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Mr. Richard Abram Baartman

Correspondence language: English

Contact Information

The primary information is denoted by (*)

Address

Home (*)

14162 57a Ave
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Email

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Mr. Richard Baartman

Language Skills

Language	Read	Write	Speak	Understand	Peer Review
English	Yes	Yes	Yes	Yes	Yes

Degrees

- 1981/5 — Master's Thesis, Physics, Simon Fraser University
  Supervisors: John Cochran, 1975/9 - 1979/12
- 1975/5 — Bachelor's Honours, Mathematical Physics, Simon Fraser University

Recognitions

2011/11
Fellow of American Physical Society
American Physical Society
Honor
Citation: For his contributions to the theory and elucidation of collective instabilities and higher order aberrations in particle accelerators and beamlines.

2011/1
Outstanding Referee
American Physical Society
Citation
Award for outstanding performance in refereeing scientific papers

User Profile

Research Specialization Keywords: dynamics fields

Employment

1988/4
Head, Beam Physics
Accelerator Division, TRIUMF
Full-time, Professor
Tenure Status: Tenure

1980/1
Research Scientist
TRIUMF
Design and develop charged particle accelerators and transport systems for scientific research and medical applications

2017/3 - 2019/8 Adjunct professor
Department of Physics and Astronomy, University of Victoria
Full-time, Adjunct
Tenure Status: Non Tenure Track

Research Funding History

Awarded [n=2]

2016/10 - 2018/3
Principal Applicant

AWAKE- Canada's contribution to the AWAKE project at CERN, Grant

Funding Sources:
Natural Sciences and Engineering Research Council of Canada (NSERC)
Total Funding - 286,000
Portion of Funding Received - 208,000
Funding Competitive?: Yes

Co-applicant : Robert Laxdal

2011/4 - 2014/3
Principal Applicant

Cyclotron Physics, Grant

Funding Sources:
Natural Sciences and Engineering Research Council of Canada (NSERC)
Total Funding - 45,000
Portion of Funding Received - 45,000
Funding Competitive?: Yes

Student/Postdoctoral Supervision

Doctorate [n=3]

2016/8 - 2018/8
Principal Supervisor

Carla Barquest, TRIUMF
Thesis/Project Title: ARIEL Beam Physics
Present Position: Post-Doc

2014/9 - 2018/3
Co-Supervisor

Marco Marchetto (All But Degree) , UBC
Student Degree Expected Date: 2018/3
Thesis/Project Title: Title: Magnetic Field Study for a New Generation High Resolution Mass Separator
Present Position: Research Scientist, TRIUMF

2013/7 - 2016/7
Principal Supervisor

James Maloney, TRIUMF
Thesis/Project Title: Optics Design of the CANREB High Resolution Separator
Present Position: Professor, Dakota State University

Event Administration

2017/2 - 2018/6 Scientific Advisory Board member, 2018 International Particle Accelerator Conference, Conference, 2018/5 - 2018/6

2016/3 - 2017/12 Scientific Advisory Board member, 2017 International Conference on Ion Sources, Conference, 2017/9 - 2017/10

2011/10 - 2013/9 Scientific Program Committee Chair, 2013 International Cyclotron Conference, Conference, 2013/9 - 2013/9

Organizational Review Activities

2012/7 - 2017/7 expert reviewer, FermiLab
Annual review of FNAL's Proton Improvement Plan Project. Specialist expertise: Beam dynamics and especially high intensity collective effects.

International Collaboration Activities

2014/2 - 2014/2 design study, Switzerland
Future Circular Collider Design Study, CERN

2012/3 - 2012/3 Reviewer, United States
Review of the Project X Injector Experiment.

2011/6 - 2011/6 Reviewer, United States
Institutional Review of Fermilab. Assess the merit, effectiveness, and impact of the program at Fermilab and the laboratory's contribution to the national program.

Committee Memberships

2009/1 - 2015/1 Committee Member, International Collaboration on Future Accelerators, Beam Dynamics Panel, ICFA, Beam Dynamics Panel

Presentations

1. (2016). Fast Envelope Tracking for Space Charge Dominated Injectors. LINAC'16, East Lansing, United States
   Main Audience: Knowledge User
   Invited?: Yes, Keynote?: No
2. L.Merminga, F.Ames, P.Bricault, Y.Bylinski, YCChao, R.Dawson, D.Kaltchev, S.Koscielniak, R.Laxdal. (2015). Ariel: Triumf's advanced rare isotope laboratory.International Particle Accelerator Conference, San Sebastian, Spain
   Main Audience: Researcher
   Invited?: Yes, Keynote?: No
3. (2013). Review of space charge effects in cyclotrons. International Conference on Cyclotrons and their Applications, Vancouver, Canada
   Main Audience: Researcher
   Invited?: Yes, Keynote?: No
4. (2013). Optimal 3D Quadrupoles Shapes. North American Particle Accelerator Conference, Pasadena, United States
   Main Audience: Researcher
   Invited?: Yes, Keynote?: No

Publications

Journal Articles

1. JA Maloney, R Baartman, T Planche, S Saminathan. (2016). Electrostatic potential map modelling with COSY Infinity. Nuclear Instruments and Methods in Physics Research Section B: Beam Interactions with Materials and Atoms. 376: 171-174.
   Published
   Refereed?: Yes, Open Access?: No
2. V Anastassopoulos, S Andrianov, R Baartman, S Baessler, M Bai, J Benante, M Berz, M Blaskiewicz, T Bowcock, K Brown, B Casey, M Conte, JD Crnkovic, N D'Imperio, G Fanourakis, A Fedotov, P Fierlinger, W Fischer, MO Gaisser, Y Giomataris, M Grosse-Perdekamp, G Guidoboni, S Haciomeroğlu, G Hoffstaetter, H Huang, M Incagli, A Ivanov, D Kawall, YI Kim, B King, IA Koop, DM Lazarus, V Lebedev, MJ Lee, S Lee, YH Lee, A Lehrach, P Lenisa, P Levi Sandri, AU Luccio, A Lyapin, W MacKay, R Maier, K Makino, N Malitsky, WJ Marciano, W Meng, F Meot, EM Metodiev, L Miceli, D Moricciani, WM Morse, S Nagaitsev, SK Nayak, YF Orlov, CS Ozben, ST Park, A Pesce, E Petrakou, P Pile, B Podobedov, V Polychronakos, J Pretz, V Ptitsyn, E Ramberg, D Raparia, F Rathmann, S Rescia, T Roser, H Kamal Sayed, YK Semertzidis, Y Senichev, A Sidorin, A Silenko, N Simos, A Stahl, EJ Stephenson, H Ströher, MJ Syphers, J Talman, RM Talman, V Tishchenko, C Touramanis, N Tsoupas, G Venanzoni, K Vetter, S Vlassis, E Won, G Zavat. (2016). A storage ring experiment to detect a proton electric dipole moment. Review of Scientific Instruments. 87(11)
   Published
   Refereed?: Yes, Open Access?: No
3. JA Maloney, R Baartman, M Marchetto. (2016). New design studies for TRIUMF's ARIEL High Resolution Separator. Nuclear Instruments and Methods in Physics Research Section B: Beam Interactions with Materials and Atoms. 376: 135-139.
   Published
   Refereed?: Yes, Open Access?: No
4. F Ames, R Baartman, P Bricault, K Jayamanna. (2014). Charge state breeding of radioactive isotopes for ISAC. Hyperfine Interactions. 2(1-3): 63-67.
   Published
   Refereed?: Yes, Open Access?: No
5. T Kurtukian-Nieto, R Baartman, B Blank, T Chiron, C Davids, F Delalee, M Duval, S El Abbeir, A Fournier, D Lunney, F Méot, L Serani, M-H Stodel, F Varenne, H Weick. (2013). SPIRAL2/DESIR high resolution mass separator. Nuclear Instruments and Methods in Physics Research Section B: Beam Interactions with Materials and Atoms. 317: 284-289.
   Published
   Refereed?: Yes, Open Access?: No
6. Richard Baartman. (2012). Quadrupole shapes. Phys Rev Special Topics Accelerators and Beams. 15: 074002–074011.
   Published
   Refereed?: Yes, Open Access?: Yes

Book Chapters

1. Richard Baartman. (2013). ISAC LEBT. Jens Dilling, Reiner Krücken, Lia Merminga. ISAC and ARIEL: The TRIUMF Radioactive Beam Facilities and the Scientific Program. : 69-77.
   Published, Springer
   Refereed?: Yes

2. M. Marchetto, R. A. Baartman, R. E. Laxdal. (2013). ARIEL front end. Jens Dilling, Reiner Krücken, Lia Merminga. ISAC and ARIEL: The TRIUMF Radioactive Beam Facilities and the Scientific Program. : 275-282.
   Published, Springer
   Refereed?: Yes

3. F. Ames, R. Baartman, P. Bricault, K. Jayamanna. (2013). Charge state breeding of radioactive isotopes for ISAC. Jens Dilling, Reiner Krücken, Lia Merminga. ISAC and ARIEL: The TRIUMF Radioactive Beam Facilities and the Scientific Program. : 63-67.
   Published, Springer
   Refereed?: Yes

Conference Publications

1. Suresh Saminathan, Richard Baartman. (2017). On the Ariel Pre-Separator. 8th Int. Particle Accelerator Conf.,
   Paper
   In Press
   Refereed?: No, Invited?: No

2. Frederick Jones, Richard Baartman, Iouri Bylinskii, Yi-Nong Rao. (2017). Simulation Study of Halo Collimation in the TRIUMF Ariel Proton Beam Line. 8th Int. Particle Accelerator Conf.,
   Paper
   In Press
   Refereed?: No, Invited?: No

3. Thomas Planche, Richard Baartman, Iouri Bylinskii, Yi-Nong Rao. (2017). Space-charge Simulation of TRIUMF 500 MeV Cyclotron. 21st Int. Conf. on Cyclotrons and Their Applications,
   Paper
   Published
   Refereed?: No, Invited?: No

4. Thomas Planche, Martin Alcorta, Friedhelm Ames, Richard Baartman, Carla Barquest, Brandon Humphries, Paul Jung, Dobrin Kaltchev, Shane Koscielniak, Robert Laxdal, Yanyun Ma, Marco Marchetto, Suresh Saminathan, Edward Thoeng. (2017). Commissioning and Early Operation of the ARIEL e-Linac. 28th Linear Accelerator Conf.,
   Paper
   Published
   Refereed?: No, Invited?: Yes

5. Marco Marchetto, Tom Alderson, Friedhelm Ames, Richard Baartman, Jason Chak, Paul Dirksen, Tim Emmens, Geoff Hodgson, Tomislav Hruskovec, Mark Ilagan, Robert Laxdal, Norman Muller, Doug Preddy, Daniel Rowbotham, Suresh Saminathan, Quinn Temmel, Victor Verzilov, Dimo Yosifov. (2017). The ARIEL Radioactive Ion Beam Transport System. 28th Linear Accelerator Conf.,
   Paper
   Published
   Refereed?: No, Invited?: No

6. Richard Baartman. (2017). Fast Envelope Tracking for Space Charge Dominated Injectors. 28th Linear Accelerator Conf.,
   Paper
   Published
   Refereed?: No, Invited?: Yes

7. Aurelia Laxdal, Richard Baartman, Iouri Bylinskii, G Ganesh, Frederick Jones, Thomas Planche, Ayanangsha Sen. (2017). Recirculating Electron Beam Photo-converter for Rare Isotope Production. 21st Int. Conf. on Cyclotrons and Their Applications,
   Paper
   Published
   Refereed?: No, Invited?: No

8. Iouri Bylinskii, Richard Baartman, Keerthi Jayamanna, Thomas Planche, Yi-Nong Rao. (2017). Recent Improvements in Beam Delivery with the TRIUMF's 500 MeV Cyclotron. 21st Int. Conf. on Cyclotrons and Their Applications,
   Paper
   Published
   Refereed?: No, Invited?: No

9. Aurelia Laxdal, Richard Baartman, Iouri Bylinskii, Sriram Ganesh, Alexander Gottberg, Frederick Jones, Peter Kunz, Luis Lopera, Thomas Planche, Ayanangsha Sen. (2017). Recirculated Electron Beam Photo-Converter for Rare Isotope Production. 8th Int. Particle Accelerator Conf.,
   Paper
   In Press
   Refereed?: Yes, Invited?: No

10. Marchetto, Ames, Ang, Baartman, Bylinskii, Chao, Dale, Fong, Iranmanesh, Jones, Kaltchev, Kavarskas, Kolb, Koscielniak, Koveshnikov, Laverty, Laxdal, Merminga, Muller, Nagimov, Nussbaumer, Planche, Rowe, Saminathan, Verzilov, Yao, Zheng, Zvyagintsev. (2015). Commissioning and Operation of the ARIEL Electron Linac at TRIUMF. International Particle Accelerator Conference, Richmond, United States
    Paper
    Published
    Refereed?: No, Invited?: Yes

11. R.E. Laxdal, F. Ames, R.A. Baartman, I.V. Bylinskii, Y.-C. Chao, D. Dale, K. Fong, E.R. Guetre, P. Kolb, S.R. Koscielniak, A. Koveshnikov, M.P. Laverty, Y. Ma, M. Marchetto, L. Merminga, A.K. Mitra, N. Muller, R.R. Nagimov, T. Planche, W.R. Rawnsley, V.A. Verzilov, Z.Y. Yao, Q. Zheng, V. Zvyagintsev [TRIUMF, Canada's National Laboratory for Particle and Nuclear Physics, Vancouver, Canada]. (2015). Status of Superconducting Electron Linac Driver for Rare Ion Beam Production at TRIUMF. LINAC2014, geneva, Switzerland
    Conference Date: 2014/8
    Paper
    Published
    Refereed?: No, Invited?: Yes

12. A. Laxdal, F. Ames, R.A. Baartman, W.R. Rawnsley, A. Sen, V.A. Verzilov, G. Waters. (2015). Allison Scanner Emittance Diagnostic Development at TRIUMF. LINAC2014, geneva, Switzerland
    Conference Date: 2014/8
    Paper
    Published
    Refereed?: No, Invited?: No

13. R. Baartman. (2014). Space Charge Limit in Separated Turn Cyclotrons. Cyclotrons2013, vancouver, Canada
    Conference Date: 2013/9
    Paper
    Published
    Refereed?: No, Invited?: Yes

14. T. Planche, R.A. Baartman, Y.-N. Rao. (2014). Measurement of Turn Structure in the Central Region of TRIUMF Cyclotron. Cyclotrons2013, vancouver, Canada
    Conference Date: 2013/9
    Paper
    Published
    Refereed?: No, Invited?: No

15. Y.-N. Rao, R.A. Baartman, I.V. Bylinskii, V.A. Verzilov. (2014). TRIUMF Extraction Foil Developments and Contamination Reduction. Cyclotrons2013, vancouver, Canada
    Conference Date: 2013/9
    Paper
    Published
    Refereed?: No, Invited?: No

16. T. Planche, R.A. Baartman, Y.-N. Rao. (2014). Improvement of the Current Stability from the TRIUMF Cyclotron. Cyclotrons2013, vancouver, Canada
    Conference Date: 2013/9
    Paper
    Published
    Refereed?: No, Invited?: No

17. R.A. Baartman. (2013). Optimal 3D Quadrupoles Shapes. NA-PAC13 (North American Particle Accelerator Conf.), pasadena, United States
    Conference Date: 2013/9
    Paper
    Published
    Refereed?: No, Invited?: Yes

18. J. Borburgh, B. Balhan, W. Bartmann, T. Fowler, L. Sermeus, G. Vanbavinckhove [CERN, Geneva, Switzerland] R.A. Baartman [TRIUMF, Vancouver, Canada] D. Barna [University of Tokyo, Tokyo, Japan] V. Pricop [Transilvania University of Brasov, Brasov, Romania] . (2013). Concept for Elena Extraction and Beam Transfer Elements. 4th International Particle Accelerator Conference, Shanghai,
    Conference Date: 2013/5
    Paper
    Published
    Refereed?: No, Invited?: No

19. G. Vanbavinckhove, W. Bartmann, F. Butin, O. Choisnet [CERN, Geneva, Switzerland] R.A. Baartman [TRIUMF, Vancouver, Canada] D. Barna, H. Yamada [University of Tokyo, Tokyo, Japan]. (2013). Geometry and Optics of the Electrostatic ELENA Transfer Lines. 4th International Particle Accelerator Conference, Shanghai,
    Conference Date: 2013/5
    Paper
    Published
    Refereed?: No, Invited?: No

20. S.R. Koscielniak, F. Ames, R.A. Baartman, I.V. Bylinskii, Y.-C. Chao, D. Dale, R.J. Dawson, E.R. Guetre, N. Khan, A. Koveshnikov, A. Laxdal, R.E. Laxdal, F. Mammarella, M. Marchetto, L. Merminga, A.K. Mitra, T. Planche, Y.-N. Rao, A. Sitnikov, V.A. Verzilov, D. Yosifov, V. Zvyagintsev [TRIUMF, Vancouver, Canada] D. Karlen, R.R. Langstaff [Victoria University, Victoria, B.C., Canada]. (2013). ARIEL Superconducting Electron Linac. LINAC2012, Tel Aviv, Israel
    Conference Date: 2012/9
    Paper
    Published
    Refereed?: No, Invited?: Yes

21. A. Chakrabarti, S. Dechoudhury, V. Naik [VECC, Kolkata, India] F. Ames, R.A. Baartman, Y.-C. Chao, R.E. Laxdal, M. Marchetto, L. Merminga, F. Yan [TRIUMF, Vancouver, Canada] G. Goh [SFU, Burnaby, BC, Canada]. (2012). Beam Dynamics Simulation and Optimization for 10 MeV Superconducting e-Linac Injector for VECC-RIB Facility. LINAC2012, Tel Aviv, Israel
    Conference Date: 2012/9
    Paper
    Published
    Refereed?: No, Invited?: No

22. T. Planche, R.A. Baartman, Y.-N. Rao. (2012). Correction of the nur=3/2 Resonance in TRIUMF Cyclotron. IPAC 2012, New Orleans, United States
    Conference Date: 2012/5
    Paper
    Published
    Refereed?: No, Invited?: No

23. R. Baartman. (2012). Quadrupole Shapes. IPAC 2012, New Orleans, United States
    Conference Date: 2012/5
    Paper
    Published
    Refereed?: No, Invited?: No

24. S.R. Koscielniak, F. Ames, R.A. Baartman, I.V. Bylinskii, Y.-C. Chao, D. Dale, R.J. Dawson, A. Koveshnikov, A. Laxdal, R.E. Laxdal, F. Mammarella, L. Merminga, A.K. Mitra, Y.-N. Rao, V.A. Verzilov, D. Yosifov, V. Zvyagintsev. (2012). Electron Linac Photo-fission Driver for the Rare Isotope Program at TRIUMF. 2012 IPAC, New Orleans, United States
    Conference Date: 2012/5
    Paper
    Published
    Refereed?: No, Invited?: No

25. R. Baartman. (2011). Bunch Dynamics through Accelerator Column. IPAC 2011, san sebastian, Spain
    Conference Date: 2011/9
    Paper
    Published
    Refereed?: No, Invited?: No

26. D. Kaltchev, R.A. Baartman, Y.-C. Chao, P. Kolb, S.R. Koscielniak, L. Merminga, A.K. Mitra, V. Zvyagintsev. (2011). Studies of Transverse Single-pass Beam Breakup in E-Linac. IPAC 2011, san sebastian, Spain
    Conference Date: 2011/9
    Paper
    Published
    Refereed?: No, Invited?: No

27. Y.-N. Rao, R.A. Baartman. (2011). Transverse Phase Space Tomography in TRIUMF Injection Beamline. IPAC 2011, san sebastian, Spain
    Conference Date: 2011/9
    Paper
    Published
    Refereed?: No, Invited?: No

28. C.D. Beard, F. Ames, S. Austen, R.A. Baartman, Y.-C. Chao, K. Fong, C. Gong, N. Khan, S.R. Koscielniak, A. Laxdal, R.E. Laxdal, C.D.P. Levy, D. Louie, J. Lu, L. Merminga, A.K. Mitra, D. Rowbotham, P. Vincent, D. Yosifov [TRIUMF, Canada's National Laboratory for Particle and Nuclear Physics, Vancouver, Canada] C.K. Sinclair [CLASSE, Ithaca, New York, USA]. (2011). Conceptual Design for the ARIEL 300 keV Electron Gun. PAC11, new york, United States
Conference Date: 2011/3
Paper
Published
Refereed?: No, Invited?: No

29. I.V. Bylinskii, R.A. Baartman, F.W. Bach, J.F. Cessford, G. Dutto, Y.-N. Rao, L.W. Root, R. Ruegg. (2011). TRIUMF Cyclotron Beam Quality Improvement. PAC2011, new york, United States
Conference Date: 2011/3
Paper
Published
Refereed?: No, Invited?: No