGANISATION
- Feature Article:** "LHC PHYSICS CENTER CONNECTS PHYSICISTS TO CMS". The article text reads: "A physics collaboration with 3,000 members from all over the world working on a variety of questions can seem chaotic, but physicist Jason St. John knows, everything has an underlying order." A "READ MORE >" link is present.
- Image:** A photograph of a workshop with participants at computers.
- Thumbnail Navigation:** A row of five numbered thumbnails (1-5) at the bottom of the article.

Meenakshi Narain, Richard Cavanaugh, Boaz Klima
LHC Physics Center Coordinators

LPC GBC workshop
Fermilab, 19-20 August, 2013



Overview of LPC...





Overview of LPC...

- The LPC is an established regional center for CMS physics analysis & detector upgrades.





Overview of LPC...

- The LPC is an established regional center for CMS physics analysis & detector upgrades.
- The LPC is a powerhouse of talent, experience and resources.





Overview of LPC...

- The LPC is an established regional center for CMS physics analysis & detector upgrades.
- The LPC is a powerhouse of talent, experience and resources.
- Acts as a catalyst for contributions of US CMS Collaborators to the experiment.
 - serves as a critical link for remote physicists to participate directly in the CMS, economically and transparently. Develop opportunities for members of LPC to make major contributions to the physics effort of CMS.





Overview of LPC...

- The LPC is an established regional center for CMS physics analysis & detector upgrades.
- The LPC is a powerhouse of talent, experience and resources.
- Acts as a catalyst for contributions of US CMS Collaborators to the experiment.
 - serves as a critical link for remote physicists to participate directly in the CMS, economically and transparently. Develop opportunities for members of LPC to make major contributions to the physics effort of CMS.
- The LPC is the local (US) center of excellence for CMS physics.
 - Proximity to a broad range of object expertise under one roof
 - Access to outstanding computing resources and software support
 - A vibrant intellectual community



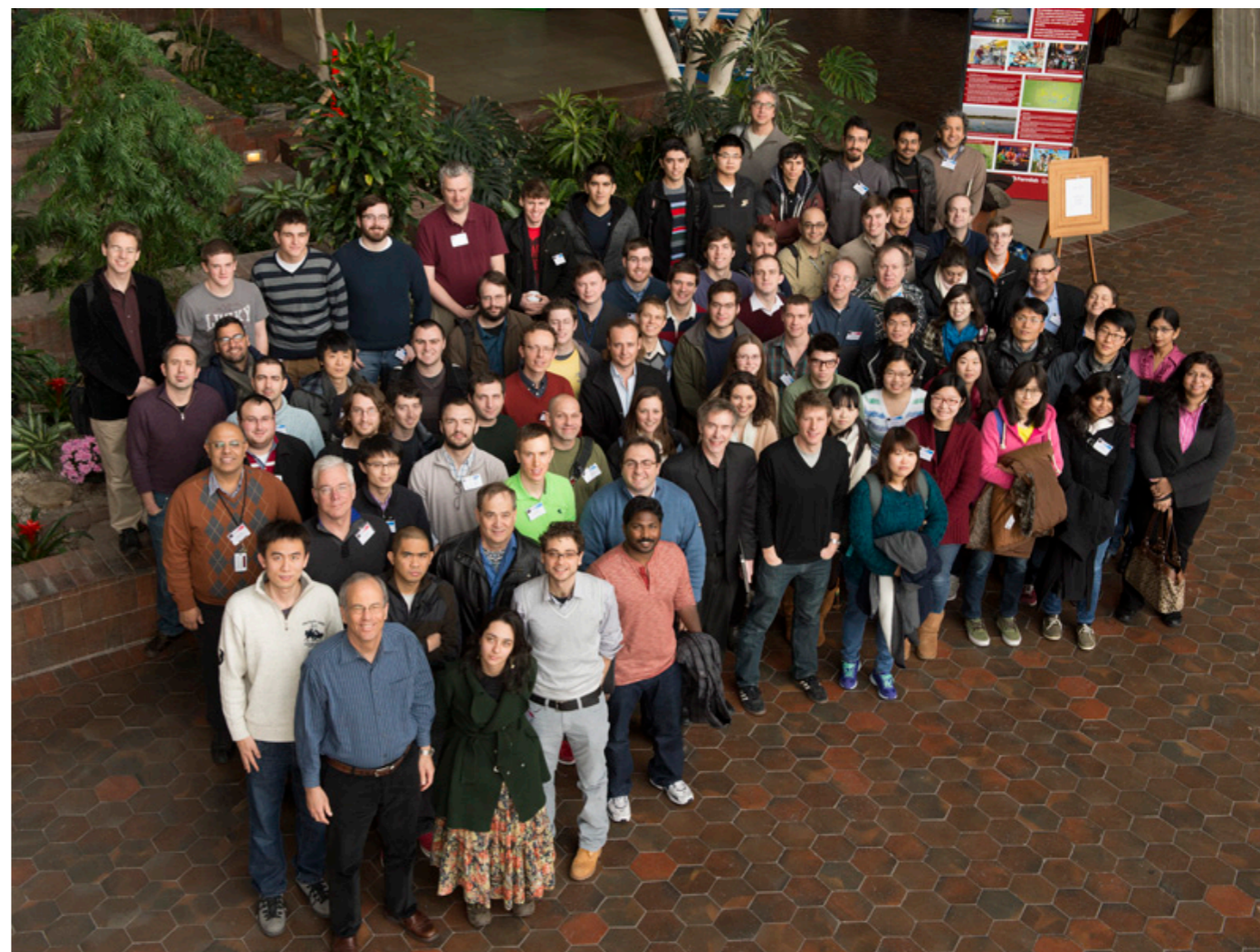
- Serves as a resource and physics analysis hub for several hundred physicists at US institutions in the CMS collaboration

In 2012 there were about 370 users

Roughly 270 from universities (residents & visitors)

About 100 Fermilab staff

In 2012, the Tier3 computing, LPC CAF, provided support to around 676 active users (out of a total of 1959+ accounts)





LPC GUEST AND VISITOR PROGRAM

The LHC Physics Center (LPC) is pleased to announce a call for proposals for short stays at the LPC starting in June 2013.

A modest amount of funding is available to support short one to three month stays at the LPC during the period 1 June 2013 to 31 September 2013. Proposals are due by Friday 15 March, and should be submitted to Terry Grozis (tgrozis@fnal.gov), in PDF format.

The goal of the LPC Short Stay Guest Program is to promote all research activity on CMS, including analysis of data and work on detector upgrades. The LPC is active in several CMS physics analysis areas, including: Higgs properties, SUSY, Exotica, B2G; physics objects groups, and participation in upgrade hardware and software projects. The LPC has significant resources: a large scale computing facility, CMS software support, and a strong intellectual community with CMS leadership in detector development, physics object reconstruction, and data analysis.

Faculty, post docs and graduate students are eligible. Proposals should be no more than one page, describing the research and deliverables, as well as the rationale for conducting the work at the LPC. Clearly state the proposed start and end date and funding amount requested. Proposals to support graduate students should be submitted by the major professor, proposals to support post docs should be submitted by the mentor/supervisor. A review of the proposals will be conducted shortly after the deadline with results communicated to the proponents expeditiously.



Elif Albayrak	Iowa
Sunanda Banerjee	Kolkata
Burak Bilki	Iowa
Mehmet Deliomeroglu	Turkey (Cukurova)
Kamuran Dilsiz	Iowa
Alejandro Gomez	Boston/Ecuador
Yifei Guo	Peking
Maksat Haymuradov	Iowa
Shilpi Jain	India (Delhi & Kolkata)
Kittikul Kovanggoon	Texas Tech
Nick Kypreos	Florida
Terence Libeiro	Texas Tech
Jia Fu Low	Florida
Michael Luk	Brown
Mikhail Makouski	Kansas State
Yurii Maravin	Kansas
Angela Marotta	Texas A&M
Anthony Moeller	Iowa
Roy Montalvo	Texas A&M
John Neuhaus	Iowa
Hasan Ogul	Iowa
Neeti Parashar	Purdue-Calumet
Myeonghun Park	Florida
Doug Rank	Florida
Valdas Rapsevicius	Florida
Ernest Roncheck	Kansas State
Aurore Savoy-Navaro	CNRS-IN2P3 Paris 6
Michael Segala	Brown
Shruti Shrestha	Kansas
Anil Singh	Panjab
Jason St. John	Boston
Suharyo Sumovidagdo	UC Riverside
Irakli Svintradze	Kansas
Andre Sznajder	Brazil (UERJ)
David Tersengo	Brown
Emrah Tiras	Iowa
Mehmet Virgili	Turkey (Cukurova)
James Wetzel	Iowa
Zhoulin Xie	Brown
Taylan Yetkin	Iowa
Kai Yi	Iowa
Mohammed Zakaria	Florida
Wei Zou	China (Peking)





LPC GUEST AND VISITOR PROGRAM

The LHC Physics Center (LPC) is pleased to announce a call for proposals for short stays at the LPC starting in June 2013.

A modest amount of funding is available to support short one to three month stays at the LPC during the period 1 June 2013 to 31 September 2013. Proposals are due by Friday 15 March, and should be submitted to Terry Grozis (tgrozis@fnal.gov), in PDF format.

The goal of the LPC Short Stay Guest Program is to promote all research activity on CMS, including analysis of data and work on detector upgrades. The LPC is active in several CMS physics analysis areas, including: Higgs properties, SUSY, Exotica, B2G; physics objects groups, and participation in upgrade hardware and software projects. The LPC has significant resources: a large scale computing facility, CMS software support, and a strong intellectual community with CMS leadership in detector development, physics object reconstruction, and data analysis.

Faculty, post docs and graduate students are eligible. Proposals should be no more than one page, describing the research objectives, as well as the rationale for conducting the work at the LPC. Clearly state the proposed start and end date and funding amount requested. Proposals to support graduate students should be submitted by the major professor, proposals to support post docs should be submitted by the mentor/supervisor. A review of the proposals will be conducted shortly after the deadline with results communicated to the proponents expeditiously.



**Duration 2 weeks- 3 months
Students, post docs, faculty**

- | | |
|---------------------|-------------------------|
| Elif Albayrak | Iowa |
| Sunanda Banerjee | Kolkata |
| Burak Bilki | Iowa |
| Mehmet Deliomeroglu | Turkey (Cukurova) |
| Kamuran Dilsiz | Iowa |
| Alejandro Gomez | Boston/Ecuador |
| Yifei Guo | Peking |
| Maksat Haymuradov | Iowa |
| Shilpi Jain | India (Delhi & Kolkata) |
| Kittikul Kovanggoon | Texas Tech |
| Nick Kypreos | Florida |
| Terence Libeiro | Texas Tech |
| Jia Fu Low | Florida |
| Michael Luk | Brown |
| Mikhail Makouski | Kansas State |
| Yurii Maravin | Kansas |
| Angela Marotta | Texas A&M |
| Anthony Moeller | Iowa |
| Roy Montalvo | Texas A&M |
| John Neuhaus | Iowa |
| Hasan Ogul | Iowa |
| Neeti Parashar | Purdue-Calumet |
| Myeonghun Park | Florida |
| Doug Rank | Florida |
| Valdas Rapsevicius | Florida |
| Ernest Roncheck | Kansas State |
| Aurore Savoy-Navaro | CNRS-IN2P3 Paris 6 |
| Michael Segala | Brown |
| Shruti Shrestha | Kansas |
| Anil Singh | Panjab |
| Jason St. John | Boston |
| Suharyo Sumovidagdo | UC Riverside |
| Irakli Svintradze | Kansas |
| Andre Sznajder | Brazil (UERJ) |
| David Tersengo | Brown |
| Emrah Tiras | Iowa |
| Mehmet Virgili | Turkey (Cukurova) |
| James Wetzel | Iowa |
| Zhoulin Xie | Brown |
| Taylan Yetkin | Iowa |
| Kai Yi | Iowa |
| Mohammed Zakaria | Florida |
| Wei Zou | China (Peking) |





CMS LPC Fellows Program





CMS LPC Fellows Program



- **Flagship of the LPC -- International competition**
 - **identifies and brings to the LPC, jointly with the university community, exceptional young CMS scientists**



- Flagship of the LPC -- International competition
 - identifies and brings to the LPC, jointly with the university community, exceptional young CMS scientists



- Flagship of the LPC -- International competition
 - identifies and brings to the LPC, jointly with the university community, exceptional young CMS scientists

ANDREI Gritsan
...study of the Higgs-like particle observed on LHC and more generally search for and study of the SM and exotic resonances...

ARAM Avetisyan
...work is focused on searches for exotic particles the decays of which involve top quarks...

ARTUR Apresyan
...interests are in understanding the origin of the electroweak symmetry breaking, and searches for direct experimental evidence of physics beyond the Standard Model...

BEN Hooberman
...Search for the production of Higgs bosons, produced in the decays of the supersymmetric gauginos, and decaying to a pair of b-quarks...

FRANCISCO Yumiceva
...search for new physics beyond the standard model using top quarks, and develop new trigger and reconstruction algorithms for the upgrade and operations of the CMS detector at high luminosity scenarios...

FRANK Golf
...working on a search for new physics with a same-sign dilepton pair in the final state....

FREYA Blekman
...perform searches for new physics in the top quark sector, focusing on top-like exotics and Standard Model measurements with a sensitivity to new physics...

JAKE Anderson
...focusing on the upgrade of the CMS hadron calorimeter, improving simulation descriptions and reconstruction algorithms, studying electroweak symmetry breaking in the lepton + jets + missing energy final state ...

JIM Hirschauer
...concentrating on searches for new phenomena with sensitivity to variants of supersymmetry that predict final states with low missing transverse energy (MET)...

KALANAND Mishra
...focus on studies related to Higgs boson electroweak symmetry breaking...

KEN Hatakeyama
...work on inclusive search for Supersymmetry and search for scalar top quark pair production in the jets and missing transverse energy (missing ET) final state....

KEVIN Stenson
...Studying rare b-decays, improving track reconstruction, and working on upgrades...

MANFRED Paulini
...Interested in final states with one or more photons which arise in gauge mediated models of supersymmetry...

SARAH ALAM Malik
...focus on searching for dark matter at CMS...

MIKE Hildreth
...working with the SUSY experts at the LPC on the search for new physics in final states involving photons and missing transverse energy...

PATRIZIA Azzi
...working as a Deputy Coordinator of the Physics Performance and Dataset Project providing you high quality, certified, calibrated and validated datasets for Physics Analysis. Co-coordinator of the Global Event Description Team...

- Flagship of the LPC -- International competition
 - identifies and brings to the LPC, jointly with the university community, exceptional young CMS scientists

ANDREI Gritsan
...study of the Higgs-like particle observed on LHC and more generally search for and study of the SM and exotic resonances...

ARAM Avetisyan
...work is focused on searches for exotic particles the decays of which involve top quarks...

BEN

ARTUR Apresyan
...interests are in understanding the origin of the electroweak symmetry breaking, and searches for direct experimental evidence of physics beyond the Standard Model...

FRANCISCO Yumiceva
...search for new physics beyond the standard model using top quarks, and develop new trigger and reconstruction algorithms for the upgrade and operations of the CMS detector at high luminosity scenarios...

FREYA Blekman
...perform searches for new physics in the top quark sector, focusing on top-like exotica and Standard Model measurements with a sensitivity to new physics...

ROB Rossin
...particularly on the search for direct stop quark pair production with decay of the stop via either a top quark or intermediate chargino...

SANJAY Padhi
...plan to explore and develop tools and techniques for searches of SUSY with Higgs in the final state (in the gaugino/higgsino sector)...

JIM Hirschauer
...concentrating on searches for new phenomena with sensitivity to variants of supersymmetry that predict final states with low missing transverse energy (MET)...

KALANAND Mishra
...focus on studies related to Higgs boson electroweak symmetry breaking...

KEVIN Stenson
...Studying rare b-decays, improving track reconstruction, and working on upgrades...

YANYAN Gao
...looking forward to contribute in the Higgs searches and property measurements efforts...

SEEMA Sharma
...continue searching for signatures of physics beyond standard model in all hadronic final state in proton-proton collision events...

SARAH ALAM Malik
...focus on searching for dark matter at CMS...

ANDREW Askew
...plan to continue to operate the LPC Photon + X group as a clearinghouse for information of experience of different analyzers at the LPC with photons in disparate situations...

YURII Maravin
...primarily engaged in study of diboson and triboson production with 7 and 8 TeV data, including the measurement of trilinear and quartic gauge boson couplings...

PATRIZIA Azzi
...working as a Deputy Coordinator of the Physics Performance and Dataset Project providing you high quality, certified, calibrated and validated datasets for Physics Analysis. Co-coordinator of the Global Event Description Team...

- Flagship of the LPC -- International competition
 - identifies and brings to the LPC, jointly with the university community, exceptional young CMS scientists



22 Fellows in 2013

- With the 1st long shutdown of the LHC, develop projects centered around a couple of key activities
 - Participation in the upgrade – phase 1 and 2
 - Participation in the future analyses groups
 - Participation in Snowmass-related studies: Higgs, QCD, Top, New Particles, Instrumentation, computing
 - Participation in ECFA studies for CMS
 - Planning for 2015 Run (physics analyses, triggers, software infrastructure, ...)
 - etc.
- Opportunities to get involved with hardware, software and physics analysis (can only happen at a large and diverse center like the LPC)



Events

- bi-weekly “Physics Forum”
 - “chalk-talk” physics issues of high interest
- Coffee-Chat
 - monthly discussion on issues of community interest
- “CMS Data Analysis Schools”
 - For newcomers to learn about CMS, once a year
- HATS@LPC (Hands-on Advanced Tutorial Sessions)
 - A forum to share experiences with tools used in successful analyses of 2012 data and preparation for the run 2015.
 - 6 session during this summer, more planned
- Topic of the Week “Seminars”




LPC Topic of the Week in 2012 Fermilab





TOPIC OF THE WEEK

Michael Peskin
February 22nd and 23rd



Scientist's visit

- Next guest
- Schedule

Talk links & video

- LPC Topic of the Week Links
- LPC Physics Forum

Archive


Day	Speaker	Topic	Where
Wednesday, Feb 22nd at 2pm	Michael Peskin (SLAC)	Light Composite Higgs: The Third Way to Electroweak Symmetry Breaking - Part 1	WH11 NE (Sunrise)
Thursday, Feb 23rd at 3:30pm	Michael Peskin (SLAC)	Light Composite Higgs: The Third Way to Electroweak Symmetry Breaking - Part 2	WH11 NE (Sunrise)





TOPIC OF THE WEEK

Liantao Wang
March 27th and 28th



Scientist's visit

- Next guest
- Schedule

Talk links & video

- LPC Topic of the Week Links
- LPC Physics Forum

Archive

Day	Speaker	Topic	Where
Mar 27th at 3pm	Liantao Wang (UChicago)	Searching for light dark matter at colliders	WH11 NE (Sunrise)
Mar 28th at 2pm	Liantao Wang (UChicago)	Higgs signal and new physics implications	WH11 NE (Sunrise)

Day	Speaker	Topic
Wednesday, Feb 22nd at 2pm	Michael Peskin (SLAC)	Light Composite Higgs: The Third Way to Electroweak Symmetry Breaking
Thursday, Feb 23rd at 3:30pm	Michael Peskin (SLAC)	Light Composite Higgs: The Third Way to Electroweak Symmetry Breaking - Part 2



TOPIC OF THE WEEK

Liantao Wang
March 27th and 28th




Scientist's visit

- Next guest
- Schedule

Talk links


Day	Speaker
Mar 27th at 3pm	Liantao Wang (UChicago)
Mar 28th at 2pm	Liantao Wang (UChicago)



Day	Speaker
Wednesday, Feb 22nd at 2pm	Michael Peskin (SLAC)
Thursday, Feb 23rd at 3:30pm	Michael Peskin (SLAC)

TOPIC OF THE WEEK

Can Kilic
April 18th and 20th



Scientist's visit

- Next guest
- Schedule

Talk links & video

- LPC Topic of the Week Links
- LPC Physics Forum

Archive

Day	Speaker	Topic	Where
Apr 18th at 2pm	Can Kilic (UTexas)	The Collider Phenomenology of Vectorlike Confinement	WH11 NE (Sunrise)
Apr 20th at 1pm	Can Kilic (UTexas)	Two topics that connect Dark Matter and the LHC: Flavored Dark Matter and the Consequences of Grand Unification	WH11 NE (Sunrise)




TOPIC OF THE WEEK

Liantao Wang
March 27th and 28th




Day	Speaker
Mar 27th at 3pm	Liantao Wang (UChicago)
Mar 28th at 2pm	Liantao Wang (UChicago)



Day	Speaker
Wednesday, Feb 22nd at 2pm	Michael Peskin (SLAC)
Thursday, Feb 23rd at 3:30pm	Michael Peskin (SLAC)

TOPIC OF THE WEEK

Marcus Hohlmann
July 25th and 26th



Day	Speaker	Topic	Where
Jun 25th	Marcus Hohlmann (Florida Institute of Technology)	GEM Detectors for a CMS Muon Endcap Upgrade & Other Uses	WH11 NE (Sunrise)
Jun 26th	Marcus Hohlmann (Florida Institute of Technology)	GEM Detectors for a CMS Muon Endcap Upgrade & Other Uses	WH11 NE (Sunrise)

- Scientist's visit
- Next guest
 - Schedule
- Talk links & video
- LPC Topic of the Week Links
 - LPC Physics Forum
- Archive

- LPC Topic of the Week Links
 - LPC Physics Forum
- Archive

TOPIC OF THE WEEK

Can Kilic
April 18th and 20th




Day	Speaker	Topic	Where
Apr 18th at 2pm	Can Kilic (UTexas)	The Collider Phenomenology of Vectorlike Confinement	WH11 NE (Sunrise)
Apr 20th at 1pm	Can Kilic (UTexas)	Two topics that connect Dark Matter and the LHC: Flavored Dark Matter and the Consequences of Grand Unification	WH11 NE (Sunrise)



LPC Topic of the Week in 2012 Fermilab

TOPIC OF THE WEEK


Liantao Wang
March 27th and 28th



Day	Time	Speaker
Mar 27th at 3pm		Liantao Wang
Mar 28th at 2pm		Liantao Wang

TOPIC OF THE WEEK

Marcus Hohlmann
July 25th and 26th



Day	Time	Speaker
Jul 25th at 2pm		Marcus Hohlmann
Jul 26th at 2pm		Marcus Hohlmann

Scientist's visit


- Next guest
- Schedule

Talk links & video

- LPC Topic of the Week Links
- LPC Physics Forum

Archive

Speaker	Topic	Where
Hohlmann (Florida of Technology)	GEM Detectors for a CMS Muon Endcap Upgrade & Other Uses	WH11 NE (Sunrise)
Hohlmann (Florida of Technology)	GEM Detectors for a CMS Muon Endcap Upgrade & Other Uses	WH11 NE (Sunrise)



Day	Time	Speaker
Wednesday, Feb 22nd at 2pm		Sara Bolognesi
Thursday, Feb 23rd at 3:30pm		Sara Bolognesi

August 1st at 2pm	Oliver Buchmueller (Imperial College of London)	Supersymmetry: post discovery of a new (Higgs?) boson.	WH10 NW (West Wing)
August 23rd at 2pm	Roger Wolf	Search for a neutral Higgs Boson in the SM and MSSM	WH11 NE (Sunrise)
Sep 10th	Tim Tait (UC Irvine)	TBD	WH11 NE (Sunrise)
Oct 4th at 2pm	Anton Poluektov(Warwick)	Latest results on CP violation and rare decay measurements at LHCb	WH11 NE (Sunrise)
Oct 23rd at 3pm	Ted Liu(Fermilab)	Overview of Trigger in HEP: the view from physics	WH11 NE (Sunrise)
Oct 24th at 2pm	Ted Liu(Fermilab)	Trigger Challenges at high luminosity LHC: the view from technology	WH11 NE (Sunrise)
Nov 5th at 2pm	Raman Sumdrum(University of Maryland)	CMS Workshop on Naturalness	WH11 NE (Sunrise)
Nov 7th at 2pm	Sanjay Padhi(UCSD)	CMS Workshop on Naturalness	WH11 NE (Sunrise)
Nov 14th at 3pm	Steven Lowette (UCSB)	Stop searching in CMS	WH11 NE (Sunrise)
Nov 15th at 2pm	Evan Friis (Wisconsin)	Tau reconstruction and identification at CMS	WH11 NE (Sunrise)
Nov 16th at 2pm	Evan Friis (Wisconsin)	Searches for Higgs bosons using taus at CMS	WH11 NE (Sunrise)
Nov 27th at 2pm	Sara Bolognesi(JHU)	Characterization of the newly discovered boson: is it the long-awaited SM Higgs?	WH11 NE (Sunrise)
Nov 28th at 2pm	Si Xie (CalTech)	The Present and Future of the Higgs Sector	WH11 NE (Sunrise)
Nov 30th at 2pm	Artur Apresyan (CalTech)	Searches for physics beyond the standard model in the third generation	WH11 NE (Sunrise)
Dec 4th at 3pm	Alexander Paramonov (Argonne)	Study of jets produced in association with a vector boson	WH11 NE (Sunrise)

- LPC Topic of the Week Links
- LPC Physics Forum

Archive

Topic	Where
The Collider Phenomenology of Vectorlike Confinement	WH11 NE (Sunrise)
Two topics that connect Dark Matter and the LHC: Flavored Dark Matter and the Consequences of Grand Unification	WH11 NE (Sunrise)




LPC Topic of the Week in 2012

TOPIC OF THE WEEK
Liantao Wang
 March 27th and 28th



Day	Speaker
Mar 27th at 3pm	Speaker
Mar 28th at 2pm	Liantao Wang

TOPIC OF THE WEEK
Marcus Hohlmann
 July 25th and 26th



Scientist's visit

- Next guest
- Schedule

Talk links & video

- LPC Topic of the Week Links
- LPC Physics Forum

Archive

Speaker	Topic	Where
Hohlmann (Florida of Technology)	GEM Detectors for a CMS Muon Endcap Upgrade & Other Uses	WH11 NE (Sunrise)
Hohlmann (Florida of Technology)	GEM Detectors for a CMS Muon Endcap Upgrade & Other Uses	WH11 NE (Sunrise)

August 1st at 2pm	Oliver Buchmueller (Imperial College of London)	Supersymmetry: post discovery of a new (Higgs?) boson.	WH10 NW (West Wing)
August 23rd at 2pm	Roger Wolf	Search for a neutral Higgs Boson in the SM and MSSM	WH11 NE (Sunrise)
Sep 10th	Tim Tait (UC Irvine)	TBD	WH11 NE (Sunrise)
Oct 4th at 2pm	Anton Poluektov(Warwick)	Latest results on CP violation and rare decay measurements at LHCb	WH11 NE (Sunrise)
Oct 23rd at 3pm	Ted Liu(Fermilab)	Overview of Trigger in HEP: the view from physics	WH11 NE (Sunrise)
Oct 24th at 2pm	Ted Liu(Fermilab)	Trigger Challenges at high luminosity LHC: the view from technology	WH11 NE (Sunrise)
Nov 5th at 2pm	Raman Sumdram(University of Maryland)	CMS Workshop on ...	WH11 NE (Sunrise)
Nov 7th at 2pm	Sanjay Padhi(UCSB)	CMS ...	WH11 NE (Sunrise)
Nov 14th at 3pm	Steven Lowette (UCSB)	Stop searching in CMS ...	WH11 NE (Sunrise)
Nov 15th at 2pm	Evan Friis (Wisconsin)	... construction and ...	WH11 NE (Sunrise)
Nov 16th at 2pm	Evan Friis (Wisconsin)	Searches for Higgs bosons using taus at CMS	WH11 NE (Sunrise)
Nov 27th at 2pm	Sara Bolognesi(JHU)	Characterization of the newly discovered boson: is it the long-awaited SM Higgs?	WH11 NE (Sunrise)
Nov 28th at 2pm	Si Xie (CalTech)	The Present and Future of the Higgs Sector	WH11 NE (Sunrise)
Nov 30th at 2pm	Artur Apresyan (CalTech)	Searches for physics beyond the standard model in the third generation	WH11 NE (Sunrise)
Dec 4th at 3pm	Alexander Paramonov (Argonne)	Study of jets produced in association with a vector boson	WH11 NE (Sunrise)

About one TOTW every two weeks

Topic	Where
The Collider Phenomenology of Vectorlike Confinement	WH11 NE (Sunrise)
Two topics that connect Dark Matter and the LHC: Flavored Dark Matter and the Consequences of Grand Unification	WH11 NE (Sunrise)

- Engaging the larger community
- Establish a proactive partnership beyond CMS with the wider community
 - Snowmass study group meetings (QCD, Top)
 - venue for workshops and collaboration meetings (CTEQ etc...)
 - topical workshops on common issues:
 - Higgs/SUSY “ewkino topical gathering” (June 2013)
 - 5th TLEP workshop (July 25-26, 2013)
 - **Gauge Boson Couplings (August 19-20, 2013)**
 - Top partners workshop (September 26-27 2013)
 - SUSY workshop (November 11-13, 2013)
 - +... more being planned



- The Snowmass meeting will shape the priorities for the US high energy physics program in the coming decade
- We must ensure that the case is made for a strong investment into the energy frontier, and maintaining a cutting edge EF program in the US.
- **LPC contribution to Snowmass EF effort**
 - Defining the tools for simulation
 - Leading effort to generate background MC for future hadron colliders
 - MC is available to the entire community
 - Also being used by CMS for ECFA studies.
- **LPC Fellows/members conveners of several EF study groups**



- With the discovery of the Higgs boson, we have entered a new era: we now have a theory that can be extrapolated to scales many orders of magnitude beyond those that we can currently directly probe.
 - Strong motivation to continue exploration for new physics at the TeV scale from the necessity of reconciling the highly constrained theoretical framework with the phenomena observed in nature.
- Renewed interest in understanding of EWSB, especially the triple and quadratic gauge boson couplings, which are directly sensitive to Higgs couplings.
- Many results from LHC constraining gauge and Higgs boson couplings will be delivered during this summer
- More precise measurements of quartic couplings and WW scattering will need 13/14 TeV data



LPC GBC Workshop

- One of the main focus of the LPC is to start discussions to plan studies for the 2015 run.
- We are happy to provide the support from the LPC and host this two day gathering to discuss the current status of GBC results and their implications for the next LHC run starting in 2015.
- Thank you and welcome to FNAL and GBC workshop.







LPC support from USCMS & FNAL Fermilab





LPC support from USCMS & FNAL Fermilab

- **Fermilab**
 - ~40 Senior Scientists, ~15 Research Associates
 - ~120 Fermilab Staff on CMS ; more than 50% working full time





LPC support from USCMS & FNAL Fermilab

- **Fermilab**
 - ~40 Senior Scientists, ~15 Research Associates
 - ~120 Fermilab Staff on CMS ; more than 50% working full time
- **CMS Center: overall coordination of Fermilab's contribution to CMS**





LPC support from USCMS & FNAL Fermilab

- **Fermilab**
 - ~40 Senior Scientists, ~15 Research Associates
 - ~120 Fermilab Staff on CMS ; more than 50% working full time
- **CMS Center: overall coordination of Fermilab's contribution to CMS**





LPC support from USCMS & FNAL Fermilab

- **Fermilab**
 - ~40 Senior Scientists, ~15 Research Associates
 - ~120 Fermilab Staff on CMS ; more than 50% working full time
- **CMS Center: overall coordination of Fermilab's contribution to CMS**
- **Computing Division: CPU & Storage facilities, data access, software development & support, data operations support**
 - **scientists, computer professionals, programmers, engineers, technicians, managers**





LPC support from USCMS & FNAL Fermilab

- **Fermilab**
 - ~40 Senior Scientists, ~15 Research Associates
 - ~120 Fermilab Staff on CMS ; more than 50% working full time
- **CMS Center: overall coordination of Fermilab's contribution to CMS**
- **Computing Division: CPU & Storage facilities, data access, software development & support, data operations support**
 - scientists, computer professionals, programmers, engineers, technicians, managers
- **Particle Physics Division: detector R&D, design, construction ops**
 - scientists mechanical & electronics engineering, technicians, managers, office space, secretariat, admin support





LPC support from USCMS & FNAL Fermilab

- **Fermilab**
 - ~40 Senior Scientists, ~15 Research Associates
 - ~120 Fermilab Staff on CMS ; more than 50% working full time
- **CMS Center: overall coordination of Fermilab's contribution to CMS**
- **Computing Division: CPU & Storage facilities, data access, software development & support, data operations support**
 - scientists, computer professionals, programmers, engineers, technicians, managers
- **Particle Physics Division: detector R&D, design, construction ops**
 - scientists mechanical & electronics engineering, technicians, managers, office space, secretariat, admin support
- **Facilities provided to the LPC by USCMS and Fermilab**
 - 3000 slot Tier-3 computing cluster, access to all Fermilab Tier-1 data stored on disk, personal storage of 2 TB/physicist, as well as group storage space
 - SiDet and other detector facilities, test-beam
 - Remote Operations Center

