

Peter H. Garbincius – Accomplishments Report July2014–June2015 phg2015.doc

I transferred from Directorate to Accelerator Division on October 13, 2014.

Scientific Secretary for Fermilab Accelerator Advisory Committee (AAC) Review, October 14-16, 2014

<https://indico.fnal.gov/conferenceDisplay.py?confId=8905>

passcode: AAC2014

DOE Review of MAP and MICE at BNL – August 2014 – prepared and presented US financing - <http://www0.bnl.gov/doemapreview/>

– my presentations are posted at:

<https://indico.fnal.gov/conferenceOtherViews.py?view=standard&confId=8726>

access key: muons14

Chairman: Fermilab Review of the g-2 Beamline Optics – October, 2014

https://www-ilcpcb.fnal.gov/g-2_beamline_review_report_final_3dec2014.pdf

Organized and Hosted DOE Review of PIP 700 KW – January 21-22, 2015

http://www.fnal.gov/directorate/OPMO/Projects/PIP/DOE_Rev/20150121/review.html

<https://indico.fnal.gov/conferenceDisplay.py?confId=9236>

passcode: PIP700

Hosted Nomura Research Institute (Japan) visit to Fermilab for fact gathering on Economic Impact of ILC – February 4, 2015

https://www-ilcpcb.fnal.gov/NRI/NRI_Visit_to_Fermilab_4feb2015.pptx

Joint STFC/DOE MICE Resource Loaded Schedule Review at Rutherford Appleton Laboratory, UK – April 2015 – prepared and presented US financing

– my presentation can be found at:

<http://micewww.pp.rl.ac.uk/projects/governance/wiki/2015-04-16-Review>

Coordinated the preparation of the Accelerator Division-led FY2016 Field Work Proposals (FWPs) to DOE http://ilcpcb.fnal.gov/FWPs_for_FY16/home.htm

Scientific Accomplishments:

I joined the D-Zero Collaboration in May 2012.

Elected to Full D0 Authorship for Run 2 – August 28, 2013

first general paper 3sept2013 arXiv 1308.6690 → Phys. Rev. D 88, 112002 (2013)

However, I'll just mention those analyses & papers with which I was actively involved:

I am supported in my continuing work on D-Zero at an average of 20% FTE by the Accelerator Division and at an average of 10% FTE by the Particle Physics Division as under Energy Frontier research.

Recent Tevatron Results on CP Violation

Submitted to Proceedings of the Second Annual Conference on
Large Hadron Collider Physics, Columbia University, June 2014
arXiv:1408.5988 and FERMILAB-CONF-14-262-E
<http://www.slac.stanford.edu/econf/C140602.2/>

Measurement of the direct CP-violating parameter A_{CP} in the decay $D^+ \rightarrow K^- \pi^+ \pi^+$
arXiv:1408.6848 and FERMILAB-PUB-14-309-E
Phys. Rev. D **90**, 11112(R) (2014)

Measurement of the B_s^0 lifetime in the flavor-specific decay channel $B_s^0 \rightarrow D_s^- \mu^+ \nu X$
arXiv:1410.1568 and FERMILAB-PUB-14-388-E
Phys. Rev. Lett. **114**, 062001 (2015)

Measurement of the forward-backward asymmetry in the production of B^\pm mesons in
p-pbar collisions at $\sqrt{s} = 1.96$ TeV
arXiv:1411.3021 and FERMILAB-PUB-14-472-E
Phys. Rev. Lett. **114**, 051803 (2015).

Measurement of the forward-backward asymmetry in Λ_b^0 and anti- Λ_b^0 production in
p-pbar collisions at $\sqrt{s} = 1.96$ TeV
arXiv:1503.03917 and FERMILAB-PUB-15-080-E
Phys. Rev. D **91**, 072008 (2015)

Nov 2014 – March 2015 – As Chairperson of the assigned D0 Editorial Board,
I played a large roll in finally put to bed the saga The D0 OmegaB Baryon at D0
http://www-d0.fnal.gov/Run2Physics/WWW/results/final/B/B08G/omega_b_2015.pdf

Study of the forward-backward asymmetry of Λ , Λ bar production in p-pbar collisions
D0 Note 6464-CONF
<http://www-d0.fnal.gov/Run2Physics/WWW/results/prelim/B/B65/B65.pdf>

Search for violation of CPT and Lorentz invariance in B_s^0 meson oscillations
arXiv:1506.04123 and FERMILAB-PUB-15-258-E
submitted to Phys. Rev. Lett.

Inclusive production of the X(4140) state in p-pbar collisions at D0
D0 Note 6468-CONF
<http://www-d0.fnal.gov/Run2Physics/WWW/results/prelim/B/B66/B66.pdf>

I continue as Chairman of D0 Run II Editorial Board-027 (CP Asymmetries),
and as member of D0 Run II Editorial Board-006 (B-physics)

Refereed 2 papers for Phys. Rev. Letters (Jan 2015 + March 2015) and (April 2015)

Technical Achievements

Leadership/Management

My major activities included supporting the US Muon Accelerator Program (MAP) under assignment to Mark Palmer, Director of US MAP,

Prepared MAP FY2015 Statements of Work (SOWs) for MAP Collaborating Universities, and Laboratories (except not yet complete for BNL and FNAL)

Preparing CRADA between Fermilab and Northern Illinois University for Accelerator Physics, with Jerry Blazey, V.P. for Research, NIU – work still in progress

I continue to serve as the Fermilab representative and as
Chairman of the Dark Energy Survey Council of Directors.

Other Activities

The Ask-a-Scientist program, which I founded in the late 1980's and continue to manage, is still going strong, after all these years.

Participated in the APS - Σ Π Σ Adopt-a-Physicist program – Fall 2014

Issues and Plans

If that is what Fermilab desires, I would be happy to continue to assist the Chief Accelerator Officer, Sergei Nagaitsev and support the Accelerator Division in any way needed.

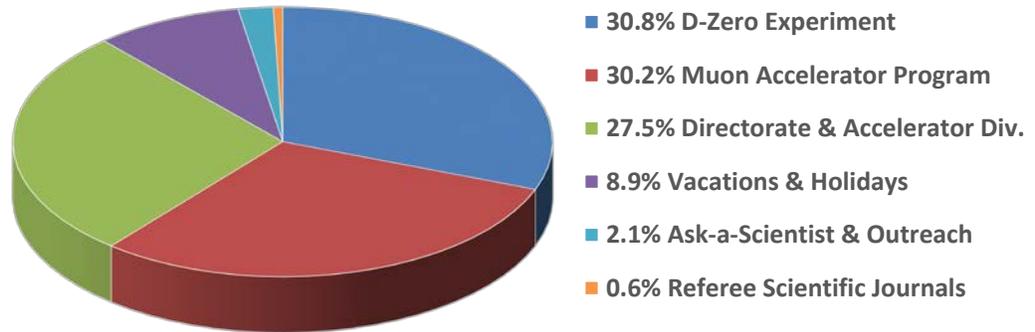
Continue with 30% time research fraction to assist with final analyses and publications for the D-Zero Experiment.

During the past year, I have continued to be heavily involved in the management of the Muon Accelerator Program (MAP), but that is expected to ramp-down in FY 2016

Just to highlight the trends in my effort:

Six years ago	(July08-June09):	33% ILC, 55% Directorate, 10% Vacation & Holiday
Five years ago	(July09-June10):	70% ILC, 18% Directorate, 10% Vacation & Holiday
Four years ago	(July10-June11):	48% ILC, 42% Directorate, 7% Vacation & Holiday
Three years ago	(July11-June12):	5% ILC, 80% Directorate, 10% PTO, 4% D-Zero
Two years ago	(July12-June13):	16% MAP, 52% Directorate, 9% PTO, 19% D-Zero
One year ago	(July13-June14):	33% MAP, 25% Directorate, 10% PTO, 29% D-Zero
This past year	(July14-June15):	30% MAP, 28% Accelerator Div, 9% PTO, 31% D0

Peter H. Garbincius Effort - July 2014 - June 2015



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