

# Generic Detector R&D for an Electron Ion Collider

## 9th Advisory Committee Meeting July 9-10, 2015

*Thomas Ullrich (BNL)*  
July 9, 2015



# Good News First

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EIC is taking off, slowly but steadily



First flight, Kitty Hawk, December 17, 1903

- **NSAC Long Range Plan 2015**

- ▶ Resolution Meeting in Kitty Hawk, NC, May 2015
- ▶ EIC receives highest recommendation for construction
- ▶ Not official until signed off by NSAC, likely in October
- ▶ LRP will also contain support for increased detector R&D funding

# Ongoing EIC Detector R&D: FY2015

New ID	Contact	Title	Institutions
eRD11	Yi Qiang	RICH detector for the EIC'S forward region particle identification	Argonne National Lab, Brookhaven National Lab, Georgia State University, INFN - Sezione di Ferrara, Jefferson Lab, Los Alamos National Lab, Old Dominion University, University of New Mexico, Universidad Tecnica Federico Santa Maria
eRD10	Mickey Chiu	R&D Proposal for (Sub) 10 Picosecond Timing Detectors at the EIC	Argonne National Laboratory, Brookhaven National Laboratory, Howard University, University of Illinois at Urbana-Champaign, University of Massachusetts at Amherst, Yale University
eRD4	Pavel Nadel-Turonski	DIRCbased PID for the EIC Central Detector	University of South Carolina, GSI, The Catholic University of America, Old Dominion University, Thomas Jefferson National Accelerator Facility
eRD3	Bernd Surrow	Design and assembly of fast and lightweight barrel and forward tracking prototype systems for an EIC	CEA Saclay, Temple University, College of Science and Technology
eRD2	Abhay Deshpande	A Compact Magnetic Field Cloaking Device	RIKEN BNL Research Center, Stony Brook University, RIKEN, Brookhaven National Laboratory, Seoul National University
eRD1	Huan Huang/ Craig Woody	June 2014 Status Report and Proposal For EIC Calorimeter Development	Brookhaven National Laboratory, California Institute of Technology, The Catholic University of America, Thomas Jefferson National Accelerator Facility, Indiana University, IPN Orsay, Pennsylvania State University, Texas A&M University, University of California at Los Angeles, University of Science and Technology of China, Yerevan Physics Institute
eRD6	Klaus Dehmelt	RD6 Tracking/PID Consortium: Progress Report & Funding Request	Brookhaven National Lab, Florida Tech, Lawrence Livermore National Lab, Stony Brook University, University of Virginia, Weizmann Institute of Science, Yale University
eRD12	Elke Aschenauer	Progress report for Proposal for an electron polarimeter a luminosity monitor and a low Q2 tagger	Brookhaven National Laboratory, Byelorussian State University, Cracow University of Technology

# Proposals for R&D: FY2016

R&D	Contact	Title	Institutions
<b>New</b>	Alexandre Camsonne	A proposal for Compton Electron Detector R&D	Thomas Jefferson National Accelerator Facility, University of Manitoba, Mississippi State University, Carnegie Mellon University
<b>New</b>	Mark Baker	DPMJetHybrid 2.0: A Tool to Refine Detector Requirements for eA Collisions in the Nuclear Shadowing / Saturation Regime	Brookhaven National Laboratory, MDB Physics and Detector Simulation Consulting
<b>New</b>	Barbara Jacak	Forward/Backward Tracking at EIC using MAPS Detectors	BNL
<b>eRD1</b>	Huan Huang/ Craig Woody	Status Report and Proposal For EIC Calorimeter Development	Brookhaven National Laboratory, California Institute of Technology, The Catholic University of America, Thomas Jefferson National Accelerator Facility, Indiana University, IPN Orsay, Pennsylvania State University, Texas A&M University, University of California at Los Angeles, University of Science and Technology of China, Yerevan Physics Institute
<b>eRD2</b>	Abhay Deshpande	A Compact Magnetic Field Cloaking Device	RIKEN BNL Research Center, Stony Brook University, RIKEN, Brookhaven National Laboratory, Seoul National University
<b>eRD3</b>	Bernd Sorrow	Design and assembly of fast and lightweight barrel and forward tracking prototype systems for an EIC	CEA Saclay, Temple University
<b>eRD6</b>	Klaus Dehmelt	RD6 Tracking/PID Consortium: Progress Report & Funding Request	Brookhaven National Lab, Florida Tech, Lawrence Livermore National Lab, Stony Brook University, University of Virginia, Weizmann Institute of Science, Yale University
<b>eRD12</b>	Elke Aschenauer	Polarimeter, Luminosity Monitor and Low Q2-Tagger for Electron Beam	Brookhaven National Laboratory
<b>PID Consortium*</b>	P.NadelTuronski, M.Chiu, H.van Hecke, Carl Zorn	Proposal for an integrated program of Particle Identification (PID) challenges and opportunities for a future Electron Ion Collider (EIC)	Brookhaven National Laboratory, Howard University, University of Illinois at UrbanaChampaign, Abilene Christian University, Argonne National Lab, Georgia State University, INFN, Sezione di Ferrara, Jefferson Lab, Los Alamos National Lab, Duke University, The University of New Mexico, Universidad Tecnica Federico Santa Maria, Old Dominion University, University of South Carolina, GSI Helmholtzzentrum für Schwerionenforschung GmbH, The Catholic University of America, Yale University

\* eRD10 (TOF), eRD11 (RICH), eRD4 (DIRC)

# Not So Good News

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FY11	\$528,016
FY12	\$1,183,179
FY13	\$798,878
FY14	\$1,416,386
FY15	\$1,113,500
<b>FY16</b>	<b>\$1,000,000</b>

Total amount of requested funding for FY16 is \$1,882,324

# EIC R&D Advisory Committee

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## Standing Advisory Committee:

Marcel Demarteau\* (Argonne)

Carl Haber (LBNL)

Peter Krizan (Ljubljana)

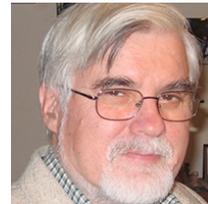
Ian Shipsey (Purdue)

Rick Van Berg (UPenn)

Jerry Va'vra (SLAC)

Glenn Young (JLab)

\*chair



Please use coffee breaks and Thursday's dinner for informal discussion with committee members

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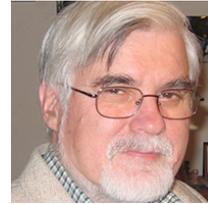
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There job is like ...

fitting an Apollo 13  
square LiOH canister  
in a round hole

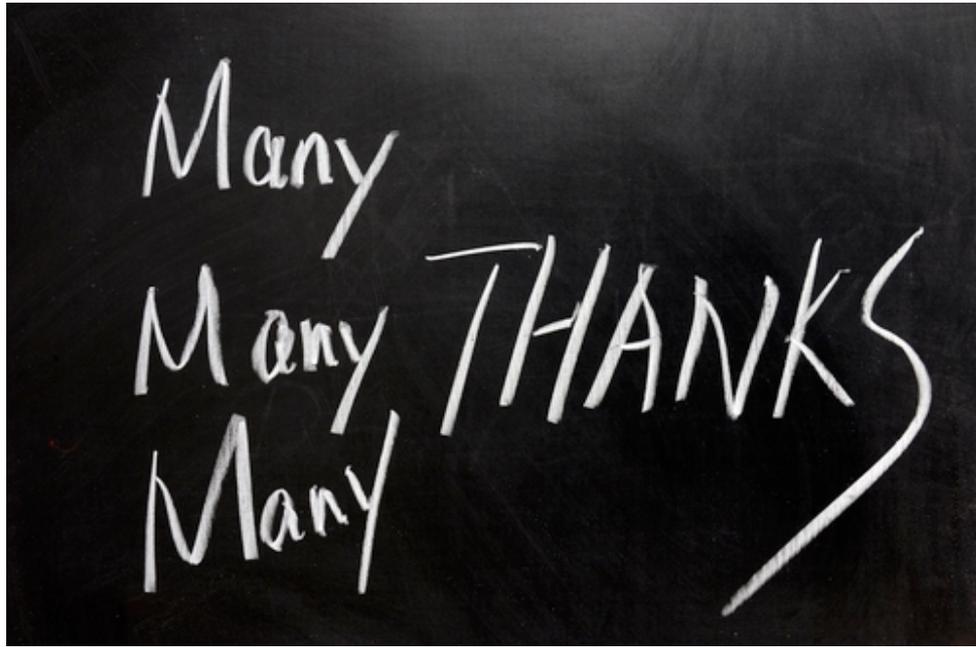
# Dealing with Contracts

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- Please stay in close contact with Xiaofeng Guo
- Please submit your invoices, bills etc regularly. Best is **monthly**. Do not wait for months and accumulate them, this will cause unnecessary delays.
- Be especially prudent with postdoc salaries and get the paperwork out early
- DOE requires annual plan of anticipated conference attendance
  - ▶ Must be submitted at start of the new FY, and be updated monthly by the 15th of each month. Send “Conference Projections Form” to BNL (Xiaofeng Guo, xguo@bnl.gov)
- Foreign travel:
  - ▶ Needs to be **pre-approved 60 days in advance**. It requires you to contact foreign travel office at BNL to obtain DOE approval.
  - ▶ DOE will not approve foreign travel after the fact
  - ▶ IMHO: try to avoid foreign travel when possible

# Last But Not Least

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- to the committee who does such an amazing job - the program is alive because of your work
- to Tom Throwe and Matt Lamont for their A/V and help (including arranging the room and and and)
- and what would we do without Rachel who makes all this happen!