

# **NuFact2012**

**Monday 23 July 2012 - Saturday 28 July 2012**

**JLab and William and Mary  
Programme**

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# Monday 23 July 2012

## **JLab Plenary: Welcome, Introduction to NuFact, and Introduction to JLab - Auditorium**

**(09:30-12:00)**

- Conveners: Bogacz, Alex

time	title	presenter
09:30	Welcome	MONTGOMERY, Hugh
09:50	Overview of Neutrino Physics and Motivation	PARKE, Stephen
10:35	Nuclear Physics at Jefferson Lab	MCKEOWN, Robert
11:20	JLAB overview, upgrade and R program	HUTTON, Andrew

## **Lunch & JLAB tours - Atrium (12:00-15:00)**

## **JLab Plenary: Muons, Scattering and Neutrinos - Auditorium (15:00-18:00)**

- Conveners: Ent, Rolf

time	title	presenter
15:00	Neutrino Experimental Overview	BLONDEL, Alain
15:50	Neutrinos Beams	HARRIS, Deborah
16:30	Scattering Synergies	MELNITCHOUK, Wally
17:10	Muon Experimental & Theoretical Overview	MILLER, J.

## **Opening Reception - Atrium (18:00-20:00)**

## Tuesday 24 July 2012

### W Plenary: Working Group Charges and Results - Commonwealth Auditorium (09:00-10:30)

- Conveners: Nelson, Jeff

time	title	presenter
09:00	WG1	FERNANDEZ-MARTINEZ, Enrique
09:15	WG2	KORDOSKY, Mike
09:30	WG3	BOGACZ, Alex
09:45	WG4	BERNSTEIN, Bob
10:00	U.S. Department of Energy's Intensity Frontier Study	SCHOLBERG, Kate

### Break - Sadler Center (10:30-11:00)

### WG1 Neutrino Oscillation Physics: Future Facility Sensitivities - Commonwealth Auditorium (11:00-13:00)

- Conveners: Vahle, Tricia

time	title	presenter
11:00	WG1 - Comparison of the Precision at Each Facility	COLOMA, Pilar
11:35	WG1 - A Neutrino Factor MIND at Large Theta_13	BAYES, Ryan
12:10	WG1 - Opportunities for Leptonic CP Violation and Neutrino Mass Hierarchy in Gran Sasso and at Medium Baselines	TERRANOVA, Francesco
12:45	Neutrino Superbeam from ESS Neutron Spallation Source	DRACOS, Marcos

### WG2 Neutrino Cross-Sections and Detectors: New Cross-Section Results - Tidewater Room A (11:00-13:00)

- Conveners: Dr. Alvarez Ruso, Luis

time	title	presenter
11:00	WG2 - MINERvA Inclusive CC Cross-Section	MORFIN, Jorge G
11:25	WG2 - T2K Cross Section Measurements	CHRISTODOULOU, Georgios
11:50	WG2 - MINERvA Quasi-Elastic Cross-Section	CHVOJKA, Jesse
12:15	WG2 - MINERvA E Final States	PARK, Jaewon

### WG3 Accelerator Physics: Options for the Proton Driver - Tidewater B Room (11:00-13:00)

- Conveners: Johnson, Rol

time	title	presenter
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11:00	WG3 - ProtonDriver Scenarios at RAL and CERN	THOMASON, John
11:35	WG3 - Suitability of Project X as a Proton Driver for NF	ANKENBRANDT, Charles
12:05	WG3 - Design of the Beam Transport and the Final Focus for the NF Target	PASTERNAK, Jaroslaw
12:35	WG3 - Hadron Production Experiments	BRAVAR, Alessandro

### **WG4 Muon Physics and other High Intensity Applications: Underappreciated Experiments with Muons - Chesapeake C (11:00-13:00)**

- Conveners: Bernstein, Bob

time	title	presenter
11:00	WG4 - Muon Tomography	BRYMAN, Douglas
11:20	WG4 - Muon Tomography in Japan	MIYAMOTO, Seigo
11:50	WG4 - Mu-H Lamb Shift	HILL, Richard
12:20	WG4 - MuSun	CAREY, Robert

### **Lunch - Sadler Center (13:00-14:00)**

### **Joint WG1 & WG2: Cross-Section Systematics and Oscillation Experiments - Commonwealth Auditorium (14:00-16:00)**

#### ***Scattering systematics in light of large theta\_13***

- Conveners: Kordosky, Mike

time	title	presenter
14:00	JG12 - Systematics from T2K, Use of ND	MAHN, Kendall
14:30	JG12 - Systematics/Use of ND - MINOS and NOvA	SANCHEZ, Mayly
15:00	JG12 - Systematics/How well they can or cannot be constrained by NDs	COLOMA, Pilar

### **WG3 Accelerator Physics: RF Development and Tests - Tidewater B Room (14:00-16:00)**

- Conveners: Zisman, Michael

time	title	presenter
14:00	WG3 - HPRF Status and Plans	FREEMIRE, Ben
14:25	WG3 - 805-MHz Button Cavity Results and Replacement Plans	BOWRING, Daniel
14:50	WG3 - 805-MHz True Pillbox ("All-Season") Cavity Results	MORETTI, Alfred
15:15	WG3 - Towards 201 MHz SRF Cavity for Accelerating Muons	HARTILL, Don

### **WG4 Muon Physics and other High Intensity Applications: CLFV Experiments with Muons I - Chesapeake C (14:00-16:00)**

- Conveners: Mibe, Tsutomu

time	title	presenter
14:00	WG4 - MEG: Status and Prospects	BARACCHINI, Elisabetta
14:35	WG4 - Mu2e	HUNGERFORD, Ed
15:10	WG4 - Proton Extinction and Measurement at FNAL	KASPER, Peter
15:35	WG4 - MUSIC	SATO, Akira

### **Break - Sadler Center (16:00-16:30)**

### **WG1 Neutrino Oscillation Physics: Continuation of Prior Session and Short Baseline Results - Commonwealth Auditorium (16:30-18:00)**

- Conveners: TBD

time	title	presenter
16:30	WG1 - Continuation of Previous Session	TBD
17:10	WG1 - Miniboone	PAVLOVIC, Zarko
17:35	WG1 - Reactor Anomaly at 1 km	EVSLIN, Jarah

### **WG2 Neutrino Cross-Sections and Detectors: Parton Distribution Functions - Tidewater Room A (16:30-18:00)**

- Conveners: Kordosky, Mike

time	title	presenter
16:30	WG2 - Systematics from NuFact, Use of ND	MISHRA, Sanjib
16:55	WG2 - Nuclear Correction in Neutrino-Nucleus DIS and their Compatibility with Global NPDF Analyses	MORFIN, Jorge G
17:20	WG2 - Uncertainties in Determining Parton Distributions at Large x: Results from the CTEQ-Jefferson Lab "CJ" Collaboration	KEPPEL, Thia

### **WG3 Accelerator Physics: Beta Beam/Super Beam Studies - Tidewater B Room (16:30-18:00)**

- Conveners: Dr. Dracos, Marcos

time	title	presenter
16:30	WG3 - The CERN Beta Beam for MEMPHYS	DUCHESNEAU, Dominique
16:55	WG3 - Status of the Target and Horn Studies for the Superbeam at CERN	VASSILOPOULOS, Nikolaos
17:20	WG3 - Status of the LBNE Beam-Line	PAPADIMITRIOU, Vaia
17:40	WG3 - Operational Status of the J-PARC Neutrino Secondary Beam-Line	ISHIDA, Taku

### **WG4 Muon Physics and other High Intensity Applications: CLFV Experiments with Muons II - Chesapeake C (16:30-18:00)**

- Conveners: Ms. Baracchini, Elisabetta

time	title	presenter
16:30	WG4 - COMET	SATO, Akira
17:00	WG4 - Mu->3e (PSI)	WIEDNER, Dirk
17:30	WG4 - J-Parc Muon Facility	IKEDO, YUTAKA

### **Poster Session and Reception - Chesapeake Room (18:00-20:00)**

#### ***Poster session and reception***

- Conveners: Nelson, Jeff

title	presenter	board
Physics Processes Missing From Out Current Tools	ROBERTS, Tom	
If You Build It, They Will Come, 8 GeV CW Linac, Staged Approach	POPOVIC, Milorad	
Muon Beam Facility at Fermilab	POPOVIC, Milorad	
A New Design for the CERN to Frejus Neutrino Beam	VASSILOPOULOS, Nikolaos	
Parametric-Resonance Ionization Cooling for Muon Beams	MALONEY, James	
Concept: 10 GeV Low Intensity NF with Project X	POPOVIC, Milorad	
A new design for the CERN to Frejus neutrino beam	VASSILOPOULOS, Nikolaos	
Neutral Pion Reconstruction in MINERvA	MAGGI, Giuliano	
Calibrating MINERvA	DEVAN, Joshua	
New CC Analysis Using Neural Network at NuMI Off-Axis Neutrino Appearance Experiment (NOvA)	BIAN, Jianming	
Parametric-Resonance Ionization Cooling for Muon Beams	MALONEY, J. A.	
Study of Multiple Scattering with G4beamline	KAPLAN, Daniel	
Update on T2KK (Tokai to Kamioka and Korea)	DUFOUR, Fanny	
Liquid Argon Time Projection Chamber in the Fermilab Test Beam Facility	KORDOSKY, Mike	
The NOvA Experiment	LIU, Ji	
Updated results on sterile neutrinos at MINOS	MATHIS, Mark	
Hadron Production Measurements with the T2K Replica Target in the NA61/SHINE Experiment for the T2K Neutrino Flux Prediction	BLONDEL, Alain	
Hadron Production Measurements with the T2K Replica Target in the NA61/SHINE Experiment for the T2K Neutrino Flux Prediction	HAESLER, Alexis	
Complete Muon Cooling Channel Design and Simulations	ANKENBRANDT, Charles	
Daya Bay Discovered Non-Zero $\theta_{13}$	WANG, Wei	
IDR Neutrino Factory Front End and Variations	NEUFFER, David	
Progress on Muon Parametric-resonance Ionization Cooling Channel Development	MOROZOV, Vasily	

## Wednesday 25 July 2012

### Joint Session WG3 & WG4 Joint Session : Cool Muon Beams for Future Facilities - Tidewater B Room (09:00-10:30)

- Conveners: Prof. Palladino, Vittorio

time	title	presenter
09:00	JG34 - Novel Muon Beam Facilities	ANKENBRANDT, Charles
09:25	JG34 - Progress in the Construction of the MICE Cooling Channel	LUO, Tianhuan
09:50	JG34 - MICE Step I: First Measurement of Emittance with Particle Physics Detectors	BLACKMORE, Victoria
10:10	JG34 - Status of PRISM Studies	PASTERNAK, Jaroslaw

### WG1 Neutrino Oscillation Physics: Impact of eV Scale Steriles on 3 Flavor Physics - Commonwealth Auditorium (09:00-10:30)

- Conveners: Fernandez-Martinez, Enrique

time	title	presenter
09:00	WG1 - Introduction to the Steriles Discussion	PATRICK, Huber
09:30	WG1 - Overview of Anomalies and Fits	KARAGIORGI, Georgia
10:00	WG1 - Future SBP Experiments - What Have We Learned, What Can We Do Better?	FLEMING, Bonnie

### WG2 Neutrino Cross-Sections and Detectors: Quasi-Elastic Scattering - Tidewater Room A (09:00-10:30)

- Conveners: Morfin, Jorge G

time	title	presenter
09:00	WG2 - QE Scattering with the Relativistic Green's Function Approach	GIUSTI, Carlotta
09:25	WG2 - Model Independent Determination of the Axial Mass Parameter in Quasi-Elastic Neutrino-Nucleon Scattering	HILL, Richard
09:50	WG2 - Electron- vs. Muon Neutrino QEL	DAY, Melanie

### Break - Sadler Center (10:30-11:00)

### W Plenary: Theta 13: Reactor Neutrino Experiments - Commonwealth Auditorium (11:00-13:00)

- Conveners: McKeown, Robert

time	title	presenter
11:00	Double Chooz	WINSLOW, Lindley
11:40	Daya Bay	QIAN, Xin



12:20	RENO	KIM, Yeongduk
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### **Lunch - Sadler Center (13:00-14:00)**

### **Joint WG1,WG2 & WG3: Neutrino Flux from Conventional Beams, Super-Beams, Beta-Beams and Neutrino Factories - Commonwealth Auditorium (14:00-16:00)**

#### *Neutrino flux from conventional beams, super-beams, beta-beams and neutrino factories*

- Conveners: Prof. Blondel, Alain

time	title	presenter
14:00	JG123 - NUMI Flux Uncertainties (NUMI)	ALIAGA SOPLIN, Leonidas
14:25	JG123 - T2K Flux Uncertainties (T2K/NA61)	MURPHY, Sebastien
14:50	JG123 - Beta Beam Option Studies	MENDONCA, Tania
15:10	JG123 - Pion Electroproduction at CLAS and other JLAB Measurements	MINEEVA, Taisiya

### **WG4 Muon Physics and other High Intensity Applications: Muon Experiments at Future Facilities and g-2 - Chesapeake C (14:00-16:00)**

- Conveners: Bernstein, Bob

time	title	presenter
14:00	WG4 - Tau CLFV at Belle	HAYASAKA, Kiyoshi
14:30	WG4 - Project X: Stages and Potential	TSCHIRHART, Robert
15:00	WG4 - DeeMe	AOKI, Masa
15:30	WG4 - g-2 at Fermilab	MILLER, James

### **Break - Sadler Center (16:00-16:30)**

### **WG1 Neutrino Oscillation Physics: Implications of Large Value of theta 13 - Commonwealth Auditorium (16:30-18:00)**

- Conveners: Vahle, Tricia

time	title	presenter
16:30	WG1 - MINOS+/Glade	NICHOL, Ryan
16:53	WG1 - Daya Bay2	WANG, Yifang
17:15	WG1 - HyperK	HAYATO, Yoshinari
17:37	WG1 - The combined sensitivity of current long-baseline experiments	PATTERSON, Ryan

### **WG2 Neutrino Cross-Sections and Detectors: Electron Scattering and Final State Interactions - Tidewater Room A (16:30-18:00)**

- Conveners: **Dr. Alvarez Ruso, Luis**

time	title	presenter
16:30	WG2 - Strangeness Content of the Nucleon (JLab)	PASCHKE, Kent
16:55	WG2 - PIANO-Harpicord (pi-N Scattering Experiment at TRIUMF)	IEKI, Kei
17:20	WG2 - On Measuring the MEC Contribution to Neutrino Inclusive Cross Section	JAN, Sobczyk

### **WG3 Accelerator Physics: NF Target and Front End Studies - Tidewater B Room (16:30-18:00)**

- Conveners: **Kirk, Harold**

time	title	presenter
16:30	WG3 - Progress on the NF Target System Design	KAMAL SAYED, Hisham
16:55	WG3 - Status of the Alternative Target Options for the NF	VASSILOPOULOS, Nikolaos
17:20	WG3 - Optimizing the Capture Section of the Neutrino Factory	HANSEN, Ole Martin
17:45	WG3 - NF - Front End Studies	NEUFFER, David

### **WG4 Muon Physics and other High Intensity Applications: Muon Experiments at Future Facilities and g-2 - Chesapeake C (16:30-18:00)**

- Conveners: **Dr. Wiedner, Dirk**

time	title	presenter
16:30	WG4 - g-2 at JPARC	MIBE, Tsutomu
16:55	WG4 - Muon Experiments at PX	DEJONGH, Fritz
17:20	WG4 - Muonium HFS	FUKAO, Yoshinori
17:45	WG4 - Ultra-Slow Muon Production at RAL	TOMONO, Dai

### **Banquet - King's Arms Tavern (19:00-22:00)**

## Thursday 26 July 2012

### Joint WG1 & WG4: dipole moments and connections - Commonwealth Auditorium

**(09:00-10:30)**

- Conveners: Bernstein, Bob

time	title	presenter
09:00	JG14 - $\theta_{13}$ and Muon Physics	CALIBBI, Lorenzo
09:30	JG14 - Dipole Moments (Theory)	GARDNER, Susan
10:00	JG14 - Dipole Moments (Experiment)	SEMERTZIDIS, Yannis

### WG2 Neutrino Cross-Sections and Detectors: Experimental Results and MC Tuning - Tidewater Room A (09:00-10:30)

- Conveners: Kordosky, Mike

time	title	presenter
09:00	WG2 - MiniBooNE Results	TZANOV, Martin
09:30	WG2 - GENIE and 2p2h, General GENIE Update	GALLAGHER, Hugh
09:55	WG2 - NEUT MC Tuning	PHILIP, Rodrigues

### WG3 Accelerator Physics: Muon Acceleration - Tidewater B Room (09:00-10:30)

- Conveners: Prof. Kaplan, Daniel

time	title	presenter
09:00	WG3 - RLA Design Status and New Options - IDS	BOGACZ, Alex
09:25	WG3 - An FFAG as a Final Acceleration Stage for a 10 GeV NF	BERG, J. Scott
09:50	WG3 - FFAG Designs for the Neutrino Factory	PASTERNAK, Jaroslaw
10:15	WG3 - FFAG Studies at Kyoto University	SATO, Akira

### Break - Sadler Center (10:30-11:00)

### W Plenary: Scattering Physics - Commonwealth Auditorium (11:00-13:00)

- Conveners: Kordosky, Mike

time	title	presenter
11:00	Neutrino Interactions with Nuclei	MOSEL, Ulrich
11:50	The Low- $\nu$ Method for Flux Determination	BODEK, Arie

### Afternoon for historic tourism or Busch Gardens - (13:00-18:00)

## Friday 27 July 2012

### Joint W3 & W4: Demonstration Facilities and Technology - Tidewater B (09:00-10:30)

**TBD**

- Conveners: Long, Ken

time	title	presenter
09:00	JG34 - Experience of the EMMA Commissioning, Future Outlook	BERG, J. Scott
09:25	JG34 - Scaled Model of Muon RLA with Multi-Pass Arcs	ROBLIN, Yves
09:50	JG34 - Superconducting Magnet Develop for mu2e Conversion	LAMM, M.
10:05	JG34 - Radiation Damage to Mu2e Apparatus	PRONSKIKH, Vitaly

### WG1 Neutrino Oscillation Physics: New Detectors and New Initiatives - Commonwealth Auditorium (09:00-10:30)

- Conveners: Vahle, Tricia

time	title	presenter
09:00	WG1 - INO	DIGHE, Amol
09:22	WG1 - PINGU	COWEN, Doug
09:45	WG1 - LAr Detector R&D	SODERBERG, Mitchell
10:07	WG1 - Daedulus	JANET, Conrad

### WG2 Neutrino Cross-Sections and Detectors: Pion Production - Tidewater Room A (09:00-10:30)

- Conveners: Dr. Alvarez Ruso, Luis

time	title	presenter
09:00	WG2 - MINERvA Pion Production	EBERLY, Brandon
09:25	WG2 - Diffractive Production of Pions by Neutrons	SIDDIKOV, Marat
09:50	WG2 - CC and NC Pion Production	MARIANO, Alejandro

### Break - Sadler Center (10:30-11:00)

### Joint W3 & W4: Pre-Beyond Neutrino Factory - Tidewater B (11:00-13:00)

**TBD**

- Conveners: Palmer, Mark

time	title	presenter
11:00	JG34 - Decay Ring Options for nu-STORM	BOGACZ, Alex

11:25	JG34 - Review of the Alternative Cooling Lattices	STRATAKIS, Diktys
11:50	JG34 - Epicycling Cooling Channel	MALONEY, James
12:15	JG34 - How Close are we to a Muon Collider CDR?	JOHNSON, Rol

**WG1 Neutrino Oscillation Physics: Over Constraining 3Flavor Oscillations, Needed Accuracy on Parameters to Constrain Models - Commonwealth Auditorium (11:00-13:00)**

- Conveners: Fernandez-Martinez, Enrique

time	title	presenter
11:00	WG1 - Introduction to the Discussion session	CHEN, Mu-Chun
11:30	WG1 - Potential Sizable Corrections to Mixing Parameters	RATZ, Michael
12:00	WG1 - Impact of New Physics in nu Oscillations	LOPEZ-PAVON, Jacobo

**WG2 Neutrino Cross-Sections and Detectors: Reserved for discussion and summary talk writing - Tidewater Room A (11:00-13:00)**

- Conveners: Kordosky, Mike; Yokoyama, Masashi; Alvarez Ruso, Luis

time	title	presenter
11:00	WG2 - Open for discussion and to write the summary talk	

**Lunch - Sadler Center (13:00-14:00)**

**W Plenary: LBL Experiments in Super Beams - Commonwealth Auditorium (14:00-16:00)**

- Conveners: Vahle, Tricia

time	title	presenter
14:00	LBNE Options	STRAIT, James
14:30	T2K	MCGREW, Clark
15:00	MINOS/MINOS+	HOLIN, Anna
15:30	NOvA	NOWAK, Jaroslaw

**Break - Sadler Center (16:00-16:30)**

**W Plenary: Future Prospects - Commonwealth Auditorium (16:30-18:10)**

- Conveners: Blondel, Alain

time	title	presenter
16:30	European Program	DRACOS, Marcos
16:55	NuFact Reference Design	LONG, Kenneth
17:20	nuSTORM: An Entry Level Neutrino Factory?	ALAN, Bross

17:45	Options for the 125 GeV Higgs Factory	NEUFFER, David
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**SPC Meeting - Tidewater A (18:30-20:00)**

**SPC Dinner - (20:00-22:00)**

## Saturday 28 July 2012

### **W Plenary: Working Group Summaries - Commonwealth Auditorium (09:00-10:30)**

- Conveners: Stone, Alan

time	title	presenter
09:00	WG1	VAHLE, Tricia
09:50	WG2	ALVAREZ RUSO, Luis

### **Break - Sadler Center (10:30-11:00)**

### **W Plenary: Working Group Summaries and Closing - Commonwealth Auditorium (11:00-13:00)**

- Conveners: Nelson, Jeff

time	title	presenter
11:00	WG3	PASTERNAK, Jaroslaw YOSHIDA, Makoto
11:35	WG4	SIGNORELLI, Giovanni
12:10	The Big Picture	HUBER, Patrick
12:50	Closing and Invitation to NuFact2013	WANG, Yifang

### **Lunch / Au revoir - Sadler Center (13:00-14:00)**