

HPS Accelerator Section – 2004 Annual Report

Date: June 16, 2005

Prepared by:
Sayed Rokni – President

Contributions from:
Bob Casey– Past President
Lorraine Marceau- Day-President-Elect
Michael Duran - Secretary
Marcia Torres - Treasurer
Linnea Wahl – Newsletter Editor

Abstract: This report summarizes the activities of the HPS Accelerator Section for the 2004-2005 business year.

Annual Report to the HPS Board of Directors

Recommendations for Action

The Accelerator Board would like to BOD consider the following item.

As a tribute to the first section president and the father of accelerator health physics, the H. Wade Patterson Award was established and approved by the board 3 years ago. Further, this award represents the section's best attempt to encourage students to pursue careers in the unique Health Physics environment of accelerators. If the presentation of that award could be incorporated into the Awards Banquet, it would raise the visibility of the award and would recognize an outstanding student at the society level. The student need not advance to the podium to receive the award but might be asked to stand and be recognized. This would only add about 2 minutes to the awards banquet.

Thank you for the board's consideration of this item.

Section Information

The Accelerator Section of the Health Physics Society held its annual business meeting during the 2004 Annual Meeting of the Society in Washington D.C. At this meeting, newly elected officers were announced, and immediately assumed their respective positions. The officers of the Section for 2004-05 are:

OFFICERS

President	Sayed Rokni, Stanford Linear Accelerator Lab
President-Elect	Lorraine Marceau-Day, Louisiana State University
Past President	Bob Casey, Brookhaven National Laboratory
Secretary	Michael Duran, Los Alamos National Laboratory
Treasurer	Marcia Torres, Argonne National Lab
Newsletter Editor	Linnea Wahl, Lawrence Berkeley National Lab

Directors

	Stephen Butala (2006), Argonne National Lab
	Elaine Marshall (2005), Fermi National Accelerator Lab
	Roger Sit (2005), University of North Carolina
	Kamran Vaziri (2006), Fermi National Accelerator Lab
	Douglas Wells (2007), Idaho State University
	Gary Zeman (2007), Lawrence Berkeley National Lab
	Robert C. Whitcomb Jr.,(2007) Director Liaison to the Accelerator Section.

Treasurer's Report

As of April 30, 2005, the section account is as follows:

Accelerator
 Health Physics Society
 Statement Of Income & Expenses And Account Balance
 For The 8 Month Period Ending April 30, 2005

ACCOUNT BALANCE 8/31/04	6757.39
INCOME RECEIVED	
Dues from HPS Members	655.00
Contributions	0.00
TOTAL INCOME COLLECTED	655.00
EXPENSES PAID	
Collection & Management Fee	65.50
TOTAL EXPENSES PAID	65.50
NET INCREASE FOR YEAR	589.50
ACCOUNT BALANCE 4/30/05	7346.89
ACCOUNT BALANCE 8/31/03	6462.39
INCOME RECEIVED	
Dues from HPS Members	620.00
Contributions	0.00
Interest Income	0.00
TOTAL INCOME COLLECTED	620.00

This represents a net increase of approximately \$300 from the 2004 levels, [\$7020.39] despite the awarding of \$300 for the H. Wade Patterson Memorial Award together with an \$80 Plaque to the outstanding student accelerator-related paper.

Accelerator Section Special Session and Morgan Lecturer

For the past several years, the Accelerator Section, has organized a special session at the annual meeting. This session is devoted to accelerator radiation protection and has once again been arranged for the 50th annual meeting in Spokane. The section would like to

recognize the continuing support of the Morgan Lecturer fund in helping to organize the session, which is spear-headed by a one hour lecture from an internationally recognized individual specializing in Accelerator-related Health Physics. The section is pleased to note that Alberto Fasso, the co-developer of the cutting edge Monte Carlo Computer code, FLUKA, will give the keynote address for the special accelerator session. The President-Elect, Lorraine Day submitted Mr. Fasso's name for consideration by the President's emeritus committee that annually selects the Morgan Lecturers and coordinated the scientific program. A full program of ten presentations is scheduled. A copy of the titles is provided below for your perusal.

Accelerator Section Session (TAM-B)

(Room: Bay 2 - Time: 8:15-11:45 am - Chairs: Sayed Rokni and Lorraine Day)

- 8:15 AM -TAM-B.1: [Accelerator Shielding Design: From Protons to Electrons, from America to Europe and Back](#) - A. Fasso, Morgan Lecture (Stanford Linear Accelerator Center) Presented by Alberto Fasso
- 9:00 AM -TAM-B.2: [Updating the Department of Energy Accelerator Safety Order and Guide](#) - D.R. Nelson¹ and D.C. Parzyck² (¹USDOE, Office of Science; ²USDOE, Fermilab Site Office) Presented by DeVaughn Nelson
- 9:15 AM -TAM-B.3: [Comparison of Shielding Design and Operational Radiation Safety Issues for Synchrotron Radiation Facilities](#) - J.C. Liu¹; S.H. Rokni¹; Y. Asano²; W.R. Casey³; R.J. Donahue⁴; and P.K. Job⁵ (¹Stanford Linear Accelerator Center; ²Synchrotron Radiation Research Center, Japan; ³Brookhaven National Laboratory; ⁴Lawrence Berkeley National Laboratory; ⁵Argonne National Laboratory) Presented by Sayed H. Rokni
- 9:30 AM -TAM-B.4: [Shielding Cask for a ²⁵²Cf Ion Source](#) - S.I. Baker; E.F. Moore; R.C. Pardo; and G. Savard (Argonne National Laboratory) Presented by Sam Baker
- 9:45 AM -TAM-B.5: [Numi Work-Cell Shielding Design](#) - K.V. Vaziri (Fermi National Accelerator Laboratory) Presented by Kamran Vaziri
- 10:00 AM -TAM-B.6: [High Energy Neutron Spectral Unfolding Using Activation Foils](#) - L.S. Walker¹; R.H. Olsher¹; J. Oostens²; and M. James¹ (¹Los Alamos National Laboratory; ²Campbellsville University, Kentucky) Presented by L. Scott Walker
- 10:45 AM -TAM-B.7: [Angular Distribution of X-Ray Differential Flux, Ambient and Effective Dose Intensity from 1 to 20 Mev Electron Accelerators](#) - M.S. Singh and K.L. Shingleton (Lawrence Livermore National Laboratory) Presented by Mike Singh
- 11:00 AM -TAM-B.8: [A Safety Analysis of a Reconfigurable Linac Target](#) - P.F. Caracappa and R.C. Block (Rensselaer Polytechnic Institute) Presented by Peter Caracappa
- 11:15 AM -TAM-B.9: [Cabinet-Safe Challenges for Portable Accelerator Operation](#) -

J.K. Billa; D.P. Wells; and J.F. Harmon (Idaho State University) Presented by Jermiah Billa

11:30 AM -TAM-B.10: [Radiation Dosimeter System for a 20 MeV Pulsed Linear Accelerator Beam at High Dose Rates for Radiobiological Applications](#) - M.A. Mestari; J. Case; T. Webb; L.C. DeVeaux; and D.P. Wells (Idaho State University) Presented by Mohammed Mestari

HPS Awards

The Accelerator Section's nomination of Alberto Fasso for the G. William Morgan Lecturer Award at the Annual Meeting was approved by the Health Physics Society (HPS) Emeritus Committee. The Section is very appreciative of this lecturer award and the ability it creates to recognize outstanding health physicists like Mr. Fasso. Mr. Fasso is currently associated with the Stanford Linear Accelerator Laboratory, but spent nearly 25 years at the European Laboratory for Particle Physics (CERN), Geneva, Switzerland.

In addition, the Section nominated Nolan Hertel as a HPS Fellow and, Scott Schwann for the consideration for the Elda D. Anderson Award. Both candidates have been important contributors to accelerator radiation protection and we welcome and are appreciative of this opportunity to recognize our members in this manner.

H. Wade Patterson Memorial Award

As a tribute to the first section president and the father of accelerator health physics, the H. Wade Patterson Award was established and approved by the board 3 years ago. Further, this award represents the section's best attempt to encourage students to pursue careers in the unique Health Physics environment of accelerators. This is the third year that the H. Wade Patterson Memorial Award for the best student accelerator paper/poster will be presented at the annual meeting. It is awarded at the Accelerator Section business meeting. The Patterson Award winner will receive a \$300 cash prize, and a plaque. The Award was announced in the HPS Newsletter and also distributed to the HPS student chapter advisors. Disappointingly, to this point no applications have been received. The Officers of the Board will continue to discuss at the annual meeting how we should proceed with this matter.

Accelerator Section Newsletter

Newsletter contributors included accelerator radiation safety professionals from US Department of Energy laboratories, universities, and international accelerator facilities. The newsletters included special articles on regulations, recommendations, and other issues of interest to accelerator health physicists. The officers of the Accelerator Section board of directors submitted articles on section activities such as elections, technical sessions planning, and awards. This newsletter is distributed world-wide, not just to the

HPS community. We hope that it fosters international communications between like-minded individuals. The section is especially appreciative of the continuing efforts of our newsletter editor, Linnea Wahl. Her continued devotion is remarkable and deserves special mention. The section intends to award her a certificate of appreciation at its annual business meeting in Spokane

In 2004-2005, we issued four quarterly volumes of the Accelerator Radiation Safety Newsletter. We distributed the newsletter via e-mail to all members of the Accelerator Section and to others interested in accelerator safety. We also posted each issue of the newsletter on a website at <http://www.hps.org/iarpe>. The content of the four newsletters included reports from officers of the Accelerator Section and news from correspondents at accelerator facilities around the world. Featured articles included papers by Dr. Ralph Thomas discussing the implications ICRP 92 for accelerator health physicists and a preview of the ANSI N43.1 standard on accelerator radiation safety. In addition, the newsletter published the abstract of the G. William Morgan Lecture presented by Dr. Graham Stevenson, our distinguished colleague from CERN, and announced the award of the H. Wade Patterson Memorial Award to Vakhtang Makarishvili for best paper on an accelerator-related topic. The newsletter also served as a medium for announcing job openings and training opportunities.

Feedback on the newsletter was sparse but positive. There were few changes in the circulation numbers from one quarter to the next, which suggests that readers were relatively satisfied. The newsletter is reaching an international audience, as was made clear when the Dutch Radiation Protection Society (*NVS Nieuws*) requested permission to reprint Ralph Thomas's summary of his 2003 G. William Morgan Lecture.

Commentary to ICRP on Radiation Protection Recommendations

An ad-hoc Accelerator Section committee appointed at last year's Board meeting made comments to the ICRP regarding their draft set of radiation protection recommendations. Bob Casey, Don Cossairt, Alberto Fasso, Nolan Hertel, and Sayed Rokni were members of the Committee, but the efforts of Alberto Fasso were particularly critical in the development of the comments offered by the committee.

The ad-hoc committee's comments focused on the quantities for radiological protection defined in chapter 3 of the ICRP draft report. In particular, the committee noted that the decision to define the quantity "effective dose" has several draw-backs:

- 1) Lack of consistency
- 2) Lack of universality
- 3) Lack of simplicity

The ad-hoc committee noted that the current approach to radiation protection practice used at high-energy accelerators is widely based on fluence-to-dose conversion coefficients.

ANSI

The American National Standards Institute (ANSI) N43.1 committee on Accelerator Radiological Safety Standards have made steady progress last year meeting in with the ANSI N43 committee at their March 29 meeting in Washington, D.C. Plans are to submit the final draft to the ANSI N43 committee for approval in the before the end of 2005.

DOE Order

Accelerator Section's officers and members (Gary Zeman, Bob Casey, Kamran Vaziri, Scott Walker, Don Cossairt, and Sayed Rokni) participated in the efforts to update the implementation guide for the U.S. Department of Energy (DOE) Order 420.2B, "Safety of Accelerator Facilities." Many thanks to DeV Vaughn Nelson, DOE Office of Science, who invited the accelerator community to work with the DOE in this effort. The updated document will shortly become a formal DOE guide in the DOE directives system.

Mid-year Topical Meeting – 2008

The Accelerator Section board of directors is engaged in preliminary planning with the Northern California Chapter of the HPS to hold a 2008 midyear meeting on radiation-generating machines in the San Francisco Bay area. The Section would undertake the responsibility of preparing the technical program and the Chapter would coordinate their efforts with the local arrangements committee. A proposal will be presented to the HPS Venues Committee at the Spokane Annual Meeting.

Election of New Officers

The ballot for new officers and Board Members was distributed by Past President, Bob Casey on June 4. The positions and their candidates were: president-elect – Scott Walker, secretary – Marcia Torres, newsletter editor – Linnea Wahl, and two board members – Mike Sandvig and Henry Tran. Ballots were distributed by e-mail to all section members. The announcement of new officers will be made at the Accelerator Section business meeting at 11:45 AM, Tuesday, July 12, at the annual meeting in Washington, D.C.

Respectfully submitted,

Sayed Rokni
President
Accelerator Section.