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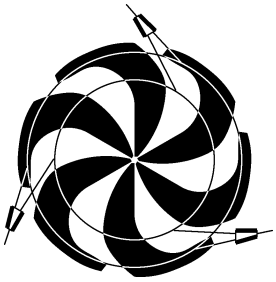

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CANADA'S NATIONAL LABORATORY FOR PARTICLE AND NUCLEAR PHYSICS

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UNDER A CONTRIBUTION FROM THE
NATIONAL RESEARCH COUNCIL OF CANADA

OCTOBER 2005

The contributions on individual experiments in this report are outlines intended to demonstrate the extent of scientific activity at TRIUMF during the past year. The outlines are not publications and often contain preliminary results not intended, or not yet ready, for publication. Material from these reports should not be reproduced or quoted without permission from the authors.

Appendix B

SEMINARS*

The following seminars were presented at TRIUMF this year.

08/01 *Transverse Structure of Nucleon Parton Distributions*, Dru Renner, MIT.
12/01 *Self Organization Phenomena in Particle Beams: How to Use Them to Build an X-Ray Laser, and How to Avoid Them to Build a Linear Collider*, Claudio Pellegrini, UCLA.
15/01 *Using Staggered Chiral Perturbation Theory to Calculate Pion and Kaon Properties*, Christopher Aubin, U. Washington.
16/01 *From Cosmology to Cosmic Rays: Nucleosynthesis Beyond the Stars*, Brian Fields, U. Illinois.
22/01 *Measuring Beta Decay Correlations in Laser Trapped ^{21}Na*, Nick Scielzo, ANL.
29/01 *Charge Symmetry Breaking in the Reaction $np \rightarrow d\pi^0$*, Dave Hutcheon, TRIUMF.
05/02 *Measuring the Charge Radii of $^{6,8}He$ in an Atom Trap*, Peter Mueller, ANL.
06/02 *Effective Interactions and Pairing in Neutron Stars*, Achim Schwenk, Ohio State U.
09/02 *Initial Experience with a New Scintillator; LFS*, Tom Lewellen, U. Washington.
11/02 *Fine Structure of Giant Resonances – A Quest for Experiments at Highest Resolution*, Achim Richter, Institut für Kernphysik, Darmstadt.
12/02 *Nuclear Astrophysics in Two Acts: r-Process Nucleosynthesis in Neutrino-Driven Winds and the Nuclear Symmetry Energy*, Andrew Steiner, U. Minnesota.
19/02 *Playing Billiards with Microwaves: Quantum Manifestations of Classical Chaos*, Achim Richter, Institut für Kernphysik, Darmstadt.
24/02 *Fermion Localization in Compact Extra-Dimensions*, Manuel Toharia, UC Davis.
11/03 *Insights into Nuclear Molecules from Studies of the Heavy Ion Radiative Capture Reaction*, David Jenkins, U. York.
18/03 *Adventures of a Proton Named Bob*, Richard Cyburt, TRIUMF.
23/03 *New Results from E949*, Joe Mildenberger, TRIUMF.
25/03 *Violation of Parity and Time-Reversal in Atoms: Precision Tests of the Standard Model of Elementary Particles*, Jacinda Ginges, U. Alberta.
26/03 *Production of High-Spin Isomers in Proton-Induced Reactions at 100–500 MeV*, Boris Zhuikov and Mikhail Mebel, INR, Moscow.
01/04 *The Physiological Role of Copper in Fe-Limited Marine Phytoplankton*, Maite Maldonado, UBC.
02/04 *Intermediate Energy Particle Nuclear Reactions: A Dynamical Statistical Approach*, Mikhail Mebel, INR, Moscow.
08/04 *Physics at the Energy Frontier: Results from the D0 Experiment*, Dugan O'Neil, SFU.
13/04 *The Status of ISOLDE*, Mats Lindroos, ISOLDE, CERN.
14/04 *1/2 Day Symposium on FFAGs*, Shinji Machida, KEK; Yoshitaka Kuno, U. Osaka; Carol Johnstone, Fermilab; and Shane Koscielniak, TRIUMF.
15/04 *Flemfest: In Celebration of Don Fleming's Glen Seaborg Award*, Khashayer Ghandi and Andrew MacFarlane, UBC.
20/04 *R&D Activities on ADS and Proposal of China Spallation Neutron Source*, ShouXian Fang, IHEP, Beijing.
22/04 *New Potential Models for Nuclear Astrophysics Illustrated with $^{7}Be+p$ and $^{12}C+\alpha$*, Jean-Marc Sparenberg, TRIUMF.
30/04 *Furious Fuss about Five Quarks*, Andy Miller, TRIUMF.
06/05 *Neutron Decay and the Standard Model – The Question of the Unitarity of the Cabbibo-Kobayashi-Maskawa Matrix*, Stefan Baeßler, U. Mainz.
07/05 *New Lattice Calculations for V_{ub} Determination from $B \rightarrow \pi$ Semileptonic Decays*, Kerryann Foley, Cornell U.
13/05 *Lamb Shift in Muonic Hydrogen: Toward the Proton Charge Radius*, Françoise Mulhauser, U. Illinois at Urbana-Champaign/PSI.
18/05 *High Performance Computng at SLAC*, Alf Wachsmann, SLAC.
20/05 *Correlations in Finite Nuclei (What Does a Proton Do Inside the Nucleus?)*, Carlo Barbieri, TRIUMF.
26/05 *Rn and Other Radio-Chemical Backgrounds in the SNO Detector*, Richard Lange, SNO/BNL.
03/06 *Nuclear Structure from Cold, Trapped Atoms*, Matt Pearson, TRIUMF.
07/06 *Silicon Photomultiplier: Investigation and Comparison*, Vitaly Kovaltchouk, U. Regina.
11/06 *Heavy Flavor at RHIC and the STAR MicroVertex Detector Upgrade*, Fabrice Retiere, LBL.
22/06 *Multi-Channel Digital Delay/Trigger System*, Shengli Liu, U. Alberta.
23/06 *The ATLAS Muon Spectrometer*, Isabel Trigger, CERN.
24/06 *Deep Underground Science and the Possibility of a Cascades Site for DUSEL*, Wick Haxton, U. Washington.
25/06 *Dilepton Events at Hadron Colliders*, Reda Tafirout, U. Toronto.
30/06 *Electronic Eavesdropping on Nuclei – Whispers About the Charge Radii of $^{8,9,11}Li$*, Wilfried Noertershaeuser, GSI Darmstadt/U. Tübingen.

08/07 *Flashes in the Ashes: A New Probe of the rp-Process on Accreting Neutron Stars*, Andrew Cumming, UC Santa Cruz.
16/07 *New Results of K2K Experiment*, Issei Kato, Kyoto U.
19/07 *Measurement of the Top Quark Mass at CDF*, Igor Volobouev, LBNL.
20/07 *Heavy Flavor Production at HERA and Elsewhere*, Leonid Gladilin, DESY.
22/07 *The Optical Data Link for ATLAS Liquid Argon Calorimeter Front End Electronics Readout*, Jingbo Ye, Southern Methodist U.
26/07 *The CIAE Facility in Beijing and the BRIF RIB Facility*, Tianjue Zhang, CIAE.
26/07 *The Evolution of Elementary Particle Physics at NSF*, Marvin Goldberg, National Science Foundation.
27/07 *Innovative Techniques for PET Imaging – Progress and Perspectives*, Patrick Le Du, Saclay.
27/07 *Electromagnetic Moments with Radioactive Nuclear Beams*, Michael Hass, Weizmann Inst.
29/07 *"Super-Radiance" and the Width of the Θ^+, S=1 Baryon*, Naftali Auerbach, Tel Aviv U.
03/08 *Breakup of Halo Nuclei by a Time-Dependent Method*, Pierre Capel, U. Libre Bruxelles.
12/08 *The ab initio Large-Basis No-Core Shell Model*, Bruce Barrett, U. Arizona.
16/08 *Grid Security and Data Access*, John White, Helsinki Inst. Physics @ CERN.
18/08 *Towards Preparing Physics Analysis at LHC*, Hans-Peter Wellisch, CERN.
19/08 *The University of Washington Penning Trap Mass Spectrometer; New Apparatus for Precision Measurements*, David Pinegar, U. Washington.
31/08 *g-Factor Measurements on Highly Charged Ions in a Penning Trap*, Guenter Werth, U. Mainz.
07/09 *Probing the Structure of Radioactive Ion Beams (RIBS)*, Ken Amos, U. Melbourne.
09/09 *High-Precision Lattice QCD Confronts Experiment*, Howard Trottier, SFU.
23/09 *Commissioning and Initial Operation of the Canadian Light Source*, Mark de Jong, CLS, Saskatoon.
30/09 *Isomers and Seniority in the Trans-Pb Nuclei*, Jo Ressler, SFU.
04/10 *Emergent Physics: A Condensed-Matter Primer*, Gregory Volovik, Landau Inst. Theoretical Physics, Russia.
07/10 *Measurement of the Michel Parameter ρ in Muon Decay*, Jim Musser, Texas A&M U.
14/10 *New Shell Structure in Neutron-Rich Nuclei Above Doubly-Magic ^{48}Ca*, Robert Janssens, ANL.
21/10 *New Measurement of Michel Parameter δ*, Andrei Gaponenko, U. Alberta.
26/10 *Windows on the Dark Side of the Universe*, Bernard Sadoulet, UC Berkeley.
01/11 *Analogue Electronics and Signal Processing for ATLAS LAr Calorimetry*, Leonid Kurchaninov, CERN.
04/11 *Towards Precision Mass Measurements of Radioactive Ions with a Penning Trap at IGISOL*, Juha Äystö, U. Jyväskylä.
08/11 *Report from Cyclotrons 2004 (Tokyo) and FFAG'04 (KEK)*, Michael Craddock, UBC/TRIUMF.
10/11 *Nucleosynthesis in the Beginning*, Jennifer Johnson, Herzberg Inst. Astrophysics, Victoria.
12/11 *Why Pentaquarks Are Seen in Some Experiments and Not in Others*, Harry Lipkin, Weizmann Inst./ANL.
19/11 *Experimental Study of the Pentaquark*, Takashi Nakano, RCNP, Osaka U.
24/11 *Beta-Detected NMR and Its Applications in Condensed Matter Physics*, Zaher Salman, TRIUMF.
25/11 *An Overview of the Founding and Current Activities of Bubble Technology Industries*, Harry Ing, Bubble Technology Industries.
02/12 *Polarized Parton Distributions Measured at the HERMES Experiment*, Jeurgen Wendland, UBC/SFU.
16/12 *Nucleosynthesis in Asymptotic Giant Branch Stars*, Amanda Karakas, St. Mary's U.

The following ISAC seminars were presented at TRIUMF this year.

21/04 *The UK Gamma-Ray Tracking Project*, Chris Pearson, TRIUMF.
05/05 *Beta Decay Studies with Fast Fragment Beams*, Colin Morton, TRIUMF.
19/05 *Design of a Double Time-of-Flight Spectrometer for Fission Fragment Spectroscopy at FZR*, Hariprakash Sharma, U. Manitoba.
02/06 *Production of Radioisotopes for Diagnosis and Therapy*, Suzy Lapi, SFU.
11/08 *An Introduction to the TITAN Electron Beam Ion Trap (EBIT) – A Status Report*, Chris Osborne, MPI Heidelberg/TRIUMF.
25/08 *Superallowed Fermi Beta Decay Studies Using the 8π Spectrometer*, Martin Smith, TRIUMF.
08/09 *Measurement of Radiative Lifetimes, Branching Ratios, Hyperfine Structure, and Isotope Shifts in Lanthanide Ions*, David Rosner, U. Western Ontario.
24/09 *Solid-State Laser Ion Source Developments for High Purity Ion Beams*, Christopher Geppert, Johannes-Gutenberg U., Mainz.
20/10 *Accelerator Mass Spectrometry – ^{14}C Dating and Beyond*, Christof Vockenhuber, TRIUMF.
01/12 *Laser Cooling and Sympathetic Cooling of Ions*, Vladimir Ryjkov, TRIUMF.

The following UBC/TRIUMF joint colloquium was presented this year.

16/09 *Relativistic Heavy Ion Collider and Ultra-Dense Matter*, Larry McLerran, BNL.

The following technical seminars were presented this year.

14/01 *The Charge Breeding System at REX-ISOLDE*, Friedhelm Ames, CERN.
31/03 *Isotope Investigation and Production at INR*, Boris Zhuikov, INR, Moscow.
13/08 *WIENER VME Crates and Power Supplies for Physics*, Andreas Ruben, WIENER, Plein & Baus Electronics.
16/09 *ROME: A New Framework for Object-Oriented Data Analysis with ROOT and MIDAS*, Matthias Schneebeli, PSI.
01/10 *Participate/Collaborate: Reciprocity, Design, and Social Networks*, Access Grid Collab., Banff New Media Centre.
25/10 *HEPNET Canada Presentation*, Randy Sobie, U. Victoria.
27/10 *WestGrid Collaboration and Visualization Presentation*, Brian Corrie, SFU.

The following lunchtime seminars were presented at TRIUMF this year.

22/03 *RIA Workshop Summary*, Paul Schmor, John D'Auria, Lutz Moritz and Bob Laxdal, TRIUMF.
29/03 *Report on the SLAC ROOT Workshop and ROOT Activities at TRIUMF*, Konstantin Olchanski, TRIUMF.
19/04 *Design Status for a 2-Step Target at ISAC, and Predicted Yields*, Will Talbert, TechSource, Inc.
14/06 *Report on the CanSecWest Computer Security Conference*, Andrew Daviel, TRIUMF.
25/10 *CHEP04 and HEPIX, Learn All the New Buzzwords in Computing*, Renée Poutissou and Corrie Kost, TRIUMF.

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* All matters concerning TRIUMF seminars should be referred via e-mail to seminar@triumf.ca

The latest listing of TRIUMF seminars can be seen at http://admin.triumf.ca/netdata/seminars/list