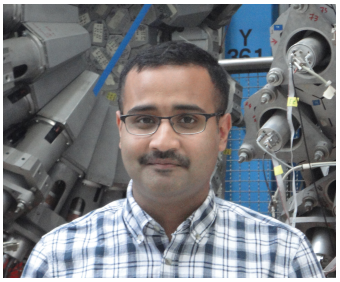
Soumya Bagchi

Curriculam Vitae



Indian Institute of Technology (Indian School of Mines) Dhanbad
Jharkhand - 826004,
India

✉ sbagchi@iitism.ac.in

Academic Appointments

- ***Assistant Professor***
  Department of Physics, IIT-ISM Dhanbad, India
  (August 2020 – present)
- ***Postdoctoral Research Associate***
  Astronomy and Physics Department, Saint Mary's University, Halifax, Canada &
  Justus-Liebig University, Giessen, Germany &
  GSI Helmholtzzentrum für Schwerionenforschung, Darmstadt, Germany
  (September 2015 – July 2020)
  Adviser: Prof. Rituparna Kanungo and Prof. Christoph Scheidenberger
- ***Ph.D. candidate***
  KVI-CART, University of Groningen, Groningen, The Netherlands
  (November 2010 – May 2015)
- ***Visiting Student***
  Department of Astronomy and Astrophysics,
  Tata Institute of Fundamental Research, Mumbai, India
  (May 2009 – July 2009)
  Adviser: Prof. J.S. Yadav

Education

Ph.D.
University of Groningen, Groningen, The Netherlands
Experimental Nuclear Physics
2010 – 2015

- Advisers:
  Prof. Nasser Kalantar Nayestanaki, Prof. Muhsin N. Harakeh and Dr. Julien Gibelin
- Thesis: Study of compression modes in ^{56}Ni using an active target

Masters
Indian Institute of Technology Roorkee, Roorkee, India
2008 – 2010

- Specialization: Nuclear Physics
- Thesis: Study of Coulomb Dissociation as an Indirect Method in Nuclear Astrophysics
- Adviser: Dr. Rajdeep Chatterjee

Bachelor
University of North Bengal, Siliguri, India
2005 – 2008

- With Honours in Physics

Presentations

Invited talks

- Taming the Universe in the Laboratory with Nuclear Physics;
  Webinar, Salesian College, Siliguri, India.
  18 September 2020.
- Quest for the heaviest Borromean two-neutron halo;
  Webinar organized by the Indian Nuclear Physics community.
  22 June 2020.
- Radii measurements of exotic nuclei;
  Recent Issues in Nuclear and Particle Physics, Visva-Bharati, Shantiniketan, India.
  3 – 5 February 2019.
- Proton distribution radii in neutron-rich nitrogen through charge-changing cross section measurements;
  NUSTAR Annual meeting, Darmstadt, Germany.
  27 February – 2 March 2017.
- Study of compression modes in ^{56}Ni with the active target MAYA;
  NUSTAR Annual meeting, Darmstadt, Germany.
  3 March – 7 March 2014.
- Highlights on ^{56}Ni;
  ENSAR Town Meeting, Warsaw, Poland.
  17 – 20 June 2013.

Institute seminars

- Exotic structures from radii measurements of neutron-rich nuclei;
  KVI-CART, University of Groningen, The Netherlands.
  13^{th} September 2018.
- Exotic structures from radii measurements of neutron-rich nuclei;
  Tata Institute of Fundamental Research, Mumbai, India.
  8^{th} January 2018.
- Exotic structures from radii measurements of neutron-rich nuclei;
  Saha Institute of Nuclear Physics, Kolkata, India.
  3^{rd} January 2018.
- Exotic structures from radii measurements of neutron-rich nuclei;
  IIEST Shibpur, Kolkata, India.
  18^{th} December 2017.
- Study of Compression Modes in ^{56}Ni with the MAYA active-target detector;
  GSI Helmholtzzentrum für Schwerionenforschung, Darmstadt, Germany.
  February 2016.
- Study of Compression Modes in ^{56}Ni with the MAYA active-target detector;
  Variable Energy Cyclotron Center, Kolkata, India.
  August 2015.

- Study of Compression Modes in ^{56}Ni with the MAYA active-target detector;
  KVI-CART, University of Groningen, The Netherlands.
  2013.

Contributed talks in Conferences and Workshops

- Plans for Measurements of Radii and Momentum Distribution;
  Super-FRS Collaboration Meeting, Mörfelden-Walldorf, Germany.
  17 – 19 June 2019.
- Proton-distribution radii of neutron-rich nitrogen isotopes;
  Super-FRS Collaboration Meeting, Mörfelden-Walldorf, Germany.
  17 – 19 June 2019.
- Concept of an ionization detector for high Z-resolution measurements;
  Super-FRS Collaboration Meeting, Mörfelden-Walldorf, Germany.
  2 – 4 May 2018.
- Proton radii of neutron-rich nitrogen isotopes through charge-changing cross section measurements;
  61^{st} DAE-BRNS Symposium on Nuclear Physics, Kolkata, India.
  5 – 9 December 2016.
- Proton distribution of Nitrogen isotopes through charge-changing cross section measurements;
  Direct Reaction with Exotic Beams (DREB), Halifax, Canada.
  11 – 15 July 2016.
- Study of compression modes of ^{56}Ni using a TPC as an active target;
  Physics@FOM, Veldhoven, The Netherlands.
  21 – 22 January 2014.
- Study of compression modes in ^{56}Ni using a TPC as an active target;
  Annual Conference on Subatomic Physics, Lunteren, The Netherlands.
  1 November 2013.
- Study of the Isoscalar Giant Monopole Resonance (ISGMR) and Isoscalar Giant Dipole Resonance (ISGDR) in ^{56}Ni using active target MAYA at GANIL;
  Annual Conference on Subatomic Physics, Lunteren, The Netherlands.
  2 November 2012.

Posters

- Measurement of proton-distribution radii of neutron-rich nitrogen isotopes;
  Nuclear Structure and Dynamics, Venice, Italy.
  13 – 17 May 2019.
- Compression modes in ^{56}Ni with a TPC as an active target;
  International conference for Science and Technology for FAIR, Worms, Germany.
  13 – 17 October 2014.
- Study of Compression Modes in ^{56}Ni with the MAYA active-target detector;
  XVIIIth Colloque GANIL, Bayeux, France.
  23 – 27 September 2013.
- Study of the compression modes in ^{56}Ni with the MAYA active target detector;
  Physics@FOM, Veldhoven, The Netherlands.
  22 – 23 January 2013.
- Study of Isoscalar Giant Dipole Resonance of ^{56}Ni using active target;
  2^{nd} European Nuclear Physics Conference, Bucharest, Romania.
  17 – 21 September 2012.

- Study of Isoscalar Giant Dipole Resonance in ^{56}Ni with the MAYA active target detector
  Physics@FOM, Veldhoven, The Netherlands.
  17 – 18 January 2012.
- Study of Isoscalar Giant Dipole Resonance in ^{56}Ni with the MAYA active target detector;
  18^{th} Euroschool on Exotic Beams, Jyväskylä, Finland.
  20 – 26 August 2011.

Schools and Workshops attended

- NUSTAR and Super-FRS collaboration annual meeting;
  GSI Helmholtzzentrum, Darmstadt, Germany.
  2012 – present.
- 23^{rd} Euroschool on Exotic Beams;
  GSI Helmholtzzentrum, Darmstadt, Germany.
  28 August – 3 September 2016.
- 18^{th} Euroschool on Exotic Beams;
  Deparment of Physics, University of Jyväskylä, Finland.
  20 – 26 August 2011.
- School cum Workshop on Nuclear Yrast and Near Yrast States;
  Deparment of Physics, IIT Roorkee, Roorkee, India.
  26 – 30 October 2009.
- 3^{rd} Winter School on Astroparticle Physics;
  Cosmic Ray Laboratory, TIFR, Ooty, India
  21 – 29 December 2008.
  Developed a plastic scintillator cone detector for cosmic ray muon detection.

Academic Visits

- GANIL and LPC Caen, Caen, France;
  April 2011, September 2011, June 2012.
- RIKEN Nishina Center, Tokyo, Japan;
  November 2016.
- Research Center for Nuclear Physics, Osaka University, Japan;
  November 2018.

List of Publications

Articles in Refereed Journals

16. "Ground state of super-heavy hydrogen ^{7}H";

    M. Caamaño, T. Roger, A. Moro, G.F. Grinyer, J. Pancin, **S. Bagchi**, S. Sambi, J. Gibelin, N. Itagaki, B. Fernández-Domínguez, J. Benlliure, D. Cortina, F. Farget, B. Jacquot, D. Pérez Loureiro, B. Pietras, R. Raabe, D. Ramos, C. Rodríguez-Tajes, H. Savajols, M. Vandebrouck;

    Submitted in Nature Physics (Under review).

15. “Mass measurements of As, Se, and Br nuclei, and their implication on the proton-neutron interaction strength toward the N = Z line”;

    I. Mardor *et al*.

    Physical Review C **103**, 034319 (2021).
    Journal; arXiv

14. “Signature of a possible α-cluster state in $N = Z$ doubly-magic ^{56}Ni”;

    S. Bagchi, H. Akimune, J. Gibelin, M.N. Harakeh, N. Kalantar-Nayestanaki, N.L. Achouri, B. Bastin, K. Boretzky, H. Bouzomita, M. Caamaño, L. Càceres, S. Damoy, F. Delaunay, B. Fernández - Domínguez, M. Fujiwara, U. Garg, G.F. Grinyer, O. Kamalou, E. Khan, A. Krasznahorkay, G. Lhoutellier, J.F. Libin, S. Lukyanov, K. Mazurek, M.A. Najafi, J. Pancin, Y. Penionzhkevich, L. Perrot, R. Raabe, C. Rigollet, T. Roger, S. Sambi, H. Savajols, M. Senoville, C. Stodel, L. Suen, J.C. Thomas, M. Vandebrouck, J. Van de Walle;

    The European Physical Journal **56**, 290 (2020).
    Journal; arXiv

13. “Two-neutron halo is unveiled in ^{29}F”;

    S. Bagchi, R. Kanungo, Y. K. Tanaka, H. Geissel, P. Doornenbal, W. Horiuchi, G. Hagen, T. Suzuki, T. Tsunoda, D. Ahn, H. Baba, K. Behr, F. Browne, S. Chen, M.L. Cortés, A. Estradé, N. Fukuda, M. Holl, K. Itahashi, N. Iwasa, S. Kaur, A.O. Macchiavelli, S. Matsumoto, S. Momiyama, I. Murray, T. Nakamura, H.J. Ong, T. Otsuka, S. Paschalis, A Prochazka, C. Scheidenberger, P. Schrock, Y. Shimizu, D. Steppenbeck, H. Sakurai, D. Suzuki, H. Suzuki, S. Takeuchi, M. Takechi, H. Takeda, R. Taniuchi, K. Wimmer, K. Yoshida;

    Physical Review Letters **124**, 222504 (2020).
    Journal; arXiv

12. “Mass and Half-Life Measurements of Neutron-Deficient Iodine Isotopes”;

    S.A.S Andrés, A. Mollaebrahimi, T. Dickel, J. Bergmann, J. Ebert, H. Geissel, F. Greiner, E. Haettner, C. Hornung, N. Kalantar-Nayestanaki, I. Miskun, W.R. Plaβ, S. Purushothaman, A.-K. Rink, C. Scheidenberger, H. Weick, **S. Bagchi**, P. Constantin, A. Finlay, S. Kaur, W. Lippert, I. Mardor, B. Mei, I. Moore, J.-H. Otto, S. Pietri, I. Pohjalainen, A. Prochazka, C. Rappold, M.P. Reiter, Y.K. Tanaka, J.S. Winfield;

    The European Physical Journal **56**, 143 (2020).
    Journal

11. “Swelling of Doubly Magic ^{48}Ca core in Ca isotopes beyond $N = 28$”;

    M. Tanaka, M. Takechi, A. Homma, M. Fukuda, D. Nishimura, T. Suzuki, T. Moriguchi, D.S. Ahn, A. Aimaganbetov, M. Amano, H. Arakawa, **S. Bagchi**, K.-H. Behr, N. Burtebayev, K. Chikaato, H. Du, S. Ebata, T. Fujii, N. Fukuda, H. Geissel, T. Hori, W. Horiuchi, S. Hoshino, R. Igosawa, A. Ikeda, N. Inabe, K. Inomata, K. Itahashi, T. Izumikawa, D. Kamioka, N. Kanda, I. Kato, I. Kenzhina, Z. Korkulu, Y. Kuk, K. Kusaka, K. Matsuta, M. Mihara, E. Miyata, D. Nagae, S. Nakamura, M. Nassurlla, K. Nishimuro, K. Nishizuka, K. Ohnishi, M. Ohtake, T. Ohtsubo, S. Ohmika, H.J. Ong, A. Ozawa, A. Prochazka, H. Sakurai, C. Scheidenberger, Y. Shimizu, T. Sugihara, T. Sumikama, H. Suzuki, S. Suzuki, H. Takeda, Y.K. Tanaka, I. Tanihata, T. Wada, K. Wakayama, S. Yagi, T. Yamaguchi, R. Yanagihara, Y. Yanagisawa, K. Yoshida, and T.K. Zholdybayev;

    Physical Review Letters **124**, 102501 (2020).
    Journal; arXiv

10. “Isomer studies in the vicinity of the doubly-magic nucleus ^{100}Sn: Observation of a new low-lying isomeric state in ^{97}Ag”;

C. Hornung, D. Amanbayev, I. Dedes, G. Kripko-Koncz, I. Miskun, N. Shimizu, S.A.S Andrés, J. Bergmann, T. Dickel, J. Dudek, J. Ebert, H. Geissel, M. Górska, H. Grawe, F. Greiner, E. Haettner, T. Otsuka, W.R. Plaβ, S. Purushothaman, A.-K. Rink, C. Scheidenberger, H. Weick, **S. Bagchi**, A. Blazhev, O. Charviakova, D. Curien, A. Finlay, S. Kaur, W. Lippert, J.-H. Otto, Z. Patyk, S. Pietri, Y.K. Tanaka, Y. Tsunoda, J.S. Winfield;

Physics Letters B **802**, 135200 (2020).
Journal

9. "Compression-mode resonances in the calcium isotopes and implications for the asymmetry term in nuclear incompressibility";

   K.B. Howard, U. Garg, M. Itoh, H. Akimune, **S. Bagchi**, T. Doi, Y. Fujikawa, M. Fujiwara, T. Furuno, M.N. Harakeh, Y. Hijikata, K. Inaba, S. Ishida, N. Kalantar-Nayestanaki, T. Kawabata, S. Kawashima, K. Kitamura, N. Kobayashi, Y. Matsuda, A. Nakagawa, S. Nakamura, K. Nosaka, S. Okamoto, S. Ota, S. Weyhmiller, Z. Yang;

   Physics Letters B **801**, 135185 (2020).
   Journal; arXiv

8. "A Novel Method for the Measurement of Half-Lives and Decay Branching Ratios of Exotic Nuclei";

   I. Miskun, T. Dickel, I. Mardor, C. Hornung, D. Amanbayev, S.A. San Andrés, J. Bergmann, J. Ebert, H. Geissel, M. Górska, F. Greiner, E. Haettner, W.R. Plaβ, S. Purushothaman, C. Scheidenberger, A.-K. Rink, H. Weick, **S. Bagchi**, P. Constantin, S. Kaur, W. Lippert, B. Mei, I. Moore, J.-H. Otto, S. Pietri, I. Pohjalainen, A. Prochazka, C. Rappold, M.P. Reiter, Y.K. Tanaka, J.S. Winfield;

   The European Physical Journal A **55**, 148 (2019).
   Journal; arXiv

7. "High-resolution, accurate multiple-reflection time-of-flight mass spectrometry for short-lived, exotic nuclei of few events in their ground and low-lying isomeric states";

   S.A.S. Andrés, C. Hornung, J. Ebert, W.R. Plaβ, T. Dickel, H. Geissel, C. Scheidenberger, J. Bergmann, F. Greiner, E. Haettner, C. Jesch, W. Lippert, I. Miskun, Z. Patyk, S. Pietri, A. Pihktelev, S. Purushothman, M.P. Reiter, A-K. Rink, H. Weick, M.I. Yavor, **S. Bagchi**, P. Constantin, M. Diwisch, A. Finlay, S. Kaur, R. Knöbel, J. Lang, I. Mardor, B. Mei, I.D. Moore, J-H. Otto, I. Pohjalainen, A. Prochazka, C. Rappold, M. Takechi, Y.K. Tanaka, J.S. Winfield, X. Xu;

   Physical Review C **99**, 064313 (2019) .
   Journal; arXiv

6. "Neutron skin and signature of the N = 14 shell gap found from measured proton radii of $^{17-22}$N";

   S. Bagchi, R. Kanungo, W. Horiuchi, G. Hagen, T.D. Morris, S.R. Stroberg, T. Suzuki, F. Ameil, J. Atkinson, Y. Ayyad, D. Cortina-Gil, I. Dillmann, A. Estradé, A. Evdokimov, F. Farinon, H. Geissel, G. Guastalla, R. Janik, S. Kaur, R. Knöbel, J. Kurcewicz, Yu.A. Litvinov, M. Marta, M. Mostazo, I. Mukha, C. Nociforo, H.J. Ong, S. Pietri, A. Prochazka, C. Scheidenberger, B. Sitar, P. Strmen, M. Takechi, J. Tanaka, Y. Tanaka, I. Tanihata, S. Terashima, J. Vargas, H. Weick, J.S. Winfield;

   Physics Letters B **790**, 251–256 (2019).
   Journal; arXiv

5. "Multi-messenger investigation of the Pygmy Dipole Resonance in ^{140}Ce";

   D. Savran, V. Derya, **S. Bagchi**, J. Endres, M.N. Harakeh, J. Isaak, N. Kalantar-Nayestanaki, E.G. Lanza, B. Löher, A. Najafi, S. Pascu, S.G. Pickstone, N. Pietralla, V.Yu. Ponomarev, C. Rigollet, C. Romig, M. Spieker, A. Vitturi, and A. Zilges;

   Physics Letters B **786**, 16–20 (2018).

Journal

4. "Nuclear-matter radius studies from ^{58}Ni(α,α) experiments at the GSI Experimental Storage Ring with the EXL facility";

   J.C. Zamora, T. Aumann, **S. Bagchi**, S. Bönig, M. Csatlós, I. Dillmann, C. Dimopoulou, P. Egelhof, V. Eremin, T. Furuno, H. Geissel, R. Gernhäuser, M.N. Harakeh, A.-L. Hartig, S. Ilieva, N. Kalantar-Nayestanaki, O. Kiselev, H. Kollmus, C. Kozhuharov, A. Krasznahorkay, Th. Kröll, M. Kuilman, S. Litvinov, Yu.A. Litvinov, M. Mahjour-Shafiei, M. Mutterer, D. Nagae, M.A. Najafi, C. Nociforo, F. Nolden, U. Popp, C. Rigollet, S. Roy, C. Scheidenberger, M. von Schmid, M. Steck, B. Streicher, L. Stuhl, M. Thürauf, T. Uesaka, H. Weick, J.S. Winfield, D. Winters, P.J. Woods, T. Yamaguchi, K. Yue, J. Zenihiro;

   Physical Review C **96**, 034617 (2017).
   Journal

3. "First measurement of isoscalar giant resonances in a stored-beam experiment";

   J.C. Zamora, T. Aumann, **S. Bagchi**, S. Bönig, M. Csatlós, I. Dillmann, C. Dimopoulou, P. Egelhof, V. Eremin, T. Furuno, H. Geissel, R. Gernhäuser, M.N. Harakeh, A.-L. Hartig, S. Ilieva, N. Kalantar-Nayestanaki, O. Kiselev, H. Kollmus, C. Kozhuharov, A. Krasznahorkay, Th. Kröll, M. Kuilman, S. Litvinov, Yu.A. Litvinov, M. Mahjour-Shafiei, M. Mutterer, D. Nagae, M.A. Najafi, C. Nociforo, F. Nolden, U. Popp, C. Rigollet, S. Roy, C. Scheidenberger, M. von Schmid, M. Steck, B. Streicher, L. Stuhl, M. Thürauf, T. Uesaka, H. Weick, J.S. Winfield, D. Winters, P.J. Woods, T. Yamaguchi, K. Yue, J. Zenihiro;

   Physics Letters B **763**, 16−19 (2016).
   Journal

2. "Observation of isoscalar multipole strengths in exotic doubly-magic ^{56}Ni in inelastic α scattering in inverse kinematics";

   S. Bagchi, J. Gibelin, M.N. Harakeh, N. Kalantar-Nayestanaki, N.L. Achouri, H. Akimune, B. Bastin, K. Boretzky, H. Bouzomita, M. Caamaño, L. Càceres, S. Damoy, F. Delaunay, B. Fernández - Domínguez, M. Fujiwara, U. Garg, G.F. Grinyer, O. Kamalou, E. Khan, A. Krasznahorkay, G. Lhoutellier, J.F. Libin, S. Lukyanov, K. Mazurek, M.A. Najafi, J. Pancin, Y. Penionzhkevich, L. Perrot, R. Raabe, C. Rigollet, T. Roger, S. Sambi, H. Savajols, M. Senoville, C. Stodel, L. Suen, J.C. Thomas, M. Vandebrouck, J. Van de Walle;

   Physics Letters B **751**, 371−375 (2015).
   Journal

1. "A neutron spectrometer for studying giant resonances with (*p,n*) reactions in inverse kinematics";

   L. Stuhl, A. Krasznahorkay, M. Csatlós, A. Algora, J. Gulyás, G. Kalinka, J. Timár, N. Kalantar-Nayestanaki, C. Rigollet, **S. Bagchi**, M.A. Najafi;

   Nuclear Instruments and Methods in Physics Research Section A **736**, 1−9 (2014).
   Journal; arXiv

Conference proceedings

16. "Structure of superheavy hydrogen ^{7}H";
    M. Caamaño, *et al.*, (**S. Bagchi**);
    European Physical Journal Web of Conferences **232**, 04002 (2020).
    Proceedings

15. "Development of a method to deduce point-proton radii from charge changing cross sections";
    A. Homma, *et al.*, (**S. Bagchi**);

JPS Conference Proceedings **32**, 010032 (2020).
Proceedings

14. "Spectroscopy of η'-Mesic nuclei with WASA at GSI/FAIR";
Y. K. Tanaka, *et al.*, (**S. Bagchi**);
Acta Physica Polonica B **51**, 1 (2020).
Proceedings

13. "Measurement of proton-distribution radii of neutron-rich nitrogen isotopes";
S. Bagchi, R. Kanungo, *et al.*,
European Physical Journal Web of Conferences **223**, 01003 (2019).
Proceedings

12. "Search for Borromean halo structure in the Island of Inversion";
S. Bagchi, R. Kanungo, *et al.*,
Proceedings of the DAE-BRNS Symposium on Nuclear Physics **63**, 414−415 (2018).

11. "Study of proton distribution of neutron-rich nitrogen isotopes through charge-changing cross section measurements";
S. Bagchi, R. Kanungo, *et al.*,
Proceedings of the DAE-BRNS Symposium on Nuclear Physics **61**, 348−349 (2016).

10. "Nuclear reactions in the storage ring ESR with EXL";
Th. Kröll, *et al.*, (**S. Bagchi**);
Journal of Physics: Conference Series **724**, 012026 (2016).
Proceedings

9. "Nuclear astrophysics with radioactive ions at FAIR";
R. Reifarth, *et al.*, (**S. Bagchi**);
Journal of Physics: Conference Series **665**, 012044 (2016).
Proceedings; arXiv

8. "Nuclear transfer reaction measurements at the ESR - for the investigation of the astrophysical ^{15}O(α,γ)^{19}Ne reaction";
D.T. Doherty, *et al.*, (**S. Bagchi**);
Physica Scripta **T166**, 014007 (2015).
Proceedings

7. "Isoscalar giant resonance studies in a stored-beam experiment within EXL";
J.C. Zamora, *et al.*, (**S. Bagchi**);
Physica Scripta **T166**, 014006 (2015).
Proceedings

6. "Investigation of the Nuclear Matter Distribution of ^{56}Ni by Elastic Proton Scattering in Inverse Kinematics";
M. von Schmid, *et al.*, (**S. Bagchi**);
Physica Scripta **T166**, 014005 (2015).
Proceedings

5. "First Nuclear Reaction Experiment with Stored Radioactive ^{56}Ni Beam and Internal Hydrogen and Helium Targets";
P. Egelhof, *et al.*, (**S. Bagchi**);

JPS Conference Proceedings **6**, 020049 (2015).
Proceedings

4. "First EXL experiment with stored radioactive beam: Proton scattering on ^{56}Ni";
M. von Schmid, *et al.*, (**S. Bagchi**);
European Physical Journal Web of Conferences **66**, 03093 (2014).
Proceedings

3. "Alpha cluster structure in ^{56}Ni";
H. Akimune, *et al.*, (**S. Bagchi**);
Journal of Physics: Conference Series **436**, 012010 (2013).
Proceedings

2. "Neutron-skin thickness from the study of the anti-analog giant dipole resonance";
A. Krasznahorkay, *et al.*, (**S. Bagchi**);
AIP Conference Proceedings **1491**, 190−197 (2012).
Proceedings; arXiv

1. "Feasibility Studies for the EXL Project at FAIR";
K. Yue, *et al.*, (**S. Bagchi**);
Proceedings of Science **STORI'11**, 014 (2011).
Proceedings

Approved Experimental Proposals

- Study of ground-state deformation effect on isoscalar giant resonances,
Spokespersons: Dr. S. Bagchi;
RCNP, Osaka, Japan (81^{th} B-PAC meeting, March 2017).
The experiment has been approved along with a budget of 1600 kYen to buy the targets for experiment from Oak Ridge National Laboratory.
Status: Completed, Analysis ongoing (M. Abdullah, S. Bagchi et al.,)

Teaching

- Nuclear Science and Engineering (BTech: Engineering Physics), IIT-ISM Dhanbad, Winter Semester 2020.
- Optoelectronics (MSc Physics), IIT-ISM Dhanbad, Winter Semester 2020.
- Principles of Measurement Systems, Teaching Assistant, University of Groningen, Winter 2013.
- Principles of Measurement Systems, Teaching Assistant, University of Groningen, Winter 2012.
- Statistical Methods in Experimental Physics, Teaching Assistant, University of Groningen, Spring 2012.

Supervison

Ph.D.

- **Mohammad Abdullah** (IIT-ISM Dhanbad): Ongoing.
- **Dr. Satbir Kaur** (Dalhousie University & Saint Mary's University, Halifax, Canada): Graduated in July 2018 (supervised as a Postdoctorate mentor).

B.Tech/Masters and Summer student

- **Suraj Kumar Singh** (SVNIT, Summer 2021).
- **Debajyoti Das** (IIT-ISM, Dhanbad, 2020 – 2021).
- **Ritwika Ghosal** (IIT-ISM, Dhanbad, 2020 – 2021).
- **Sagar Roy** (IIT-ISM, Dhanbad, 2020 – 2021).

Awards, Grants & Honours

- Selected as invited participant with full travel support to attend the 48^{th} Arbeitstreffen Kernphysik in Schleching, Germany, 2017.
- Post-Doctoral fellowship: Saint Mary's University, Halifax, Canada; Justus-Liebig University, Giessen, Germany; GSI Helmholtzzentrum, Darmstadt, Germany, 2015 – 2020.
- Graduate Aptitude Test in Engineering (GATE) fellowship: Ministry of Human Resource Development, India 2010.
- Scored 97.15 Percentile in Joint Entrance Screening Test (JEST-2009).
- Junior Research Fellowship (JRF) and Lectureship eligibility: Joint Council of Scientific and Industrial Research-University Grant Commission, National Eligibility Test (CSIR-NET), India, 2009.
- Visiting Students' Research Programme fellowship: TIFR, Mumbai, India, 2009.
- IASc–INSA–NASI summer research fellowship: Indian Academy of Sciences, 2009 (not availed).
- Post-Graduate Merit Scholarship for the University Rank Holder: University Grant Commission (UGC), India, 2008 – 2010.
- University Medal in Physics: University of North Bengal, India, 2008.

Technical Skills

- Markup Languages: LaTeX
- OS: Linux, Windows
- Programming Languages: C++, ROOT, GEANT4, MATLAB, FORTRAN, Python

Other activities

- I have given several tours of the experimental facility in GSI Helmholtzzentrum to public and students.
- Active participation in the outreach program: One of the organizers in the Open House Day in GSI and FAIR, 7 May 2017.
- Active participation in the outreach program: One of the organizers in the Open House Day in KVI-CART, University of Groningen, the Netherlands (2011 - 2014).
- Placement representative of Physics Association in IIT Roorkee during session 2009 - 2010.
- Co-ordinator of the event "Spectrum" in the Physics Department during Tech-Fest "Cognizance" in IIT Roorkee (2009).
- Referee for peer-reviewed journals: Vacuum (Elsevier).

- Languages
  - Bengali: Native
  - English: Full proficiency
  - Hindi: Working proficiency
  - German: Elementary proficiency
  - Dutch: Elementary proficiency

References

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