Dr. Arun Goyal
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Education

- **1995** Ph.D. Chemistry (CPI=8.33/10.0) (worked on Microbiology and Biochemistry) , Indian Institute of Technology Kanpur, Kanpur, India.
- **1989** M.Tech. Biochemical Engineering and Biotechnology (6.96/10.0), Indian Institute of Technology Delhi, New Delhi.
- **1988** M.Sc. Chemistry, (6.82/10.0), Indian Institute of Technology Delhi, New Delhi.
- **1986** B.Sc. (Honours) Chemistry (70.6%) Hindu College, University of Delhi, Delhi.
- **1983** 12th Class, Delhi Senior School Cetificate Examination, CBSE New Delhi (75.0%), Ramjas Senior Secondary School No. 5, New Delhi.
- **1981** 10th Class, Delhi Secondary School Examination, CBSE New Delhi (72.6%), Ramjas Senior Secondary School No. 5, New Delhi.

Positions held

Feb 2022- Feb 2025	**Adjunct Faculty, School of Enegry Sciences and Engineering, IIT Guwahati, Guwahati, Assam.**
Feb 2017- Mar 2017	**Visiting Fellow (UGC), Department of Microbiology, Panjab University, Chandigarh for 2 weeks (Feb-Mar, 2017)**
Dec 2015 – contd.	**Professor HAG (Higher Administrative Grade), Department of Biosciences & Bioengineering, Indian Institute of Technology Guwahati, Assam**
Jun 2015 - Jul 2015	**Visiting Professor, Department of Animal Production, Faculty of Veterinary Medicine (FMV), University of Lisbon, Lisbon, Portugal.**
May 2015- May 2015	**Visiting Professor, Department of Food and Environmental Science, University of Helsinki, Finland.**
Dec 2014 - Dec 2014	**Visiting Professor, Department of Food and Environmental Science, University of Helsinki, Finland.**
Jun 2014 - Jul 2014	**Visiting Professor, Department of Animal Production, Faculty of Veterinary Medicine (FMV), University of Lisbon, Lisbon, Portugal.**
Jun 2014 - Jun 2014	**Visiting Professor, Department of Food and Environmental Science, University of Helsinki, Finland.**
Mar 2013 - Nov 2013	**Visiting Professor, Department of Animal Production, Faculty of Veterinary Medicine (FMV), University of Lisbon, Lisbon, Portugal.**
Oct 2012 - Oct 2012	**Visiting Professor, Department of Food and Environmental Science, University of Helsinki, Finland.**
May 2011 - Jun 2011	**Visiting Professor, Department of Animal Production, Faculty of Veterinary Medicine (FMV), University of Lisbon, Lisbon, Portugal.**

Jun 2010 - Jul 2010	Visiting Professor, Department of Biochemistry, Plovdiv University, Bulgaria.
Dec 2009 - onwards	Professor, Department of Biotechnology, Indian Institute of Technology Guwahati (IITG), Assam, India.
Apr 2009 - Feb 2013	Head, Department of Biotechnology, Indian Institute of Technology Guwahati (IITG), Assam, India.
May 2004 - Nov 2009	Associate Professor, Department of Biotechnology, Indian Institute of Technology Guwahati (IITG), Assam, India.
May 2005 - Apr 2006	Vice-Chairman, Graduate Aptitude Test in Engineering (GATE) 2006.
Aug 2003 - May 2004	Visiting Associate Professor, Department of Biotechnology, Indian Institute of Technology Guwahati (IITG), Assam, India
Sep 2001 - Aug 2003	Post-doctoral Scholar at Faculty of Veterinary Medicine (FMV), Technical University of Lisbon (UTL), Lisbon, Portugal, sponsored through i) 6 year (2001-2007) scholarship awarded by Foundation of Science and Technology (FCT), Portugal and ii) Interdisciplinary Center for Investigation in Animal Health (CIISA) at FMV, Lisbon.
Sep 2000 - Aug 2001	Post-doctoral Fellow, Faculty of Veterinary Medicine (FMV), Technical University of Lisbon (UTL), Lisbon, Portugal, supported by i) project grant from FCT & ii) Interdisciplinary Center for Investigation in Animal Health (CIISA).
Feb 2000 - Jun 2000	Scientist, Department of Biotechnology, Birla Institute of Scientific Research (BISR), Jaipur, India.
Feb 1999 - Sep 1999	Post-doctoral Fellow, Department of Biological Sciences, Wayne State University (WSU), Detroit, Michigan, USA.
Nov 1998 - Feb 1999	Visiting Scholar, Neurobiotechnology Center, Ohio State University (OSU), Columbus, Ohio, USA.
Jan 1996 - Oct 1998	Post-doctoral Research Associate, Department of Biochemistry, University College Dublin (UCD), Dublin, Ireland.

While holding Head of Department position (Dec 2009 to Feb 2013), I

i). Executed 6 projects (1 DST, 4 DBT and 1 CSIR) as PI or Coordinator.

ii). Provided services to Guwahati Biotech Park (GBP) under various capacities.

iii). Served as Chairman, Institute Purchase committee, IBSD Imphal for 2 years.

iv). Expert, NE for NERBMPC, DBT, Govt. of India New Delhi for 2 years.

v). Department Expansion Plan (redesigning Research, Teaching and Bioinformartics lab with drawings of civil, electrical & furnishing)

vi). Served as Mentor, DBT-MSc teaching program, Department of Biotechnology, University of North Bengal, Siliguri, West Bengal.

Awards/Honours

National

- 2021 BHU Centenial Award 2020 for outstanding contributions to Microbial Biotechnology, by Biotech Research Society, India in Dec. 2021.
- 2017 "Excellence in Carbohydrate Research (ECR) Award-2017" by Association of Carbohydrate Chemists and Technologists, India, in recognition of outstanding contribution in the area of Structure and functions of carbohydrates and carbohydrate enzymes. Award with a plaque, certificate and a cash prize of Rs 30000/- by Sunita Hydrocolloids Pvt. Ltd., Jodhpur, was conferred during CARBO-XXXII Conference at Indian Institute of Technology Kharagpur, Dec 18-20, 2017.
- 2016 Malaviya Memorial Award- Senior Faculty (Medal and Cash award Rs 15,000/-) for outstanding contributions to Biotechnology by Biotech Research Society of India.

- **2016** G.B Manjrekar Award (Citation and Cash Rs 20000/-) for contribution to fundamental and applied values of Microbiology by Association of Microbiologists of India.
- **2013** J.V. Bhat Award (Cash prize Rs. 3,000/-) for Best Paper published in Indian Journal of Microbiology (Springer) in 2012.
- **2012** Cutting-edge Research Enhancement and Scientific Training (CREST) Award by Department of Biotechnology, Ministry of Science and Technology for year 2011-2012 for visiting Faculty of Veterinary Medicine, Lisbon, Portugal (March - Nov 2013).
- **2010** Dr. C.V. Raman Award (Citation and Cash Award of Rs 11,000/-) for the 4th IES "National Young Teachers Excellence Award 2010" for excellence in the field of Engineering & Technology Education, by IES Group of Institutions, Bhopal.
- **2007** J.V. Bhat Award (Cash prize Rs. 3,000/-) for Best Paper published in Indian Journal of Microbiology (Springer) in 2006.

Fellowships/Scholarships

- **2012** Awarded FIFIB (Fellow, International Forum on Industrial Bioprocesses) Taipei, Taiwan, Oct. 7, 2012.
- **2011** Elected as FNAAS (Fellow, National Academy of Agricultural Sciences, India) in Jan.
- **2010** Elected as FNABS (Fellow, National Academy of Biological Sciences) Dec 2010.
- **2009** Elected as FABAP (Fellow, Association of Biotechnology and Pharmacy) for dedicated services to Profession of Biotechnology and Pharmacy. (Jan 2009)
- **2008** Elected as FBRS (Fellow, Biotech Research Society) of India in recognition of outstanding research contributions to advancement of Biotechnology. (Nov 2008)
- **2008** Elected as MNASc (Member, The National Academy of Sciences, India). (May 2008)
- **2006** Elected as FAMI (Fellow of Association of Microbiologists of India) in 2006 for outstanding contributions to the Science and Profession of Microbiology.
- **1988** Graduate Aptitude Test in Engineering (GATE) Fellowship, National Scholarship, [conducted by Ministry of Human Resource Development (MHRD), Govt. of India] with 96.1 percentile.
- **1988** University Grants Commission (UGC) Fellowship, Junior and Senior Research Fellowships, on qualifying the National Entrance Test (NET) jointly conducted by University Grants Commission-Council of Scientific and Industrial Research (UGC-CSIR), India.
- **1981** Rai Kedar Nath Memorial Scholarship for 2 years (1981-1983) by Ramjas Foundation, Delhi, India, Merit scholarship, for 2nd position at school at Delhi Secondary School Certificate Examination (CBSE Delhi, Class 10th).

Honours/Nominations/Recognitions/Invitations

2022

- **2022** Nominated as expert member of National Advisory Committee of Training Research Center Project at SN Bose national Centre for Basic Sciences by Hon'ble Minister of Science and Tecnology and Earth Sciences through Secretary, Department of Science and Technology (DST).
- **2022** Invited as Expert member of Initial Screening Committee (ISC) for Project Evaluation by Technology Development Board (TDB), Department of Science and Technology (DST) March 9, 2022.
- **2022** Invited as an subject expert to evaluate the application for Associate Professor at Department of Biosciences and Bioengineering at IIT Kanpur, Jan 27, 2022.
- **2022** Invited as Distinguished Technical Expert Member, for Project Evaluation Committee (PEC) by Technology Development Board (TDB), Department of Science and Technology (DST), Jan 27, 2022.

2021

- **2021** Invited as Member, Technical Expert Committee for DBT-NER by DBT in the area of Energy, Environment and Biodiversity to review new proposals and project progress, July 6, 2021.
- **2021** April 2021, Nominated as member of Board, Environmental Biotechnology Division, Asian Federation of Biotechnology (AFOB).
- **2021** Invited as member of Assessment Committee Meeting at Center of Innovative and Applied Bioprocessing, CIAB, Mohali for regularization of Scientist, April 6, 2021
- **2021** Invited for evaluation of research proposals for GYTI 2021 Awards
- **2021** Invited for evaluation of research proposals for SITARE-GYTI Awards by BIRAC, Department of Biotechnology,Govt. of India, Jan 2021

2020

- **2020** Invited as member of Assessment Committee Meeting at Center of Innovative and Applied Bioprocessing, CIAB, Mohali for regularization of Scientist, Dec 15, 2020.
- **2020** Invited as External Examiner for Online PhD viva for doctoral thesis, Department of Microbiology, Central University of Sikkim, October 16, 2020
- **2020** Invited to evaluate proposals for BIRAC's (Biotechnology Ignition Grant) Scheme Sep. 2020.
- **2020** Invited to evaluate applications for Shastri Indo-Canadian Institute Grants and Fellowships, Sep 2020.
- **2020** Invited as selection committee member for selection of faculty members at Depertment of Biotechnology, IIT Hyderabad, 20th Aug 2020.
- **2020** Invited as External Examiner for Online PhD viva for doctoral thesis, Department of Microbiology, Punjab Univeristy Chandigrah, July 24, 2020
- **2020** Invited as Member, for First Meeting of Working Group by AICTE (for considering 10+2 students with Life Science subjects for BTech) Feb 18, 2019.
- **2020** Invited as a Expert member committee for selelction of Professor and Associate Professor, Department of Bioengineering, BIT Mersa, Ranchi, Jan 19, 2020.
- **2020** Invited as Member, Technical Expert Committee for DBT-NER by DBT in the area of Energy, Environment and Biodiversity to review new proposals and project progress, Jan 17, 2020.

2019

- **2019** Invited as Member, for Second Meeting of Working Group by AICTE (for considering 10+2 students with Life Science subjects for BTech) Sep 30, 2019.
- **2019** Invited as Member, for First Meeting of Working Group by AICTE (for considering 10+2 students with Life Science subjects for BTech) July 8, 2019.
- **2019** Invited to Judge Best Poster award at International Carbohydrate Conference on Emerging Frontiers in Carbohydrate Chemistry and Glycobiology, Dec. 5-7, 2019, University of Lucknow, UP, India.
- **2019** Invited as External Examiner, Doctoral thesis, Department of Biotechnology, IIT Madras, Oct 18, 2019
- **2019** Invited as Member, Technical Expert Committee for DBT-NER by DBT in the area Energy, Environment and Biodiversity to review new proposals and project progress, June 19, 2019.
- **2019** Nominated by Chairperson, Governing Body, CIAB and Secretary, DBT as a Member of Scientific Advisory Committee (SAC) of Center of Innovative and Applied Bioprocessing (CIAB), Mohali, Punjab, for period of 3 years till April 2022. June 2019
- **2019** Invited by Department of Microbiology, Sikkim University to give feedback for course syllabus for MPhil and PhD in Industrial Microbiology. June 2019
- **2019** Invited as a member, Board of Studies, for approval of syllabi of B.Tech and M.Tech (Biotechnology) at Department Biotechnology, College of Engineering and Technology (CET), Bhubaneswar, Odisha. May 2019
- **2019** Evaluated Applications for Shastri Indo-Canadian Institute Fellowships, Jan 2019.

- **2019** Invited as a Expert member committee for promotion of Faculty member, Department of Bioengineering, BIT Mersa, Ranchi, Jan 12, 2019.

2018

- **2018** Nominated as Member, Technical Expert Committee for DBT-NER by DBT in the area Energy, Environment and Biodiversity, Dec 2018 for 3 years.
- **2018** Invited to Chair in Rapid Fire Session to Judge Best oral presentation at 3rd International Conference on Sustainable Energy and Environmetal Challenges (3rd SEEC), Dec 18-21, 2018, IIT Roorkee, India.
- **2018** Invited to Chair a session and to Judge Best Poster award at International Conference on Biotechnological Research and Innovation for Sustainable Development, 15th BRSI convention. CSIR- Indian Institute of Chemical Technology (CSIR-IICT), Nov. 22-25, 2018, Hyderabad, India.
- **2018** Invited as External Examiner, Doctoral thesis, Department of Chemistry, Sai Institute of Higher Learning, Putta Parthi, Andhra Pardesh. Nov 17, 2018.
- **2018** Invited to serve as member for National Selection Committee (STEM) for 2019-2020 Fulbright-Nehru Academic and Professional Excellence Fellowships, Nov. 16 2018.
- **2018** Invited to Judge Best Poster award at 12th Annual Convention of ABAP & International Conference on Biodiversity, Environment and Human Health: Innovations and Emerging Trends (BEHIET), Nov 12-14, 2018, Aizawl, Mizoram, India.
- **2018** Invited as External Examiner, Doctoral thesis, Department of Botany, NEHU Shillong Oct 3, 2018.
- **2018** Invited as External Examiner, Doctoral thesis, Department of Chemical Engoineering, JNTUA, Anantpur, Andhra Pradesh, Sep 28, 2018.
- **2018** Invited as a selection committee member for Faculty member, Department of Biotechnology, North Bengal University, Camp Office Kolkata, Aug 23, 2018.
- **2018** Invited as External Examiner, Doctoral thesis, Department of Biotechnology, Gauhati University, August 5, 2018.
- **2018** Invited to Chair a session and to Judge Best Poster award at DBT workshop on Bioenergy, July 6-7, 2018, IIT Roorkee, India.
- **2018** Invited as a selection committee member for Associate Professor, Department of Biotechnology, Delhi Technical University, Delhi, June 28-30, 2018.
- **2018** Invited as Distiguished member for preparing MTech Course Curriculum, Department of Bioengineering, NIT Agartala, May 26, 2018.
- **2018** Invited to be a member, Board of Studies, for approval of syllabi of BE (Biotechnology), M.Tech (Biotechnology) and M.Sc (Biotechnology) at Department Bioengineering, Birla Institute of Technology (BIT), MESRA, Ranchi, Jharkhand.
- **2018** Invited by DBT, Ministry of Science and Technology under Mission Innovation Program for "International Conference on Sustainable Biofuel 2018" on February, 26-27, 2018 at New Delhi, India.
- **2018** Nominated and invited as Co-chair, Expert Committee" of NER Twinning RnD program of NERBPMC, Feb 19-20, 2018 under Medicinal, Aromatic plants and Drug Development.

2017

- **2017** Elected as Executive member, Association of Carbohydrate Chemsists and Technologists (India), ACCT(I) 18, Nov 2017 for two years.
- **2017** Invited as "Member Expert Committee" of NER Twinning RnD program of NERBPMC, Nov 17, 2017.
- **2017** DST Award for participation in 24th International Union of Crystallography Congress (IUCr2017), 21-28 August 2017, Hyderabad, India.
- **2017** Invited to chair a session in 7th International Forum on Industrial Bioprocessing (IFIBiop 2017), May 21-24, Wuxi, China.
- **2017** Invited as Visiting Fellow (UGC) by Department of Microbiology, Panjab Univeristy, Chandigarh for 2 weeks (Feb-March 2017).

- **2017** Invited to chair a session in International Conference on Sustainable Energy and Environmental Challenges (SEEC-2017), Feb 26-28, 2017, Center of Innovative and Applied Bioprocessing (CIAB), Mohali, India.

2016

- **2016** Invited to Co-chair a session of presentations by Young Sceintists during 57th Annual Conference of Association of Microbiologists of India (AMI), November 24-27, 2016, Gauhati University, Guwahati Assam
- **2016** Nominated by Agricultural Recruitment Board (ASRB) as an Advisor on the Selection Committee for conducting Viva-Voce of the candidates from ARS Examination 2015 for the recruitment of posts of Scientist. October 2016.
- **2016** Invited as an "Expert member for Selection Committee" for Faculty selection at Department of Bioenginering at Birla Institute of Technology, MESRA, Ranchi, April 19, 2016.
- **2016** Invited as an "Member Expert Committee" of NER Twinning RnD program of NERBPMC, Mar 11, 2016.
- **2016** Invited as External Examiner, Doctoral thesis, Department of Biotechnology, IIT Hyderabad, March 10, 2016.
- **2016** Invited as an "Member of Screening Committee" of NER Twinning RnD program of NERBPMC to review the project proposals, Feb 2, 2016.
- **2016** Invited as an "Expert member for Selection Committee" for recruitment of Associate Professor at Department of Forestry, North Eastern Reagional Institute of Science and Technology, Jan 29, 2016.
- **2016** Invited as an "Expert member for Selection Committee" for recruitment of Associate Professor at Department of Human Physiology, Agartala University, Tripura, Jan 15, 2016.

2015

- **2015** Invited to Co-chair a session during 56th International Annual Conference of Association of Microbiologists of India (AMI), December 7-10, 2015, Jawaher Lal Nehru University, New Delhi.
- **2015** Invited as member "National Jury" for India Innovation Initiative a National-level competition organized jointly by CII with DST, Government of India and All India Council for Technical Education (AICTE).
- **2015** Invited as Expert, member selection committee for faculty members at Department of Molecular Biology & Genetic Engineering, GB Pant University of Agriculture & Technology, Uttarakhand, Oct 31, 2015.
- **2015** Invited as an "Expert member for selection committee" for recruitment of Professor at Department of Molecular Biology and Bioinformatics, Agartala University, Tripura, October 9, 2015.
- **2015** Invited to Chair a session in "Update on Advances in Cancer Rsearch", September 10, 2015, B. Borooah Cancer Institute, Guwahati, Assam, India.
- **2015** Nominated as member, Scientific Advisory committee, Cancer Research Foundation, India.
- **2015** Invited to Chair the session in National Conference on Challenges in Environmental Research, 4-6 June, 2015, IIT Guwahati, Guwahati, Assam, India.
- **2015** Invited to Chair 2 sessions in 2nd North Eastern Regional Conference on Head and Neck Oncology, May 22-23, 2015, B. Borooah Cancer Institute, Guwahati, Assam, India.

2014

- **2014** Invited as an "Expert member for selection committee" for recruitment of Assistant Professor at Department of Biotechnology, NIT Durgapur, West Bengal, June 5, 2014.
- **2014** Invited as one of the Panel of judges for Best Poster Awards at International Conference on Emerging Trends in Biotechnology (ICETB-2014) and XI Biotech Research Society India (BRSI) Convention, November 6-9, 2014, Jawaharlal Nehru University, New Delhi, India
- **2014** Invited as Judge for Best oral presentation at International Conference on Biotechnology and Bioengineering (ICBB-2014), Oct 28-29, 2014, BITS Pilani, Dubai Campus, Dubai, UAE.

2013

- **2013** Invited as External Examiner, Doctoral thesis, Department of Chemical Engineering, IIT Roorkee, March 16, 2013.

2012

- **2012** Nominated as a distinguished member for consultative programme to prepare a "Draft Biotechnology Policy" for the state of Assam by Assam Science Technology & Environment Council (ASTEC) to submit the Draft Biotechnology Policy to the Department of Science & Technology, Government of Assam for necessary approval and implementation.
- **2012** Nominated by DBT (Govt. of India) as representative for Institutional Bio-safety Committee (ISBC) at North Eastern Hill University (NEHU, Shillong. (Sep 2012)
- **2012** Mentor, DBT-MSc teaching program, Department of Biotechnology, University of North Bengal, Siliguri, West Bengal.
- **2012** Member, Advisory committee, DBT–MSc teaching program, Department of Biotechnology, Univeristy of North Bengal, Siliguri, West Bengal.
- **2012** Invited as External Examiner, Doctoral thesis, Department of Biotechnology, IIT Roorkee, June 2, 2012.
- **2012** Invited as a member "Expert Committee for North Eastern Region Biotechnology Programmes" by DBT, New Delhi, May 2, 2012.
- **2012** Invited as member "Purchase Committee" meeting at Guwahati Biotech Park, Guwahati, March 27, 2012.
- **2012** Invited as an "Expert member for selection committee" for recruitment of Faculty members at Department of Biotechnology, IIT Guwhati, March 24, 2012.
- **2012** Invited as Chairman, "Institute Purchase Committee (IPC)" meeting at Institute of Biotechnology and Sustainable Development (IBSD) Imphal, Manipur, March 17, 2011.
- **2012** Invited as External Examiner, Doctoral thesis , Department of Chemsitry, IIT Delhi, March 15, 2012.
- **2012** Invited as an "Expert member for selection committee" for recruitment of Junior Technical Superindendent at Department of Biotechnology, IIT Guwhati, Jan 10, 2012.

2011

- **2011** Invited to Chair a Session in an International Conference on "New Horizons in Biotechnology", Nov. 21-24, 2011, National Institute of Interdisciplinary Science and Technology (NIIST), Trivandrum, India.
- **2011** Invited as Chairman, "Institute Purchase Committee (IPC)" meeting at Institute of Biotechnology and Sustainable Development (IBSD) Imphal, Manipur, Sep. 27, 2011.
- **2011** Invited as Chairman, "Institute Purchase Committee (IPC)" meeting at Institute of Biotechnology and Sustainable Development (IBSD) Imphal, Manipur, August 11, 2011.
- **2011** Invited as an "Expert member for selection committee" for Asst Prof./Assoc Prof. at Department of Biotechnology, Institute of Science and Technology, Gauhati University, Guwahati, Mar 21, 2011.
- **2011** Invited Reviewer, of Pre-proposals from Department of Biotechnology and Ministry of New and Reneweable Energy (MNRE)
- **2011** Member, Advisory Committee, DBT supported MVSc program in Animal Biotechnology at College of Veterinary Sciences, Assam Agricultrue University, Khanapara, Guwahati. Dec 2, 2011.
- **2011** Invited as Chairman, "Institute Purchase Committee (IPC)" meeting at Institute of Biotechnology and Sustainable Development (IBSD) Imphal, Manipur, Feb 28, 2011.
- **2011** Nominated as Chairman, "Institute Purchase Committee (IPC)" for 3 years at Institute of Biotechnology and Sustainable Development (IBSD) Imphal, Manipur.
- **2011** Invited as an "Expert member for selection committee" for recruitment of Ass. Prof. /Assoc. Prof. at Department of Biotechnology, IIT Guwahati, Feb 18, 2011.
- **2011** Invited as an "Expert member for selection committee" for selection of Prof, Assoc/Astt Prof at Dept. of Biotechnology, Jawaharlal Nehru Technological University, Anantapur, Andhra Pradesh, Jan 18, 2011.

- 2011 Nominated for participation at IIT-DBT meeting on "Enhancing Innovation potential in IIT System" held at IIT Bombay, Jan 6-7 2011.
- 2011 Invited as an "Expert member for selection committee" for recruitment of Senior Technical Assistant at Biotech Park, Guwahati, Jan 05, 2011.

2010

- 2010 Member, DBT Program Support on "NE Institutions for Conferences and Workshops and for Travel Support to attend conferences Abroad", (Aug 2010 to Feb 2013).
- 2010 Invited as an "Expert member for selection committee" for recruitment of JRF at Institute of Biotechnology and Sustainable Development (IBSD) Imphal, Manipur, Dec 18, 2010.
- 2010 Invited to Chair the Session on Microbial Genomics in International Conference on Genomic Sciences (ICGS), Nov. 12-14, 2010, Madurai Kamraj University, Tamil Nadu, India.
- 2010 Invited to Chair Panel of Judges for Best Poster Awards at International Conference on Genomic Sciences (ICGS), Nov. 12-14, 2010, Madurai Kamraj University, Tamil Nadu, India.
- 2010 Invited as an "Expert member for selection committee" for recruitment of Faculty members at Department of Biotechnology, Jawaharlal Nehru Technological University, Anantapur, Andhra Pradesh, Oct 29.
- 2010 Invited as a "Member for Techical Evaluation Committee" for purchase of equipnent at Guwahati Biotech Park Incubation Center (GBPIC), Guwahati, June 29, 2010.

2009

- 2009 Invited as an "Expert member for selection committee" for recruitment of Assistant Professor at Department of Biotechnology, IIT Guwahati, Dec 01, 2009.
- 2009 Invited as an "Expert member for screening committee" for applications of "Director Technical" at Biotech Park Guwahati, Nov. 19, 2009.
- 2009 Invited as an "Expert member for selection committee" for post of Lecturer at Department of Biotechnology, Gauhati University, Guwahati, Nov 16, 2009.
- 2009 Nominated as a member "Expert Committee for North Eastern Region Biotechnology Programmes" by DBT, New Delhi (Aug 2009)
- 2009 Nominated Member Secretary, Project Approval Committee for "Strengthening of support to universities in North Eastern Region" by DBT, New Delhi (Dec 2008 - Aug 2009)
- 2009 Invited as an "Expert member for selection committee" for recruitment of Senior Research Scientist/Reasearch Scientist at Biotech Park Guwahati, June 30, 2009.
- 2009 Invited as an expert by Department of Biotechnology, Govt. of India for a Brainstorming meeting at Guwahati to evolve Science Promotion Schemes for Colleges in North Eastern States of India. (May 2009)

2008

- 2008 Invited as an expert for Brainstorming meeting on "Cellulose to ethanol" at CSIR, New Delhi. (July, Aug and Nov 2008)
- 2008 Invited as an expert for Discussion Meet on Biofuels at DBT, New Delhi. (July 2008)
- 2008 Nominated by DBT (GOI) as representative for Institutional Bio-safety Committee (ISBC) at Gauhati University, Guwahati, Assam. (June 2008)

2007

- 2007 Invited to Chair a Session on Industrial Biotechnology in "International Conference on New Horizons in Biotechnology, Nov 26-29, National Institute of Interdisciplinary Science and Technology, Trivandrum.
- 2007 3-D structure of Lichenase enzyme was selected for Cover Page for Abstract Book of 36th National Seminar on Crystallography (NSC-36), January 22-24, 2007, University of Madras, Chennai, India.

2006

- 2006 Invited as an "Expert member for selection committee" for recruitment of Senior Technical Assisatant at Department of Biotechnology, IIT Guwhati, Jan 14, 2006.

International Scholaships/Honours

- 2001 Portuguese National Scholarship, for 6 years (Sep. 2001-Aug. 2007) awarded by Foundation of Science and Technology (Fundacao para Ciencia e Tecnologia, FCT), Portugal for post-doctoral research.
- 1999 National Institutes of Health, Fellowship (Feb. 1999 -Oct. 1999), at Wayne State University, Detroit, Michigan, USA.
- 1998 National Institutes of Health, Fellowship (Oct. 1998 – Feb. 1999), at Ohio State University, Columbus, USA.
- 1996 Scholarship from Forbairt (The Irish Research and Technology Council) for working at University College Dublin, Dublin Ireland. (Jan 1997-Oct. 1998)

Course and Project Reviewed

- 2017 Reviewed and screened several projects from DBT (92)
- 2009-2016 Reviewed several projects from DBT(200), MNRE (4), DST(2), IITG-TIC (4)
- 2016 Reviewed a PG course on the Subject Biochemistry and paper STRUCTURE AND FUNCTION OF BIOMOLECULES II modules on "DNA polymerases" and "Mutations" under e-PG Pathshala for e-Content Creation for Postgraduate Students scheme of UGC. Prof. Sunil K. Khare, Principal Investigator, Indian Institute of Technology Delhi.
- 2015 Review of 2nd phase of course "Enzyme Technology (BT 6011)" of BIT Mesra. Under National Mission Project on Education through ICT, MHRD, Government of India for developing suitable pedagogical methods for various classes, intellectual calibers and research in e-learning. Prof. Bani Bhattacharya, Principal Investigator, Centre for Educational Technology, IIT Kharagpur.
- 2015 Reviewed a PG course on the Subject Biochemistry and paper STRUCTURE AND FUNCTION OF BIOMOLECULES under e-PG Pathshala for e-Content Creation for Postgraduate Students scheme of UGC. Prof.Sunil K. Khare, Principal Investigator, Indian Institute of Technology Delhi.
- 2012 Reviewed B.Sc. Biotechnology course Syllabus for Manipur University, Imphal.
- 2010 Reviewed course "Enzyme Technology (BT 6011)" proposed by BIT Mesra, under National Mission Project on Education through ICT MHRD, Government of India For Developing suitable pedagogical methods for various classes, intellectual calibers and research in e-learning. Prof. A.K. Ray, PI, Centre for Educational Technology, IIT Kharagpur.
- 2010 Reviewed B.Tech. (Biotechnology) Syllabus of Gauhati University, Guwahati, Assam

Titles of theses

- Ph.D.: Production, purification, characterization and active site mapping of dextransucrase of *Leuconostoc mesenteroides* NRRL B-512F. (Supervisor: Padma Vibhushan (2009), Padamshree (2003), Late Professor Sarvagya Singh Katiyar, Vice Chancellor, (4 consecutive terms, 1994 - 2007), Chhatrapati Shahu Ji Maharaj University, Kanpur; Professor and Former Head, Department of Chemistry, IIT Kanpur).
- MTech: Isolation and purification of coenzymes NADH and ATP from *Saccharomyces cerevisiae*. (Supervisor: Professor S. Chand, Former Head, Department of Biochemical Engineering and Biotechnology, IIT Delhi)

Area of Research

Molecular Biology, Protein Engineering, Rational Enzyme Engineering, 3-Dimensional Structure (*In silico*, crystal and solution) and Function analysis of enzymes and their industrial (Biorefinery, therapeutic, food, Pulp and paper) applications.

Ongoing Research:

A. Molecular, structure and functional analysis of Enzymes.

1. Cloning, expression, structure and functional characterization of a β-Glucosidase (*Ps*GH3) from *Pseudopedobacter saltans.*
2. Cloning, expression, structure and function study of a modular endoglucanase, *Ct*GH9c and its carbohydrate binding modules, CBM3A and CBM3B from *Clostridium thermocellum.*
3. Cloning, expression, structure and functional characterization of a family GH5 endo-1,4-glucanase (*Ps*GH5) from *Pseudopedobacter saltans*.
4. Biochemical characterization of Glucuronoxylanase (*Cc*Xyn*GH30A*) and *Cc*GH30B from *Clostridium clariflavum.*
5. Cloning, expression, purification, biochemical and structural characterization of Rhamno-galacturonan exolyase (*Bt*Rgl26A) of family 26 polysaccharide lyase (PL26) *Bacteroides thetaiotaomicron*.
6. Molecular cloning, expression, biochemical and structure characterization of a Pectin acetyl esterase (*Ct*Pae12B) from *Clostridium thermocellum.*
7. Structure and functional characterization of a xylanase (*Rf*GH30) from *Ruminococcus flavefaciens* FD-1 v3.
8. Structure and functional characterization of a xylanase (*Ct*GH30) from *Clostridium thermocellum*.
9. Structure and functional characterization of a family GH5 endoglucanase (*Rf*GH5_4) from *Ruminococcus flavefaciens* FD-1 v3.
10. Binding, structure and functional studies of a modular enzyme, *Ps*GH43-CBM6A-X from *Pseudopedobacter saltans.*
11. Protein engineering of carbohydrate enzymes to develop the novel chimeric biocatalysts.

B. Microbial conversion of cellulosic agrowaste to bioethnol using recombinant cellulases and hemicellulases and microbial cultures for bioethanol production.

1. Saccharification and pretreatment of sugarcane leaf top by recombinant enzymes for bioethanol production.
2. Lignocellulosic ethanol production from Rice Straw using cocktail of recombinant cellulases and hemicellulases from *Clostridium thermocellum.*
3. Scale up, media optimization and production of the indigenously developed chimeric enzymes, *Ct*GH8-*Ct*GH1 and *Ct*GH1-*Ct*GH5 from *Clostridium thermocellum*.
4. Selection of agrowaste on the basis of their structural carbohydrate composition: Estimation of cellulose, hemicellulose and lignin of different lignocellulosic leafy biomasses *viz.,* jamun, neem, asoka, bamboo, poplar, wild grass, thatch grass, eucalyptus, mango, water hyacinth, corn cob, sugarcane bagasse and whitetop weed.
5. Identification of efficient pretreatment process aiding in improved saccharification: Confirmation of structural destabilization with porosity increment and lignin breakdown by field emission scanning electron microscopy (FESEM) and Fourier transform infrared (FTIR) spectroscopic analyses.
6. Efficiency of fermentation mode in terms of ethanol yield in shake flask: Separate hydrolysis and fermentation (SHF) and simultaneous saccharification and fermentation (SSF) involving various enzymes *viz. T. reesei* cellulase, *B. subtilis, B. amylofaciens* cellulase, recombinant *Clostridium thermocellum* cellulase, hemicellulase, xylanase and fermentative microbes *viz. Zymomonas mobilis, Saccharomyces cerevisiae* and *Candida shehatae*. Selection of fermentation by single enzyme-single culture and mixed enzyme-mixed culture system.
7. Optimization of fermentation process parameters at shake flask level: Standardization of fermentation process parameters *viz.* concentrations of substrate and enzyme, microbial inoculua, pH and temperature for higher ethanol titre and yield.

8. Scale-up at bioreactor level and subsequent product recovery with purification: Shake flask fermentation with increased substrate concentration. Scale-up in 7.0 L bioreactor with optimization of process parameters.
9. Recovery and purification of bioethanol: By distillation, pervaporation, vacuum evaporation. Purification by semi-permeable membrane, molecular sieve and pressure reduction.

Journal Affiliations

International

- 2021 Invited Reviewer, International Journal of Biological Macromolecules
- 2021 Invited Reviewer, Carbohydrate Polymers,
- 2020 Invited Reviewer, ACS Omega, Folia Microbiologica
- 2020 Food Science and Technology International, Industrial Crops and Products
- 2019 Invited Reviewer, Food Chemistry, Biochemie
- 2018 Invited Reviewer, Bioresources, FEBS Letters, Food hydrocholloids
- 2017 Invited Reviewer, BBA-Proteins and Proteomics, 3-Biotech,
- 2017 Invited Reviewer, Anaerobe, Biochemical Engineering Journal
- 2017 Invited Reviewer, Biochemical Journal, Food Biotechnology
- 2016 Invited Reviewer, Current Protein & Peptide Science
- 2016 Invited Reviewer, Journal of Molecular Catalaysis
- 2015 Invited Reviewer, Environemtal Progress and Sustainable Energy.
- 2015 Invited Reviewer, International Journal of Biological Macromolecules.
- 2014 Invited Reviewer, Biomacromolecules, Food microbiology
- 2014 Invited Reviewer, Plos One
- 2014 Invited Reviewer, Biotechnology Progress
- 2014 Invited Reviewer, Journal of Food Science and Technology.
- 2013 Invited Reviewer, Molecular Biotechnology.
- 2013 Associate Editor, Annals of Microbiology (Springer) (Nov 2013)
- 2012 Invited Reviewer, Journal of Industrial Microbiology and Biotechnology
- 2012 Member, Editorial Advisory Board, Journal of Bioscience and Biotechnology, Bulgaria.
- 2009 Invited Reviewer, Carbohydrate Polymers (April 2009)
- 2009 Invited Reviewer, Proteins and Peptide Letters (March 2009)
- 2009 Invited Reviewer, Process Biochemistry, Elsevier (Feb 2009)
- 2008 Invited Reviewer, Biotechnology Progress, Elsevier (Oct 2008)
- 2008 Invited Reviewer, Enzyme and Microbial Technology, Elsevier (Aug 2008)
- 2008 Invited Reviewer, International Journal of Biological Sciences, USA (June 2008)
- 2008 Invited Reviewer, Applied Biochemistry and Biotechnology (Elsevier) (Jan 2008)
- 2007 Invited Reviewer, Journal of Basic Microbiology (Wiley Publications) (Oct 2007)
- 2007 Invited Reviewer, Bioresource Technology (Elsevier) (Sep 2007)
- 2006 Reviewer, Journal of Food Biochemistry, from UC Davis, USA, (Blackwell), Feb. 06

National

- 2013 Invited Reviewer, National Academy of Science India (Section- Biology).
- 2011 Member, Editorial Board, Journal of Assam Science Society, Guwahati, India
- 2009 Member, Editorial Board, Journal of Microbial World, Maharashtra, India
- 2009 Invited Reviewer, Indian Journal of Experimental Biology.
- 2008 Invited Reviewer, Current Trends in Biotechnology and Pharmacy (Assn Biotech & Pharmacy Publications)
- 2007 Editor, Indian Journal of Microbiology (AMI publications by Springer), (Apr 7-11)
- 2007 Associate Editor, Indian Journal of Microbiology (AMI publications, Springer)
- 2004 Member, Editorial Board, Indian Journal of Microbiology (Feb 2004-Dec 2006).

Professional Society Affiliations

International

- **2021** Nominated as Board member, Environmental Biotechnology Division, Asian Federation of Biotechology, April 21.
- **2007** Member, American Society of Microbiology (Former member, Jan 2007-2009).
- **2005** Member, American Society for Biochemistry and Molecular Biology (ASBMB), (Former member, Jan. 2005-2007)
- **2002** Member, Portuguese Biochemical Society (SPB) (Former member, 2002-2003).
- **1996** The Biochemical Society, UK (Former member, 1996-1998).

National

- **2017** Elected member, Executive Commiitee, Association of Carbohydrate Chemists and Technologists (India), ACCT(I), Dec 2017-Dec 2019.
- **2015** Member, Scientific Advisory Committee, Cancer Research Foundation, India.
- **2013** Member, Board of Governors, Biotech Research Society of India (BRSI),2013-2015.
- **2011** Member, Board of Governors, Biotech Research Society of India (BRSI), (May 2011-April 2013)
- **2009** Life member, Indian Science Congress Association (ISCA), (Nov. 2009)
- **2009** Life member, National Academy of Biological Sciences (NABS), (Oct. 2009)
- **2009** Member, Central Management Council, Biotech Research Society of India (BRSI) (May 2009-April 2011)
- **2009** President, Biotech Research Society of India (BRSI), Guwahati Unit (April 2009)
- **2008** Life member, North East Biotechnology Association (NEBA) (April 2008)
- **2008** Life member, Association of Biotechnology and Pharmacy (March 2008)
- **2008** Life Member, Microbiologist's Society, India (Jan 2008)
- **2006** Life member, Association of Carbohydrate Chemists and Technologists of India (ACCTI), Sep. 2006.
- **2005** Life member, Indian Crystallographic Association (ICA), since July 2005.
- **2004** Life member, Biotech Research Society of India (BRSI), since Sep. 2004.
- **2003** Life member, Society of Biological Chemists of India (SBCI), since Oct. 2003.
- **1995** Life member, Association of Microbiologists of India (AMI), since 1995.

Teaching responsibilities and experience

Involved in teaching courses at IIT Guwahati.

Ph.D. courses (*number of times taught*)

- **BT 602 Basic Biotechnology (Biochem. Engg, Downstream Processing) (1)**
- **BT 607 Plant Biotechnology (Plant cell culture) (1)**
- **BT 608 Microbial Biotechnology (3)**
- **BT 631 Protein Structure and Function (3)**
- **BT 631 Protein Structure Function and crystallography (1)**

M.Tech. courses

- **BT 504 Biomolecular and Cellular Process Engineering (3)**
- **BT 520 Applied Biology and Bio-engineering Laboratory (2)**

B.Tech. courses (*number of times taught*)

- **BT 101 Introductory Biology (1)**
- **BT 101 Modern Biology (4)**
- **BT 204 Plant Biotechnology (Plant cell culture) (1)**
- **BT 205 Cellular and Molecular Biology (1)**
- **BT 220 Microbiology Laboratory (4)**
- **BT 202 Microbiology (2)**
- **BT 240 Plant Biotechnology Laboratory (Molecular Biology techniques) (1)**
- **BT 305 Industrial Microbiology (9)**
- **BT 380 Molecular Biotechnology Laboratory (2)**
- **BT 426 Enzyme Structure and Reaction Mechanism (Elective) (1)**
- **BT 412 Enzymology (1)**

Responsibilities held at Department

- Member, DUPC, (Sep 2016- Aug 2018)
- Member, DPPC, (April 2015-Sep 2016)
- Member, Department Faculty Advisory Committee (DFAC) (Jan 2015 –Dec 2015)
- Faculty Advisor, (BTech, Jul 2011- Feb 2013)
- Head of Department (April 2009 - Feb 2013)
- Faculty Advisor, (BTech, April 2007- May 2010)
- Member, Institute Library Committee (April 2007- April 2009)
- Member, Faculty Recruitment Committee (Oct. 2003- Feb. 2013)
- Coordinator, Equipment Indent Committee (April-2006-07)
- Secretary, Departmental Undergraduate Programme Committee (DUPC) (Oct 2003-Oct 2005)
- Member, Departmental Post Graduate Programme Committee (DPPC). (Oct. 2003-May 2005)
- Chairman, Ph.D. student selection committee, Dec. 2004 and member, May 2004, June 2005.
- Undergraduate and Postgraduate Research Laboratory designing and furnishing.
- Desigining Research, Teaching, Instrument labs under expansion of Department of Biotechnology, Nov 2013.

Responsibilities held at IIT Guwahati

- Member, Reviewing Committee, Technology Incubation Center (TIC), (June 2012 -contd.)
- Member, Core committee, 12th Convocation, IIT Guwahati, May 2010
- Invitee, Senate IIT Guwahati (August 2003- March 2009)
- Vice-Chairman, Graduate Aptitude Test in Engineering, GATE 2006.
- Member, Institute Undergraduate Programme Committee (IUPC). (Oct. 2003 - Octp.2005)
- Member, Committee for Centre for Environmental Science and Engineering. (Feb. 2004)
- Chairman, Course Numbering Committee, appointed by IUPC (March 2004).
- External Member, Departmental Undergraduate Programme Committee (DUPC), Department of Chemical Engineering. (Dec 03-Nov 05)
- Member, Selection Committee, Technical Assistant, Department of Biotechnology (Jan 05)
- Member, Selection Committee, Technical Assistant, Centre for the Environment. (Mar 05)

Responsibilities held at National level

- Syllabus Setter, Microbiology Section, GATE 2015.
- Paper setter, Microbiology Section, GATE 2012
- Scrutineer, Chemistry, JAM 2008.
- Paper Setter, Biotechnology, JAM 2008.
- Chief Paper Setter, Microbiology, GATE 2007.
- Chief Syllabus Setter, Biotechnology, Graduate Aptitude Test in Engineering, GATE 2006.
- Chief Paper Setter, Biotechnology, Graduate Aptitude Test in Engineering, GATE 2005.
- Empanelled and Invited as Observer, Central Board of Secondary Education, CBSE, Pre-medical Examination, 2005 and 2006.
- Scrutineer, Chemistry main paper, Joint Entrance Exam, JEE 2004, JEE 2005.
- Scrutineer, Chemistry Paper, JAM 2006
- Examination conduction as Indian Institute of Technology (IIT) representative at centers for DRDO-SET 2007, 2008, BSNL 2008, for GATE-2004, 2005, 2011, 2018, 2019, 2021 and JEE 2004, 2006, 2008, 2014, JEE Adv 2015, 2017, 2018, 2019 JAM 2006, 2020,

Foreign Language

Basic level (1 year) and Advanced Level (1 year) Portuguese Language course for reading, writing and speaking Portuguese.

Patent

1. Mayur Agrawal, Rishikesh Shukla, *Arun Goyal (2009) "The mutant of *Leuconostoc mesenteroides* NRRL B-640 giving higher production of dextran" (Indian Patent Office, Appl No. 5/KOL/2010 dated Jan 02, 2010)

Book Chapter(s)

1. Deeplina Das and *Arun Goyal (2012) "Chapter 33, Lactic acid bacteria in food industry" in *Microorganisms in Sustainable Agriculture and Biotechnology*, pp. 757-772 (eds) T. Satyanarayana, B.N. Johri and Anil Prakash (Springer, 2012) DOI 10.1007/978-94-007-2214-9_33.
2. Deeplina Das and *Arun Goyal (2013) "Chapter 15, Pharmaceutical Enzymes" in Biotransformation of waste biomass into high value biochemicals, Part IV Pharmaceutical and personal care products, pp 367-387, Eds S.K. Brar, G.S. Dhillon and Carlos R. Soccol (Springer, 2013)
3. Nadeem Akhtar, Dinesh Goyal and Arun Goyal (2015) "Chapter 8, Biodegradation of cellulose and agricultural waste material" In Advances in Biodegradation and Bioremediation of Industrial Waste. Ed Ram Chandra, ISBN 9781498700542Taylor and Francis, CRC Press, pp211-234.
4. Damini Kothari, Deeplina Das, Seema Patel and *Arun Goyal (2015) Chapter 25, "Dextran and food applications" In Polysaccharides: Bioactivity and Biotechnology, Jean-Michel Merillon and Kishan G. Ramawat (eds.), Springer International Publishing, Switzerland, ISBN 9783319162973, pp 735-752. DOI 10.1007/978-3-319-03751-6_66-1.
5. Arun Dhillon, Kedar Sharma, Vikky Rajulapati and Arun Goyal (2015) Chapter 7, Proteolytic enzymes in "Current Developments in Biotechnology & Bioengineering", Volume 7: Production, Isolation and Purification of Industrial Products, Eds. Ashok Pandey, Sangeeta Negi, Poonam Nigam, Carlos Ricardo Soccol. http://dx.doi.org/10.1016/B978-0-444-63662-1.00007-5
6. Damini Kothari, Aruna Rani and Arun Goyal (2015) Chapter 19, Keratinase in "Current Developments in Biotechnology & Bioengineering", Volume 7: Production, Isolation and Purification of Industrial Products, Eds. Ashok Pandey, Sangeeta Negi, Poonam Nigam, Carlos Ricardo Soccol. http://dx.doi.org/10.1016/B978-0-444-63662-1.00019-1
7. Arun Dhillon, Soumyadeep Chakraborty, Arun Rani and Arun Goyal (2015) Chapter 23, Polysaccharides lysases in "Current Developments in Biotechnology & Bioengineering", Volume VB: Production, Isolation and Purification of Industrial Products, Eds. Ashok Pandey, Sangeeta Negi, Poonam Nigam, Carlos Ricardo Soccol. http://dx.doi.org/10.1016/B978-0-444-63662-1.00023-3
8. Ritesh S. Malani, Arun Goyal and Vijayanand S. Moholkar (2017) Ultrasound-Assisted Biodiesel Synthesis: A Mechanistic Insight in Biofuels, Technology, challenges and Prospects. Eds Avinash Kumar Agarwal, Rashmi Avinash Agarwal, Tarun Gupta and Bhola Ram Gurjar, ISBN 978-981-10-3790-0, Springer, pp 103-135.
9. Singh S, Goyal A, Moholkar VS. Chapter 15: Synthesis of Bioethanol from Invasive Weeds: Process Design, Optimization and Intensification with Ultrasound. Waste Biorefinery: Perspectives and Challenges (Elsevier) (Editors: Prof. T. Bhaskar, Prof. A. Pandey, Prof D J Lee, Prof S. Khanal and Dr. S.V. Mohan).
10. Shweta Singh, Arabinda Ghosh and Arun Goyal (2017) Chapter 12, Manno-oligosaccharides as prebiotic- valued products from agro-waste, in Biosynthetic Technology and Environmental Challenges: Energy, Environment, and Sustainability. Springer Book Series by Springer Nature. Pp 205-221. Eds Sunita J. Varjani, Binod Parameswaran, Sunil Kumar & Sunil K. Khare. https://doi.org/10.1007/978-981-10-7434-9, ISBN: 978-981-10-7433-2.
11. Rwivoo Baruah, Krishan Kumar and Arun Goyal (2017) Chapter 1: Functional food in A handbook on high value fermentation products, Section IV: Nutraceuticals. Wiley
12. Ritesh S. Malani, Sohan Singh, Arun Goyal and Vijayanand S. Moholkar (2018) Chapter 5 Ultrasound-assisted biodiesel production using KI-impregnated zinc oxide (ZnO) as heterogeneous catalyst: a mechanistic approach, in Conference Proceedings of the Second International Conference on Recent Advances in Bioenergy Research, eds Sachin Kumar, Rajesh K. Sani and Y. K. Yadav, Springer 2018, pp 67-81.

13. Deepmoni Deka, Saprativ P. Das, Rajeev Ravindran, Mohammad Jawed and Arun Goyal (2018) Cahpter 27, Water hyacinth as a potential source of biofuel for sustainable development. In Urban Ecology, Water quality and climate change. Water Science and Technology Librrary by Springer Book Series. pp 351-363. Eds A.K. Sarma, V.P. Singh, R.K. Bhattacharya, S.A. Kartha. https://doi.org/10.1007/978-3-319-74494-0_27

14. Rwivoo Baruah and Arun Goyal (2019) "Chapter 7, Exopolysaccharide from Genus Weissella and their functional applications" In Microbial Exopolysaccharides: Current Research and Developments, ed Özlem Ateş Duru, 2019, Caister Academic Press. DOI: https://doi.org/10.21775/9781912530267.07, 165-182.

15. Abhijeet Thakur, Kedar Sharma, Kaustubh C. Khaire, Vijay S. Moholkar and Arun Goyal (2019) Chapter 16 "Enzymes: key role in the conversion of waste to bioethanol". Ed. Sonali Mohapatra, Microbial Fermentation and Enzyme Technology, CRC Press. pp 257-268

16. Ruchi Mutreja, Abhijeet Thakur and Arun Goyal (2018) Chapter 13. Chitin and chitosan for future, In "Hand book of chitin and chitosan" Editors: Sreerag Gopi, Sabu Thomas, Anitha Pius, Volume 3: Woodhead publishing, Elsevier. pp 401-417.

17. Kaustubh Chandrakant Khaire, Seema Patel, Parmeshwar V. Gavande, Vijayanand S. Moholkar and Arun Goyal (2019) Chapter 7 "Extremophilic biofilms: Exploring the prospects". Rathinam and Sani; Introduction to Biofilm Engineering, 141-157, ACS Symposium Series; American Chemical Society: Washington, DC, 2019.

18. Kedar Sharma, Abhijeet Thakur and Arun Goyal (2019) Chapter 7, Xylanases for food applications. Green Bio-Processes: Industrial Enzymes for Food Applications, Ed P. Binod (pp. 99-118) Springer.

19. Abhijeet Thakur, Kedar Sharma and Arun Goyal (2019) Chapter 12, α-L-arabinofuranosidase: A potential enzyme for the food industry. Green Bio-Processes: Industrial Enzymes for Food Applications, Ed P. Binod, (pp. 229-244) Springer.

20. Sumitha Banu Jamaldheen and Arun Goyal (2020) Chapter 19, Biogas Biorefineries in "A Step Towards Renewable and Clean Energy", pp 497-512, Ed. Pradeep Verma, Springer.

21. V. Cardoso, T. Ribeiro, V. Fernandes, C. Guerreiro, M. Centeno, V. Pires, P. Ponte, A. Goyal, S. Najmudin, V. D. Alves, J. A. M. Prates, L. M. A. Ferreira and C. M. G. A. Fontes (2020) Chapter 6, Exogenous Enzymes Improve the Nutritive Value of Cereal-Based Diets for Monogastric Animals Through Different Mechanisms in Advances in Animal Health, Medicine and Production, pp 108-127, Springer

22. Shweta Singh and Arun Goyal (2022). Chapter 3, Antimicrobial agents in agriculture and their implications in antimicrobial resistance, in Emerging Modalities in Mitigation of Antimicrobial Resistance. Springer Nature. Pp 47-78. Eds Nadeem. Akhtar, Kumar Siddharth Singh, Prerna, Dinesh Goyal. DOI: https://doi.org/10.1007/978-3-030-84126-3_3.

23. Abhijeet Thakur, Kedar Sharma, Ruchi Mutreja and Arun Goyal (2019) Chapter 12 "Thermostable enzymes from *Clostridium thermocellum"*. Ed. Sonali Mohapatra, Microbial Fermentation and Enzyme Technology, Springer. (In Press)

Sumitted

24. Rwivoo Baruah and Arun Goyal (2019) Exopolysaccharides from lactic acid bacteria in fermented foods and beverages in Lactic Acid Bacteria: Food Fermentation and Human Wellness" editor R.C. Ray Academic Press (Elsevier)/Springer/CRC press. (submitted)

25. Jebin Ahmed, Abhijeet Thakur and Arun Goyal (2020) "Industrial wastewater and its toxic effects". ED. Maulin P Shah, Biological Treatment of Industrial Wastewater, RSC. (Submitted)

26. Kaustubh C. Khaire, Maibam P. Devi, Abhijeet Thakur and Arun Goyal (2021) "Biomedical and pharmaceutical applications of xylan and its derivatives", Ed Michel Brienzo, Springer Nature (Submitted).

27. Sumitha Banu Jamaldheen, Vijayanand S. Moholkar and Arun Goyal (2021) Chapter Commercial production of Biohydrogen using potential microbes, in "Advances in Agricultural and Industrial Microbiology: Volume 1: Microbial Diversity and Application in Agroindustry, Ed Suraja Kumar Nayak, Bighneswar Baliyarsingh, Ilaria Mannazzu, Ashutosh Singh, and Bibhuti Bhusan Mishra BB Mishra, Springer Nature (Submitted)
28. Premeshworii D. Maibam and Arun Goyal (2021) Conventional physical and chemical pretreatment methods for overcoming biomass recalcitrance. Enzymes in Valorization of Waste" to be published by Taylor and Francis (CRC Press)

GenBank Submissions

1. NCBI GenBank Accession number KF515952-*Weissella cibaria* strain RBA12 16S ribosomal RNA gene, partial sequence.
2. NCBI GenBank Accession number KC110687-*Weissella cibaria* strain JAG8 16S ribosomal RNA gene, partial sequence.
3. NCBI GenBank Accession number JX649223-*Weissella confusa* strain Cab3 16S ribosomal RNA gene, partial sequence.
4. NCBI GenBank Accession number JX679020-*Pediococcus pentosaceus* strain CRAG3 16S ribosomal RNA gene, partial sequence.
5. NCBI GenBank Accession number KF562066-*Pediococcus pentosaceus* strain SPA 16S ribosomal RNA gene, partial sequence.
6. NCBI GenBank Accession number KC020195-*Lactobacillus plantarum* strain DM5 16S ribosomal RNA gene, partial sequence.
7. NCBI GenBank Accession number KF286000-*Lactobacillus plantarum* strain DM5 RNA polymerase alpha subunit (rpoA) gene, partial cds.
8. NCBI GenBank Accession number JX674030-*Bacillus amyloliquefaciens* strain SS35 16S ribosomal RNA gene, partial sequence.
9. NCBI GenBank Accession number KF019284-*Bacillus amyloliquefaciens* strain SS35 DNA gyrase subunit A (gyrA) gene, partial cds.
10. NCBI GenBank Accession number KF709694-*Pediococcus pentosaceus* strain SPO 16S ribosomal RNA gene, partial sequence.

PDB Structure submission

Protein	Microorganism	PDB id
CBM11	*Clostridium thermocellum*	1VOA
Lichenase, *Ct*Lic26A	*Clostridium thermocellum*	2BV9, 2BVD,
Acetyl xylan esterase	*Cellvibrio japonicus*	2WAA, 2W9X
Carbohydrate esterase	*Clostridium thermocellum*	2WAO, 2WAB
Xylanase, *Ct*Xyn30A	*Clostridium thermocellum*	4UQ9, 4UQA, 4UQB, 4UQC, 4UQD, 4UQE, 4CKQ, 5A6L, 5A6M
Arabinofuranosidase, *Ct*Abf43	*Clostridium thermocellum*	5A8C, 5A8D
CBMs	*Ruminococcus flavefaciens*	5AOS, 5AOT, 5FU2, 5FU3, 5FU4, 5FU5, 4V1B, 4V1I, 4V1K, 4V1L, 4V17, 4V18
CBM	*Ruminococcus flavefaciens*	
CBM	*Ruminococcus flavefaciens*	
β-1,3 glucanase, GH81	*Clostridium thermocellum*	6FOP

Non-Disclosure Agreement

1. A Non-Disclosure Agreement between Prof. Carlos Fontes of NZYTech, Lisbon, Portugal and Research and Development, IIT Guwahati was signed by Prof Arun Goyal as PI in May 2017.

Published/In press/Accepted (266) ***Corresponding Author***

Cumulative Impact Factor = ~620 **Citations= 6800** **h-index= 44** **i-10 index= 152**

2022 (4)

1. **Parmeshwar Vitthal Gavande, Priyanka Nath, Krishan Kumar, Nazneen Ahmed, Carlos M.G.A. Fontes and Arun Goyal* (2022) A novel multifunctional recombinant endoglucanase (RfGH5_4) from *Ruminococcus flavefaciens* FD-1v3 efficiently deconstructs cellulosic and hemicellulosic polysaccharides. International Journal of Biological Macromolecules. (in press) (JIF 6.95)**
2. **Jebin Ahmed, Krishan Kumar, Kedar Sharma, Carlos M.G.A. Fontes and Arun Goyal (2021) Computational and SAXS based structure insights of pectin acetyl esterase (*Ct*Pae12B) of family 12 carbohydrate esterase from *Clostridium thermocellum* ATCC 27405. Journal of Biomolecular Structure and Dynamics. 1-18, https://doi.org/10.1080/07391102.2021.1911858 (JIF 3.4)**
3. **Premeshworii Devi Maibam and Arun Goyal* (2022) Approach to an efficient pretreatment method for rice straw by deep eutectic solvent for high saccharification efficiency. Bioresource Technology 351, 127057. (JIF 9.6)**
4. **Neha Singh, Karan Kumar, Arun Goyal and Vijayanand Suryakant Moholkar (2022) Ultrasound-assisted biodiesel synthesis by *in situ* trans-esterification of microalgal biomass: Optimization and kinetic analysis. Algal Research 61, 102582. (JIF 5.0)**

2021 (14)

5. **Kaustubh Chandrakant Khaire, Vijayanand Suryakant Moholkar and Arun Goyal (2021) Alkaline pretreatment and RSM based recombinant enzymatic saccharification and fermentation of sugarcane tops. Bioresource Technology, 341, 125837. (JIF 9.6)**
6. **Abhijeet Thakur†, Aakash Sharma†, Kaustubh Chandrakant Khaire, Vijayanand Suryakant Moholkar, Puneet Pathak, Nishi Kant Bhardwaj and Arun Goyal (2021) Efficient hemicellulose saccharification of sugarcane waste by recombinant hemicellulases. ACS Omega 6, 11772-11782. †*Equal Contribution* (accepted) (JIF 4.2)**
7. **Puneet Pathak, Ankush Gupta, *Nishi Kant Bhardwaj, Arun Goyal, Vijayanand Suryakant Moholkar (2021) Impact of mild and harsh conditions of formic acid based organosolv pretreatment on biomass fractionation of sugarcane tops. Biomass Conversion and Biorefinery. 11, 2027-2040. https://doi.org/10.1007/s13399-020-00629-w. (JIF 3.5)**
8. **Sunetra Mondal†, Abhijeet Thakur†, Carlos M.G.A. Fontes and Arun Goyal (2021) A trimodular family 16 Glycoside Hydrolase from the cellulosome of *Ruminococcus flavefaciens* displays highly specific licheninase (EC 3.2.1.73) activity. Microbiology SGM. †*Equal Contribution.* 167:001055. DOI 10.1099/mic.0.001055 accepted (JIF 2.77)**
9. **Kaustubh Chandrakant Khaire, Vijayanand Suryakant Moholkar, *Arun Goyal (2021) Separation and characterization of cellulose from sugarcane tops and its saccharification using recombinant cellulolytic enzymes. Preparative Biochemistry and Biotechnology. 51 (8) 811-820. DOI: 10.1080/10826068.2020.1861011 (JIF 1.4)**
10. **Jebin Ahmed, Abhijeet Thakur and Arun Goyal (2021) Emerging trends on the role of recombinant pectinolytic enzymes in industries-An overview. Biocatalysis and Agricultural Biotechnology, 38, 102200. (JIF 1.4)**
11. **Vikky Rajulapati, Arun Dhillon and Arun Goyal (2021) Enzymatically produced pectic-oligosaccharides from pectin extracted from fruit-waste of *Citrus reticulata* (Mandarin) peels display cytotoxicity against colon cancer cells. Bioresource Technology Reports. 15, 100740.**
12. **Kaustubh Chandrakant Khaire, Kedar Sharma, Abhijeet Thakur, Vijayanand Suryakant Moholkar and Arun Goyal (2021) Extraction and characterization of xylan from sugarcane tops as a potential commercial substrate. Journal of Bioscience and Bioengineering. 131(6), 647-654. https://doi.org/10.1016/j.jbiosc.2021.01.009 (JIF 2.3)**
13. **Priyanka Nath and Arun Goyal (2021) Structure and dynamics analysis of multi-domain putative β-1,4-glucosidase of Family 3 Glycoside Hydrolase (*Ps*GH3) from**

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466. C.M.G.A. Fontes, J.A.M. Prates, L.M.A Ferreira, D.N. Bolam, H.J. Gilbert, F. Vincent, G.J. Davies and Arun Goyal (2003). Functional and structural studies on the bi functional cellulosomal cellulase (Lic26A-Cel5E) of *Clostridium thermocellum*. Gordon Research Conference (GRC), Cellulases and Cellulosomes, July 27-31, 2003, Andover, New Hampshire, USA.

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General Articles/Bulletins/Press releases

1. **Rwivoo Baruah, Shweta Singh and Arun Goyal (2016) Microbial diversity in fermented food products of Northeast Himalayan region. Bulletin: Himalayan Ecology" Special issue on Microbial diversity of Indian Himalayan Region.**
2. **Manoj Gadewar, Arun Goyal and Utpal Bora (2015) Cholesterol lowering agents. Pharma Times, 47(19), 11-12.**
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Invited/Lead Lectures/Talks

National

1. **Arun Goyal (2019) Assembling of β-glucosidase (*Ct*GH1) and mutant endoglucanase (C*t*GH5-F194A) from *Clostridium thermocellum* to develop chimera by protein engineering for enhancing biomass saccharification. DBT National Workshop on Bioenergy (DNWB-2019), October 17-18, 2019, organised by IIT Kharagpur, Kolkata, West Bengal, India.**
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4. **Arun Goyal (2018) Recombinant chondroitin AC lyase (*Ps*PL8A) from *Pedobacter saltans* and its applications in therapeutics and functional foods. 12th Annual Convention of ABAP & International Conference on Biodiversity, Environment and Human Health: Innovations and Emerging Trends (BEHIET), Nov. 12 - 14, 2018, Aizawl, Mizoram, India**
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9. **Arun Goyal (2017) Recombinant carbohydrate enzyme in conversion of waste biomass to biovalued products. International Conference on Sustainable Energy and Environmental Challenges (SEEC-2017), Feb 26-28, 2017, Center of Innovative and Applied Bioprocessing (CIAB), Mohali, India.**

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12. **Arun Goyal (2015) Recombinant pectate lyase (CtPL1B) from *Clostridium thermocellum*: Characterization and applications in bioscouring and inhibition of cancer cells. 56th International Annual Conference of Association of Microbiologists of India (AMI), December, 7-10, 2015, Jawaher Lal Nehru University, New Delhi.**
13. **Arun Goyal (2014) Structure and functional analyses of recombinant glucuronoxylan-xylanohydrolase (*Ct*XynGH30), its truncated derivative Xyn30A and associated family 6 carbohydrate binding module *Ct*CBM6 from *Clostridium thermocellum.* International Conference on Emerging Trends in Biotechnology (ICETB-2014) and XI Biotech Research Society India (BRSI) Convention, Nov 6-9, 2014, Jawaharlal Nehru University, New Delhi, India.**
14. **Arun Goyal (2013) Cloning, hyper-expression, crystallization and X-ray crystallographic structure analysis of glucuronoxylan-xylanohydrolase (Xyn30A) from *Clostridium thermocellum*. 42nd National Seminar on Crystallography and International Workshop on Application of X-Ray Diffraction for Drug Discovery. Nov 21-23, 2013, Jawaharlal Nehru University, New Delhi, India.**
15. **Arun Goyal (2011) Production, purification and characterization of glucan and gluco-oligosaccharides from *Weissella Confusa.* Symposium on carbohydrates at the interface of Chemistry and Biology (CARBO-XXVI) Nov 23-25 2011, Indian Institute of Chemical Biology, Kolkata, India.**
16. **Arun Goyal (2011) Biotechnolgical Applications of Genetic Engineering" Sep. 9, 2011 at Short Term Training on "Molecular Techniques in Biological Research" State Biotech Hub, College of Veterinary Science, Assam Agricultural University, Guwahati.**
17. **Arun Goyal (2011) Biotechnological applications of dextrans from Lactic acid bacteria isolated from microbial diversity hot spot Assam. National Academy of Agricultural Sciences, New Delhi, June 4, 2011.**
18. **Arun Goyal (2010) Enhanced production of bioactive dextran from a novel strain of *Pediococcus pentosaceus* by UV-mutagenesis and Response surface methodology. International Conference on Genomic Sciences, VII Convention of Biotech Research Society of India, Nov 12-14, 2010, Madurai Kamraj University, Tamil Nadu, India.**
19. **Arun Goyal (2010) Applications of Dextrans and Oligosaccharides" Oct. 29, 2010 at Jawaharlal Nehru Technological University, Anantapur (JNTUA), Andhra Pradesh.**
20. **Arun Goyal (2009) "Industrial Microbiology" Dec. 19, 2009, at Government Institute of Science, Aurangabad, Maharashtra.**
21. **Arun Goyal (2009) "Microbial Products and Processes" at UGC PhD Scholar's Program in Biological Sciences, Oct 12 -Nov 1, 2009, UGC Academic Staff College, Gauhati University, Guwahati, India.**
22. **Arun Goyal (2009) "Basics and applications of Genetic Engineering and Protein Engineering" at UGC PhD Scholar's Program in Biological Sciences Oct 12, -Nov 1, 2009, UGC Academic Staff College, Gauhati University, Guwahati, India.**
23. **Arun Goyal (2009) "Dextransucrase and dextran from *Leuconostoc mesenteroides* NRRL B-640" National Seminar on Pharmacogenomics and its applications in Drug Discovery (2nd Annual Convention of Association of Biotechnology and Pharmacy) 24-25 January, 2009, Acharya B.M. Reddy College of Pharmacy, Bangalore, India.**
24. **Arun Goyal (2008) Production and characterization of dextransucrase and dextran from *Leuconostoc mesenteroides"* International Congress on Bioprocesses in Food Industries**

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26. Arun Goyal (2007) "Genetic Engineering and Protein Engineering of Enzymes" at Short Term Course on "Engineering aspects of Enzyme and Microbial Processes" June 4-8, 2007, Department of Biotechnology, Indian Institute of Technology Guwahati, India.

International

27. Arun Goyal (2019) Chimera construction from cellulose hydrolysing enzymes by protein engineering for enhancing biomass saccharification. 8th International Forum on Industrial Bioprocessing (IBA-IFIBiop 2019) "Bridging Sustainability and Industrial Revolution through Green Bioprocessing", 1-5 May, 2019, Imperial Hotel, Miri, Sarawak, Malaysia.
28. Arun Goyal (2017) Recombinant chondroitin AC lyase (PsPL8A) from *Pedobacter saltans* and its applications in therapeutics and functional foods. 7th International Forum on Industrial Bioprocessing (IFIBiop 2017), May 21-24, Wuxi, China.
29. Arun Goyal (2016) Crystal structure and molecular determinants of substrate specificity of arabinofuranosidase from *Clostridium thermocellum.* 14th International Conference of the Asian Crystallographic Association, 4-7 December 2016, Hanoi, Vietnam.
30. Arun Goyal (2014) Synthesis and purification of manno-oligosaccharides from coprameal by recombinant endo-β-mannanase and their prebiotic and anticancer properties. International Conference on Biotechnology and Bioengineering (ICBB-2014), Oct 28-29, 2014, BITS Pilani, Dubai Campus, Dubai, UAE. (Lead Lecture)
31. Arun Goyal (2014) *Lactobacillus plantarum* DM5 as cell factory for nutraceuticals production. 10th European Symposium on Biochemical Engineering Sciences and 6th International Conference on Industrial bioprocesses, September 7-10, 2014, Lille, France.
32. Arun Goyal (2012) Hyper dextran producing *Weissella confusa* isolated from fermented cabbage. Department of Food and Environmental Sciences, University of Helsinki, Helsinki, Finland, Oct 18, 2012.
33. Arun Goyal (2012) In vitro analysis of probiotic properties of *Lactobacillus plantarum* DM5 isolated from fermented beverage Marcha of Sikkim. 5th International Conference on Industrial bioprocesses, Oct 7-10 2012, National Taiwan University of Science and Technology, Taipei, Taiwan.
34. Arun Goyal (2010) Exploring structure and biotechnological applications of dextrans from Lactic acid bacteria isolated from microbial diversity hot spot in India. 4th International Congress on Bioprocess in Food Industries, Oct 5-8, Curitiba, Brazil.
35. Arun Goyal (2000) "Allosteric behaviour of mutant subunits of *Clostridium symbiosum* glutamate dehydrogenase differing in their amino acid specificity" September 21, 2000, Faculty of Veterinary Medicine, Technical University of Lisbon, Lisbon, Portugal.
36. Arun Goyal (1999) "Inter-subunit communication in hybrid hexamers of triple mutant (K89L/A163G/S380A) and C320S mutant of glutamate dehydrogenase from *Clostridium symbiosum*" April 17, 1999, Department of Biological Sciences, Wayne State University, Detroit, Michigan, USA.
37. Arun Goyal (1996) "Purification and active site mapping of *Leuconostoc mesenteroides* NRRL B-512F dextransucrase" March 13, 1996, Department of Biochemistry, University College Dublin, Dublin, Ireland.

Member Organsing/Advisory Committees of Conference/ Seminar

1. Organizing Committee Member, International Symposium on Bioengineering, Dec 10, 2012, Indian Institute of Technology Guwahati, Guwahati, Assam
2. Advisory Committee Member, National Seminar on Micro- and Macro- resources in Biomolecular Technology. February 25-26, 2013, North Bengal University, Siliguri, West Bengal, India.

Collaborators

Sl. No	Name of Collaborators	Institution
International Collaborators		
1.	Prof. Carlos M.G.A. Fontes	Faculdade de Medicina Veterinária: Universidade de Lisboa,(Unversity of Lisbon) Portugal
2.	Prof. Luís M.A. Ferreira	Faculdade de Medicina Veterinária: Universidade de Lisboa,(Unversity of Lisbon) Portugal
3.	Dr. Jose A.M Pratés	Faculdade de Medicina Veterinária: Universidade de Lisboa,(Unversity of Lisbon) Portugal
4.	Dr. Shabir Najmudin	Faculdade de Medicina Veterinária: Universidade de Lisboa,(Unversity of Lisbon) Portugal
5.	Prof. Maija Tenkanen	Department of Food and Environmental Sciences, University of Helsinki, Finland.
6.	Dr. Kati Katina	Department of Food and Environmental Sciences, University of Helsinki, Finland.
7.	Dr. Riikka Juvonen	VTT Technical Research Centre of Finland, VTT Espoo, Finland.
8.	Dr. Cédric Delattre	Clermont Université, Institut Pascal UMR CNR Aubière Cedex, France.
9.	Dr. Kourkoutas Yiannis	Department of Molecular Biology and Genetics (MBG), Democritus University of Thrace, Komotiní, Thrace, Greece.
10.	Prof. Ilia Iliev	Department of Biochemistry and Microbiology, Plovdiv, Plovdiv, Bulgaria
11.	Prof. Iskra Ivanova	Sofia University, Sofia, Bulgaria
National Collaborators		
1.	Prof. Vijayanand S. Moholkar	Department of Chemical Engineering, IIT Guwahati, Guwahati, Assam
2.	Prof. Debasish Das	Department of Biosciences and Bioengineering, IIT Guwahati, Guwahati, Assam
3.	Prof. Dinesh Goyal	Department of Biotechnology, Thapar University, Patiala, Punjab
4.	Prof. M.N. Gupta (Superannuated)	Department of Biochemical Engineering and Biotechnology, IIT Delhi, New Delhi
5.	Prof. N. Chrungoo	Department of Botany, North Eastern Hill University, Shillong, Meghalaya.
6.	Prof. A. Roy	Department of Biotechnology, IIT Hyderabad, Telangana
7.	Dr. N. Bhardwaj	Avantha Center for Industrial Research and Development, Yamuna Nagar, Haryana
8.	Dr Puneet Pathak	Avantha Center for Industrial Research and Development, Yamuna Nagar, Haryana
9.	Prof. Sachin Kumar	Department of Biosciences and Bioengineering, IIT Guwahati, Guwahati, Assam
10.	Prof. Punit Kaur	Department of Biophysics, AIIMS, New Delhi,
11.	Prof. P. Bhaumick	Department of Biosciences and Bioengineering, IIT Bombay, Mumbai, Maharashtra

Current Ongoing Projects (04 as PI)

S. No.	Title	Agency	Duration From-To	PI or Co-PI	Year	Amout Rs.= Lakhs
21.	DBT PAN IIT Center for Bioenergy: Phase II) No. BT/PR41982/PBD/26/822/2021 i) Development of efficient cellulases for biofuel production. PI: Dr. A. Goyal Co-PI: Dr. N. Selvaraju ii) Pilot scale demonstration of ABE fermentation using Clostridial platform and low cost substrates with integrated in-situ product recovery. PI: Dr. Debasish Das Co-PI: Dr. N. Selvaraju	DBT	Sep 2021 -Sep 2026	PI: Dr. A. Goyal PI: Dr. D. Das Co-PI: Dr. N Selvaraju	5	1.1 Crore (AG) 2.2 Crore (IITG) 14.82 Crore Crores (Overall)
20.	Lignocellulosic biomass utilization for lactic acid and bioethanol production	DBT (NER) Twinning	Oct 2020-Sep 2023	PI, Co-PI:VS Moholkar, Chem. Engg.) and Prof. D. Goyal, Thapar Inst Engg and Technology (TIET) Patiala	3	62.5 (37 IITG)
19.	Efficient utilization of sugarcane top for production of cellulosic ethanol and other value added products	DBT	Oct 2018-Sep 2021. No cost Extension March 2022	PI CoPI:VS Moholkar, Chem. Engg.) and ACIRD, TIET Campus, Patiala,	3	47.2 (24 IITG)
18.	Development of novel and efficient carbohydrate enzymes for bioenergy and biovalued products	DBT (NER) Twinning	Sep 2018-Aug 2021. No cost Extension March 2022	PI Co-PIs, Prof. P. Bhaumik (IITB) and Prof. Punit Kaur (AIIMS)	3	120 (72 IITG)

Projects completed/Involved (12 as PI)

S. No.	Title	Agency	Years	PI or Co-PI	Status	Amout Rs Lakhs
17.	Cloning, expression, biochemical and *in vitro* analysis of therapeutic chondroitin lyase and oligosaccharides from *Pedobacter saltans*.	CSIR	May 2016 June 2020 (1 year extension) 3	PI CoPI- Dr. A.B. Kunnumakkara	completed	19.7
16.	DBT-PAN-IIT Center for Bioenergy (No. BT/EB/PAN IIT/2012) 1. Improvement of hydrolytic enzymes by protein engineering for higher activity and SSF of plant carbohydrates to ethanol (PI) 2. Development of *Clostridium* sp. as a cell factory for butanol production: Metabolic & biochemical engineering approach. (Co-PI)	DBT	Dec 2014 – Dec 2019 No cost Extension Jan 2020- Mar 2021 6	Co-PI PI-Dr. D. Das Coordinator: Dr. P. Wangikar (IITB)	completed	92.08 Lakh (AG) 1.74 Crores (IITG) 22.5 Crores (Overall)
15.	Development of novel thermophilic glycoside hydrolases and carbohydrate binding modules and exploiting their properties for bioethanol production and for food and industrial applications	Indo-Portugal Joint Project, DST, New Delhi	Jun 2014 - Mar- 2017 3	PI	completed	8.04
14.	Synthesis, structure and application analyses of glucans from hyper-producing LAB strains from North-east Indian microbial diversity	Department of Biotechnology (DBT) New Delhi	Jul 2014 - Mar 2016 2	PI	completed	26.65
13.	Molecular and functional characterization of dextran production in Weissella spp. - Superior dextran producers for cereal applications	Indo-Finland Joint Project DBT, New Delhi	Mar 2012 -Mar 2015 3	PI	completed	77.03

Projects completed/Involved (12 as PI)

S. No.	Title	Agency	Years	PI or Co-PI	Status	Amout Rs Lakhs
12.	Process optimization for microbial synthesis of Hyaluronic Acid from new isolates: Development of structured kinetic model and experimental validation	Council of Scientific and Industrial Research (CSIR) New Delhi	Jan 2012-Jan 2015 3	Co-PI PI: Dr. D. Das	Complet ed	14.0
11.	Development and application of recombinant and other cellulases for large scale recycling of cellulosic biomass	Department of Biotechnology (DBT) New Delhi	Apr 2011 -Mar 2014 3	PI Co-PI: (Prof D. Goyal, Thapar University)	Completed	64.35
10.	Cloning and expression biochemical and structural studies of family 5 Glycoside Hydrolase (GH5) cellulase and its derivatives from *Clostridium thermocellum*	Department of Biotechnology–Cutting-edge Research Enhancement and Scientific Training (DBT-CREST)	Mar 2013-Nov 2013 1	Sole & PI	Completed	14.5
9.	Bioinformatics Infrastructure Facility	Department of Bio-technology (DBT) New Delhi	Jul 2010-	Coordinator (Till Feb 2013) Dy Coordinator: Dr. V.K. Dubey	Contd.	20.0
8.	MTech Program Support Renewed 2nd phase	Department of Biotechnology (DBT) New Delhi	May 2009 -Apr 2014 5	Coordinator (Till Feb 2013)	Completed	170.00 (1.7 Crore)
7.	Prebiotics and nutraceuticals production from Lactic acid bacteria.	Indo-Bulgarian Joint project DST, New Delhi	Jan 2010 -Dec 2012 3	Sole & PI	Completed	16.0
6.	Production of microbial carbohydrates and carbohydrate active enzymes for healthcare	Department of Biotechnology (DBT) New Delhi	Apr 2009 - Apr 2012 3	Sole & PI	Completed	11.74
5.	Probiotic fermentation as a platform for production of neutraceuticals.	Council of Scientific & Industrial Research (CSIR) New Delhi	Apr 2009-Apr 2012 3	Sole & PI	Completed	20.1
4.	Microbial conversion of cellulose to sugars for ethanol production	Department of Bio-technology (DBT) New Delhi	Feb 2009-Feb 2012 3	PI (D. Goyal, Thapar Univ as Co-PI)	Completed	31.48
3.	Development of novel therapeutics against leishmaniasis	Department of Information Technology (DIT) New Delhi	Oct 2008 - Mar 2011 3	Co-PI PI- Dr. V. Dubey	completed	9.02
2.	Strengthening of Bio-technology teaching, training and research in Universities and colleges in North East India	Department of Biotechnology (DBT) New Delhi	Jan 2009-Jan 2014 5	Co-PI Dec08-Aug 09 Dean R&D as PI	completed	1490 (14.9 Crore)
1.	Structural, functional and biochemical analysis of modular cellulases.	CSIR, New Delhi, India	Mar 2005 – Mar 2008 3	Sole and PI	completed	11.98

Projects completed/Involved before joining IIT Guwahati

1.	Study of 3-dimensional structure of microbial glyoside hydrloases. (Interdisciplinary Centre for Investigation in Animal Health (CIISA/ 2000/37/ glicosil hidrolases)	CIISA/2000/37/ glicosil-hidrolases; Lisbon, Portugal,	Co-investi-gator	2001-2004	completed	1,00,000 Euros
2.	Molecular analysis of bacterial alpha-galacto-sidases and evaluation of their potential as a supplement of lupin based diets offered to piglets and lambs (POCTI/CVT/33158/2000)	Foundation of Science and Technology (FCT), Lisbon, Portugal,	Team member	2000-2003	completed	1,00,000 Euros
3.	Genetic control of cellulase and xylanase expression in aerobic soil bacterium *Pseudomonas fluorescens* subsp. *Cellulosa*. Praxis/P/ AGR/11042/1998;	Foundation of Science and Technology, (FCT), Lisbon, Portugal,	Team member	1998-2001	completed	1,00,000 Euros).
4.	Identification and characteriza tion of microbial enzymes used as feed enzymes". (Praxis/P/CVT/11041/1998)	Foundation of Science and Technology, (FCT) Lisbon, Portugal,	Team member	1998-2001	completed	1,00,000 Euros)
5.	Microbial diversity of saline lakes and desert regions of Rajasthan.	Department of Biotechnology (DBT), New Delhi	Team member	1999-2001	completed	-
6.	Study of structural and functional relationships of ribosomal RNA from *E. coli*	National Institutes of Health, USA,	Team member	1998-2001.	completed	-
7.	Elucidation of the role of polyketide synthase genes in cell wall lipids bio-synthesis in *Mycobacterium tuberculosis* H37Rv	National Institutes of Health, USA.	Team member	1998-2001	completed	-
8.	Allosteric behaviour of hybrid hexamers of different mutant forms of glutamate dehydrogenase (GDH) from *Clostridium symbiosum*	Forbairt, Irish Research and Technology Council Dublin, Ireland	Team member	1995-1998	completed	-

Research Supervision (30 PhD completed, 25 as Main Supervisor)

S. No.	Name Department/Center	Thesis Title	Joining - Completion/ Present Status
1.	Ravi Kiran Purama (Gen) (MSc Life Science, Pondicherry University	Production, purification, identification and characterization of dextransucrase from *Leuconostoc mesenteroides* NRRL B-640	Jan 2004 -Feb 2008 Post doc –Lund Univ. Sweden, Malaysia Asst Prof, NIT Calicut
2.	Avishek Majumder (Gen) (MSc Biotechnology) Acharya Nagarjuna University	Optimization of production and characterization of glucansucrase and glucan from *Leuconostoc dextranicum* NRRL B-1146	Aug 2005-May 2008 (Hans Christian Ørsted Fellowship, Technical University Denmark)
3.	Deepmoni Deka (Gen) MSc Biotechnology, Tezpur University (Scientific Officer, Center for Environment, IIT Guwahati)	Bioethanol production involving cellulase producing *Bacillus subtilis* AS3 using environmentally available thatch grass (*Hyparrhenia rufa*) as weed	Jan 2006 - Jul 2012 (Dr. M. Jawed, Civil Engg. As Cosupervisor) Scientific Officer, Center for the Environment, IITGuwahati
4.	Seema Patel (Gen) (MSc Life Science) Sambalpur University	Production, structure analysis and biotechno-logical applications of dextran from a novel strain of *Pediococcus pentosaceus* isolated from microbial diversity hot spot Assam	Jul 2007- Jun 2010 PDF, Bioinfo & Med Info Res. Center, San Diego State University, USA
5.	Shadab Ahmed (Gen) (BPharm, MTech Biotech) VIT, Vellore	Cloning, expression, purification and biochemical characterization of a novel α-L-arabinofuranosidase of family 43 glycoside hydrolase (GH43) from *Clostridium thermocellum*	Jan 2008 - Feb 2013 Assistant Professor, Dept. of Biotech & Bioinfor University of Pune
6.	Rishikesh Shukla (Gen) (MSc Microbiology) Jiwaji University, Gwalior	Dextransucrase and dextran with anticancer properties from probiotic *Pediococcus pentosaceus* CRAG3 isolated from fermented cucumber	Jul 2008- May 2014 Assistant Professor Atmiya University, Rajkot, Gujarat
7.	Shraddha Shukla (Gen) (MSc Microbiology) RML Avadh University, Faizabad	Production, structure analysis and sourdough applications of dextran and gluco-oligo-saccharides from hyper-dextran producing *Weissella confusa* Cab3 isolated from sauerkraut	July 2008 -Dec 2013 Assistant Proessor Atmiya University, Rajkot, Gujarat
8.	Swati Khanna (Gen) (MSc Biochemistry BHU, Varanasi Center for Energy, IITG)	Design and optimization of an integrated whole cell biocatalytic process for production of biodiesel and glycerol value added products.	Jan 2009 - Apr 2013 (Dr. V.S. Moholkar, Chem. Engg. as Supervisor) PDF,NIH, USA
9	Saprativ P. Das (Gen) (MTech Biotechnology) Anna University, Chennai	Lignocellulosic ethanol production from wild grass and water hyacinth involving recombinant *Clostridium thermocellum* cellulase and hemicellulase.	Jul 2009 - Apr 2014 Dr. D. Das, Biotechnology as Co-supervisor IPDF, IIT Bombay
10.	Deeplina Das (Gen) (MTech Biotechnology) WBUT, Kolkata	Bacteriocin, antioxidant and novel glucan from probiotic *Lactobacillus plantarum* DM5 isolated from Marcha of Sikkim.	July 2009 -Apr 2014 Assistant Professor, Adhoc, NIT Agartala
11.	Arabinda Ghosh (OBC) (MSc Biotechnology) NEHU, Shillong	Molecular cloning, expression, purification and characterization of β-mannanase of family 26 Glycoside Hydrolase and associated family 35 carbohydrate binding module from *Clostridium thermocellum* and its application in manno-oligosaccharides production	July 2009 -Feb 2015 Assistant Professor, Adhoc, Microbiology, Dept of Botany, Gauhati Univ
12.	Shuchi Singh (OBC) MSc Biotechnology CSJM Univ, Kanpur (Center for Energy, IITG)	Bioethanol production from *Parthenium hysterophorus* involving cellulase from *Bacillus amyloliquefaciens* SS35: Process development, optimization and intensification	Jul 2009-Apr29, 2015 (Dr. V.S. Moholkar, Chemical Engg. as Co-supervisor) PDF, Dept Agric & Biol Engg, Univ of Ilinois, Urabana Champaign, USA
13.	Anil Kumar Verma (SC) MSc Industrial Microbiology Devi Ahliya University Indore	Structural, biochemical and functional analyses of modular recombinant glucuronoxylan-xylanohydrolase (*Ct*XynGH30) of family 30 Glycoside Hydrolase and its truncated derivative *Ct*Xyn30A and associated family 6 carbohydrate binding module *Ct*CBM6 from *Clostridium thermocellum*	July 2009-May 2015 (Joined group in Feb 2011) Asst. Prof. Central University of Sikkim
14.	Jagan Mohan Rao (OBC) MTech Biotechnolgy, JNTU, Hyderabad	Characterization of dextransucrase and dextran from *Weissella cibaria* JAG8 and *in vitro* analysis of dextran as prebiotic	Jan2010-Dec24, 2013 Assitant Professor NIT Andhra
15.	Damini Kothari (Gen) MSc Botany, Gauhati University	Synthesis, purification, characterization and prebiotic applications of dextran and oligo-saccharides from *Leuconostoc mesenteroides* NRRL B-1426 dextransucrase	Jul 2010-Mar 30,2015 PDF, Konkuk Univ, Seoul, South Korea

PhD Completed

S. No.	Name Department/Center	Thesis Title	Joining - Completion/ Present Status
16.	Soumyadeep Chakraborty (Gen) BTech, MTech Biotech WBUT, Kolkata	Molecular cloning, expression, structural and functional characterization of pectate lyase of family 1 polysaccharide lyase (PL1B) from *Clostridium thermocellum* ATCC 27405 and its applications in production of immobilized magnetic nanoparticle for bioscouring and pectic oligosaccharides inhibiting colon cancer cells	July 2010-Jun 4,2015 1. Asst Prof., NIIT University, Rajasthan 2. Department of Molecular Medicine, College of Medicine, University of South Florida
17.	Aruna Rani (SC) BTech, Biotechnology, GGS IP University, Delhi	Structure and functional characterization of recombinant chondroitin sulphate lyase of family 8 polysaccharide lyase (*Ps*PL8A) from *Pedobacter saltans* for its *in vitro* applications in therapeutics and production of prebiotic chondroitin oligosaccharide	July 2011-Nov 2017 Post Doctoral Fellow International Centre for Translational Eye Research, Institute of Phys Chemistry Polish Academy of Science, Kasprzaka, Warsaw, Poland
18.	Arun Dhillon (Gen) BTech, Biotechnology MDU, Faridabad	Cloning, expression, purification, structure and functional characterization of rhamnogalactouronan lyase (*Ct*RGL) from family 11 Polysaccharide Lyase (PL11) and associated Carbohydrate Binding Module 35 (CBM35) from *Clostridium thermocellum*	Jul 2011 - Apr 2018 PDF, UK
19.	Manoj Gadewar (Gen) M Pharm, Assistant Professor, Sri Kakatiya Institute of Pharmaceutical Sciences, Warangal (under QIP scheme)	Antidiabetic evaluation of medicinal plants with special reference to *Dillenia indica, Solanum indicum* and *Solanum torvum*	July 2012 – May2017 (Dr. U. Bora as Supervisor)
20.	Rwivoo Baruah (Gen) MSc, Biotechnology Bangalore University	Production, characterization and food applications of dextran and prebiotic glucooligosaccharides from *Weissella cibaria* RBA12 isolated from Pummelo (*Citrus maxima*)	July 2012-Nov 2017 PDF, CFTRI
21.	Arup Jyoti Borah (SC) MSc Applied Microbiology VIT University (Center for Energy, IIT Guwahati)	Biobutanol synthesis from waste biomasses water hyacinth and kudzu using fed-batch and continuous fermentation with immobilized cultures and intensification by ultrasound	Dec 2012 -April 2019 Prof. V.S. Moholkar, Chem Engg As Supervisor
22.	Ritesh S. Malani (OBC) MTech, Chem Engg. IIT Guwahati (Center for Energy, IITG)	Bioethanol production: Process development, optimization and intensification	Dec 2014-Apr 2019 (Prof VS Moholkar, Chemical Eng. as Supervisor) Asst Prof, ICT Bhubaneshwar
23.	Kedar Sharma (OBC) MSc Biotech, Guru Ghasidas Vishwavidyalaya, Bilaspur, Chhatisgarh	Cloning, expression, purification and characterization of xylanase of family 10 glycoside hydrolase (GH10) from *Pedobacter saltans* DSM 12145	Jul 2013-Nov30 2019 Genomic Integrity & Structural Biology Laboratory, National Institute of Environmental Health Sciences, North Carolina, USA
24.	Sumitha Banu J. (Gen) BTech, MTech, Biotech. Anna University, Chennai	Saccharification and fermentation of millet straw using native and recombinant hydrolytic enzymes and fermentative microbes for bioethanol production	July 2013-21Jan 2020 Prof. V.S. Moholkar, Chem. Engg. as Co-supervisor PDF, Hanyang University, South Korea.
25.	Rajulapati Vikky (OBC) MTech, Biotechnology JNTU Hyderabad	Molecular cloning, expression, purification and characterization of Pectin methyl esterase a family 8 carbohydratye esterase (CE8) from *Clostridium thermocellum* ATCC 27405	Dec 2013- 24 Jan 2020 PDF, Prof.Yong Kim Ulsan National Institute of Sciences and Technology, Ulsan, South Korea
26.	Krishan Kumar (SC) BTech, MTech, Biotechnology NIT Rourkela	Structure and functional analysis of a novel laminarinase of family 81 glycoside hydrolase (GH81) from *Clostridium thermocellum*	Dec 2014 - 27 Jan 2020 Assistant Professor Parul University, Vadodara, Gujarat
27.	Priyanka Nath (OBC) MSc (Intg). Bioscience and Bioinformatics, Tezpur University	Protein engineering of β-1,4-endoglucanase and Chimera construction with β-glucosidase from *Clostridium thermocellum* for improving ligno-cellulosic biomass saccharification	Dec 2014 - June 3, 2020

PhD Completed

28.	Shweta Singh (SC) MSc Agric. Microbiol. Aligarh Muslim University	Strain improvement of *Bacillus amyloliquefaciens* SS35 for enhanced endoglucanase catalytic efficiency and identification of mutation causing the structure changes by cloning, expression and purification of glycoside hydrolase family 5 endoglucanase and its application in saccharification of *Sorghum durra*	Dec 2014 - Jun 25, 2020
29.	Neha Singh (Gen) MTech, Biochem Engg Amity University, NOIDA (Center for Energy, IITG)	Microalgal Bio-refinery: Process optimization and intensification for production of lipids and other value-added products	Dec 2014 - 18 Mar 2021 (Prof. V.S. Moholkar, Chemical Engg. As Supervisor
30.	Abhijeet Thakur (Gen) M.Sc. Biotechnology Jiwaji University, Gwalior	Cloning, expression, purification, biochemical, structure characterization and application of α-L-arabinofuranosidase (*Ps*GH43_12) of family 43 glycoside hydrolase from *Pseudopedobactor saltans*.	Jul 2015- Oct 20, 2020 Post doctoral fellow Department of Newborn Medicine, Brigham and Women's Hospital, Harvard Medical School, Boston, USA.

PhD Ongoing (10 as Main Supervisor)

S. No.	Name Department/Center	Thesis Title	Joining - Completion/ Present Status
1.	Kaushtubh Khaire (Gen) MSc Microbiology Devi Ahilya Univ. Indore (Center for Energy, IITG)	Saccharification and pretreatment of sugarcane leaf top by recombinant enzymes for bioethanol production	July 2017 – Contd. (Prof. V.S. Moholkar, Chemical Engg.) as Co-supervisor
2.	Parameshwar Gavande (OBC) MSc Biotechnology, North Bengal University	Expression, structure and functional charaterization of Endoglucanase (*Rf*GH5_4) from *Ruminococcus flavifaciens*	July 2018 –Contd.
3.	Jebin Ahmad (Gen) MSc MBBT, Tezpur Univ.	Cloning, expression, purification, biochemical and structural characterization of Pectin acetyl esterase (*Ct*Pae12A) of family 12 carbohydrate esterase (CE12) from *Clostridium thermocellum*	Jan 2019 –Contd.
4.	Y. Robinson Singh (OBC) MSc MBBT, Tezpur Univ.	Expression, structure and functional charaterization of Glucoronoxylanase 30A (*Cc*Xyn30A) from *Clostridium clariflavum*.	July 2019-contd.
5.	M. Premeshwari Devi (Gen) MTech Biotech, IITG (Center for Energy, IITG)	Lignocellulosic ethanol production from Rice Straw using cocktail of recombinant cellulases and hemicellulases from *Clostridium thermocellum*	July 2019-contd.
6.	Madhulika Shrivastava (Gen) MSc, Industrial Biotech SP Univ, Gujarat MTech Converted to PhD	Chimera construction with xylanase (CtGH11) from from *Clostridium thermocellum* and xylosidase (*Ps*GH43) *Pseudopedobacter saltans* for improving lignocellulosic biomass saccharification	Aug 2020- contd.
7.	Ardhendu Mandal (OBC) MSc Int, IISER-Kolkata	Cloning, expression and structure analysis of endoglucanase (*Ct*GH9C) and associated carbogydrate modules from *Clostridium thermocellum*	Aug 2020 –Contd.
8.	Vishwanath Yadav (Gen) BTech, Biotechnology GGSIPU, Delhi MTech converted to PhD	Optimization of production and scale up of cellulytic chimeric (CtGH1-L1-CtGH5-F194A) enzyme from *Clostridium thermocellum* at bioreactor level	May 2021 –Contd
9.	Shreya Biswas (SC) MSc. 5 Yr. Int Biotech NISER Bhubaneshwar	Cloning, expression, purification, biochemical and structural characterization of Galactanase (*Ct*GH53) of family 53 Glycoside hydrolase from *Clostridium thermocellum*.	July 2021- Contd.
10.	Aishwarya Bhagat (OBC) MSc Biotech, Central Univ of Bihar, Gaya School of Enegry Science and Engineering	Cloning, expression, purification and structure characterization of beta glucosidase of family 3 Glycoside Hydrolase (*Ps*GH3) from *Pedobacter saltans* (DSM 12145)	July 2021 –Contd
11.	Akshita Kanwar (Gen) MSc Botany, Punjab University, Chandigarh Center for the Environment	Optimization of production and scale up of cellulytic Chimera (CtGH1-L1-CtGH8) from *Clostridium thermocellum* at bioreactor level.	July 2021- Contd.

MTech/MS Projects Supervised

S. No.	Name	Thesis Title	Joined - completed present status
1.	Ruchi Mutreja BTech, Biotech	Production of Recombinant cellulases in Fedbatch culture using various cellulosic substrates	May 2010- May 2011 (Dr. D. Das, Jt. Supervisor)
2.	Arijita Dutta BTech, Biotech	Purification and characterization of fructan and fructansucrase from *Lactobacillus fermentum* AKJ15 isolated from Kodo ko Jaanr, a fermented beverage from North Eastern Himalayas	May 2010 –Aug 2011
3.	Ashim Borah BTech, Biotech	Synthesis, characterization and cytotoxicity analyses of dextran-coated superparamagnetic iron oxide nanoparticles for biomedical applications	May 2011 - Apr 2012 Assistant Professor, NIT Jalandhar
4.	Rajeev Ravindran BTech, Biotech	Bioethanol production involving recombinant *Clostridium thermocellum* hydrolytic enzymes and fermentative microbes	May 2011 - Apr 2012 Doing PhD Dublin Technical Univ.
5.	Ruchi Handoo BTech, Biotech	Production, purification and characterization of dextransucrase from *Weisella cibaria* (VTT-072749)	May 2012 - Apr 2013 Dr. D. Das Jt. Supervisor
6.	Ashutosh Gupta MSc, Biotech Madurai Kamraj Univ	Bioethanol production from hemicellulose rich *Populus nigra* involving recombinant hemicellulases from *Clostridium thermocellum*	May 2013 - Apr 2014 Dr. D. Das Jt. Supervisor
7.	Ines Lobo Antunes Bachelor in Nutrition (4 yrs) Portugal	Cloning, expression, purification, biochemical and and structure analysis of xylanase, a family 10 glycoside hydrolase (GH10) from *Pedobacter saltans* DSM 1215	May 2015- July 2016
8.	Karthika B. BTech, Ind Biotech Govt. College of Tech, Coimbatore.	Cloning, expression, purification and characterization of heparinase of family 12 Polysaccharide lyase (PL12) from *Pedobacter saltans* (DSM 12145)	May 2016 - Aug 2017
9.	Ajit Kumar BTech, Biotech NIT Jalandhar	Optimization of pretreatment process and bioethanol production from *Lantana camara*.	May 2017 – Aug 2018
10.	Mohanapriya N. BTech, Biotech Anna Univ, Chennai	Saccharification of Sorghum durra by chimeric enzyme (β-glucosidase and endo β-1,4 glucanase, *Ct*GH1-L1-*Ct*GH5-F194A) and cellobiohydrolase (CtCBH5A) from *Clostridium thermocellum* for bioethanol production	May 2018 – June 2019
11.	Dishant Goyal B.Tech. Biotech. Maharana Pratap University of Agriculture and Tech., Udaipur (Raj.)	Biochemical and Structural characterization of Recombinant Mannanase of family 5 Glycoside Hydrolase (RfGH5_7) from *Ruminococcus flavefaciens* FD-1 v3	May 2018 – Jul 2019
12.	Ayaka Tsuchiya Gifu University, Japan	Searching for the target proteins of methyl quercetin which have anti-metastasis activity. (India-Japan Joint Master of Technology (M.Tech.) in Food Science and Technology	July 2019-Nov 2019 Jointly with Prof. Tohru Mitsunaga
13.	Aakash Sharma BTech, Biotech GGS Indrap Univ	Efficient utilization of hemicellulosic fraction of sugarcane leaf tops for the production of bioethanol using recombinant hemicellulases	May 2019- June 21 2020
14.	Sunetra Mondal BTech, Biotech Engg WBUT	Expression, purification, biochemical and structure characterization of lichenase (*Rf*GH16A) from *Ruminococcus flavefaciens* FD-1 v3	May 2019- July 2, 2020
15.	Shubha Singh BTech, Biotechnology NSUIT, Delhi	Expression, purification, *in silico* and solution structure characterization of putative xylanase (*Rf*GH30) from *Ruminococcus flavefaciens* FD-1 v3	May 2021 – contd
16.	Sourav Das MSc Biotech, Burdwan Univ. MS(R), School of Energy Sci and Engg.	Scale up of production of Chimeric enzyme *Ct*GH1-L1-*Ct*GH5-F194A and Endoglucanase (CMCase-UV2) from *Bacillus amyloliquifacians*.	Aug 2021-contd
17.	Ryotaro Ito Gifu University, Japan	Unraveling the high catalytic efficiency of human renin with ovine angiotensinogen and its application to clinical assay	Sep 2021 – contd
18.	Gurleen Kaur Bagga BTech Biotech, CET Bhubaneshwar	Expression, purification and biochemical characterization of putative Xylanase (*Rf*GH30) from *Ruminococcus flavefaciens* FD-1 v3	May 2022 –contd

B.Tech. Projects supervised

S. No.	Name	Thesis Title	Joining-Completion
1.	Gurtej Singh	Effect of aeration and pH on dextransucrase production from *Leuconsotoc mesenteroides* NRRL B-640 in batch fermentation in a bioreactor.	July 2006-May 2007 Dr.V.V.Dasu, Jt Supervisor
2.	Tushar Saraf	Prediction of catalytic and binding sites from predicted 3-D structure of family 39 glycoside hydrolase from *Clostridium thermocellum.*	July 2006 – Jan 2008
3.	Angad Singh	Mutagenesis of *Leuconostoc dextranicum* for higher glucan production and Pulsed Laser Deposition of glucan.	July 2007-May 2008
4.	Anshuma Mangtani	Production and characterization of exocellular glucansucrase and oligosaccharides.	July 2007-May 2008
5.	Sourabh Bhandari	Production of dextran from *Leuconostoc mesenteroides* NRRL B-640 using response surface methodology.	July 2007-May 2008
6.	Mayur Agrawal	Mutagenesis of *Leuconostoc mesenteroides* NRRL B-640 for higher production of dextransucrase and dextran	July 2008 – May 2009
7.	Rahul Charan	Expression and purification of recombinant cellulases from *Clostridium thermocellum*	July 2008 - May 2009
8.	Rahul Vig	Optimization of dextransucrase production by Artificial Neural Networks	July 2008 - May 2009
9.	Shilpi Harish	Isolation of Lactic acid Bacteria from fermented Cucumber and Cabbage for dextransucrase production	July 2009 – May 2010
10.	S. K. Bindu	Optimization of dextransucrase production from the mutant of a new isolate of *Pediococcus pentosaceus* using Response Surface Methodology	July 2009 – May 2010
11.	Vikas Gupta	Structure analysis of a glycoside hydrolase family 43 xylanase in the complex with xylotetroase and comparative characterization of xylanase	July 2009 – May 2010
12.	P. Bhargavi	Statistical methods for optimization of culture conditions and physical parameters to enhance cellulase production	July 2009 – May 2010
13.	Shushil Shakyavar	Drug Target Protein (DTP) Database of insilico predicted potential drug target proteins in common bacterial human pathogens	July 2009 – May 2010 (Dr. V. Dubey Jt. Supervisor)
14.	Ch. Hareesh	Optimization, Production and Purification of dextransucrase from *Leuconostoc mesenteroides* NRRL B-1149	July 2009 – May 2010
15.	Ankur Tyagi	Purification, stability and inhibition studies of dextransucrase from *Pediococcus pentosaceus*	July 2010 – May 2011
16.	Anurag Mohta	Production of glucan from *Weissella onfuse* and comparison with other lactic acid bacteria	July 2010 – May 2011
17.	Amer Ahmed	Comparative modeling and properties of fanily 26 glycoside hydrolase (GH26) from *Clostridium thermocellum.*	July 2010 – May 2011
18.	Smiti S. Sahoo	Development of structured kinetic model for dextransucrase production via mutant of soil isolate *Pediococcus pentosaceus*	July 2010 – May 2011 (Dr. D. Das, Jt. Supervisor)
19.	Sanjay Kamat	Structure prediction and binding analysis of Carbohydrate Binding Module (CBM) 35 from *Clostridium thermocellum*	July 2011 – May 2012
20.	Puneet Gupta	Structure rediction and ligand binding analysis of Carbohydrate Binding Modules CBM6A and CBM6B from *Clostridium thermocellum*	July 2011 – May 2012

B.Tech. Projects supervised

21.	Abhishek Maitreyi	Extraction and subsequent quantification of oligosaccharides from three different fruit samples	Jul 2012 -Apr 2013 Dr. D. Das Jt. Supervisor
22.	Drishni Chakravarti	Development of *in silico* mutant for increased lipid production through metabolic modeling in Chlorella sp. FC2 IITG	Jul 2013 -Apr 2014 Dr. D. Das Jt. Supervisor
23.	Arpita Das	Sequence analysis and structure prediction of carbohydrate binding modules CBM4 and CBM18 from *Ruminococcus flavefaciens.*	July 2014 – April 2015
24.	Shiblal Namdas	The modelling, structural alignment and characterization of structure of β-Glucosidase from *Ruminiclostridium thermocellum*	July 2016- April 2017
25.	Rajeev kumar	Sequence analysis and structure modelling of family 1 Glycoside hydrolase (GH 1) from *Ruminiclostridiun thermocellum*.	July 2017- May 2018
26.	Prince Kumar	Structure modelling of family 30 Glycoside hydrolase (GH 30) from *Clostridium flavifarum.*	July 2018- May 2019
27.	Ajay Bhakhar	*In silico* based homology modeling and structure characterization of β-glucosidase (PsGH3) of Family 3 Glycoside Hydrolase from *Pseudopedobacter saltans*	July 2019 – May 2020
28.	V. Prasanna Venkatesh	*In silico* characterization of an endoglucanase (PsGH5) of family 5 Glycoside Hydrolase from *Pseudopedobacter saltans* DSM 12145	July 2019 – May 2020
29.	Ashish Poonia	Structure modeling, molecular dynamic simulation and molecular docking analysis of a novel endo-1,3-1,4-β-glucanase (RfGH16_21) from *Ruminococcus flavefaciens*	Aug 2020 – April 2021
30.	Kanhaiya Dinesh Gavit	Structure modelling, molecular docking and simulation studies of a xylanase (CcGH30A) of family 30 glycoside hydrolase from *Clostridium clariflavum*	July 2021 - April 2022
31.	Shubham	Sequence analysis, structure modeling, molecular dynamic simulation and molecular docking studies of pectin acetyl esterase *(Ct*Pae12A*)* from *Clostridium thermocellum* ATCC 27405.	July 2021 - April 2022
32.	Lokesh Rana	*In silico* structure analysis and molecular docking of a putative endoglucanase, *Ps*GH5-CBM6 from *Pseudopedobacter saltans*.	July 2021- April 2022. Dr. R.P. Thummer Jt. Supervisor
33.	Mukesh Gupta		July 2022-
34.	Dharavath Prakash		July 2022-

Project Staff Supervised

S No.	Name	Degree/ Course	Institution/Place	Project/ Position	Duration	Present Status
1.	Dr. (Mrs.) Sangeeta Bharali	PhD Botany	North Eastern Hills University (NEHU), Shillong, Meghalaya,	CSIR/ Research Associate	Aug 05 –Oct 06	Lecturer Govt. College, Golaghat, Assam
2.	Shadab Ahmad	Bpharm, MTech Biotechnology	Vellore Institute of Technology, Tamil Nadu, India	CSIR/ Senior Research Fellow	Feb 07 –Dec 07	Did PhD at IIT Guwahati. Astt. Prof. Pune Univ
3.	Ravi Kiran Purama	MSc, Mphil, Life Sciecne	IIT Guwahati, Guwahati, Assam India	CSIR/ Senior Res. Fellow	Jan 08 –Feb 08	Post-doctoral Fellow, Univ of Lund Sweden
4.	Dr. Ravi Kiran Purama	MSc, Mphil, PhD Biotechnology	IIT Guwahati, Guwahati, Assam, India	CSIR/ Res. Assoc.	Feb 08 –May 08	Post-Doctoral Fellow, Univ of Lund Sweden
5.	Damini Kothari	MSc Botany	Gauhati University	DBT/ Project Assistant	July 09-July10	July 2010 Completed PhD at IITG
6.	Rwivoo Baruah	MSc Biotechnology	Bangalore University	DBT/ Project Assistant	Aug 11-Apr 12	Pursuing PhD, IIT Guwahati
7.	Vivek Gupta	MSc Biotechnology	Rajasthan Univesrity	DBT/JRF	Feb 12-Dec 14	-
8.	Qiao chi PhD student	MSc Microbiology	Department of Food and Environmental Sciences, University of Helsinki	Indo- Finnish DBT project	Jul 16 - 15 Sep 12	Pursuing PhD, University of Helsinki
9.	Rishi Shukla	MSc Microbiology	PhD at IIT Guwahati, Assam, India	SRF/ India-Finland DBT project	Oct 13 -Mar 14	Res. Assoc, UDSC, Delhi University
10.	Dr. Jagan Mohan Rao T.	PhD Biotechnology	IIT Guwahati, Guwahati, Assam, India	DBT	Jan 14-Mar 14	Asstt Prof. NIT Andhra Pradesh
11.	Dr. Shraddha Shukla	PhD Biotechnology	IIT Guwahati, Guwahati, Assam, India	SRF India-Finland, DBT	Apr 14 -Aug 14	-
12.	Soumyadeep Chakraborty	M.Tech. Biotechnology	Registered PhD at IIT Guwahati, Assam	JRF/ DBT Project	Sep 14- Mar 15	IPDF, IIT Bombay
13.	Anil K. Verma	MSc Microbiology	PhD at IIT Guwahati, Assam, India	SRF/ Indo-Finnish DBT	Sep 14 -Mar 15	Asstt Prof. Sikkim University
14.	Bibari Boro	MSc Biotechnology	IIT Roorkee	JRF BT/P/DD-5	Sep 15-July 16	MBA, IIM Calicut
15.	Barsha Deka	MSc Intg). Biosci and Bioinformatics	Tezpur University	JRF BT/P/AG/09	Sep 15- Sep 16	PhD, IASST, Guwahati
16.	Subharshee Barik	MSc Microbiology	Pondicherry University	JRF	Aug 17-Oct 17	-
17.	Himadree Das	MSc MBBT	Tezpur University	JRF	Jan 19 - Mar 19	PhD, Center for Enrionment, IITG
18.	Robinson Singh	MSc MBBT	Tezpur Univsirty	JRF	Feb 11-2019 - April 2019	PhD, BSBE, IIT Guwahati
19.	Nazneen Ahmed	M.Sc. Biotechnology	NEHU Shillong	PA-ACIRD BT/P/AG/13	Apr 2019- Mar 2020	-
20.	R. Vikky	M.Tech. Biotech	PhD student IIT Guwahati	JRF	23-5-19 – 19-8-19	Post Doc Fellow, South Korea
21.	Sumitha Banu J.	BTech Biotechnolog	PhD student IIT Guwahati	JRF	3.6.19 - 23.12.19	Post Doc Fellow, South Korea
22.	Kedar Sharma	M.Sc. Biotechnology	GGV Bilaspur	JRF BT/P/AG/12	24.9.2019- 12.10.2020	Post Doc Fellow, IIT Gandhinagar
23.	Nazneen Ahmed	M.Sc. Biotechnology	NEHU Shillong	PA-ACIRD BT/P/AG/13	Nov 2020-Dec 2021	-
24.	Aishwarya Bhagat	MSc Biotechnology	Central University of Bihar	JRF- Thapar	May 2021- 18 Jul 2021	PhD at IITG
25.	Shyam ji	MTech BSBE	IIT Guwahati	JRF AIIMS-IITB	May 21-Aug21 Sep 21-Jun 22	-
26.	Bipasha Chaudhary	MSc MBBT,	Tejpur University	JRF AIIMS	Sep 21-Nov 21	-

Project Staff Supervised

27.	Shyam ji	MTech, BSBE	IIT Guwahati	JRF-Thapar	Sep 21-Jun 22	
28.	Bipasha Chaudhary	MSc, MBBT	Tejpur University	PA, ACIRD	27 Jan 22 – 9 Apr 22	
29.	Dr. Bikash Kumar	PhD Microbiology	Central University of Rajasthan	RA-DBT-PAN IIT Phasell	5 Feb 22-contd	

Trainees supervised

S No.	Name	Degree/Course	Institution/Place	Duration
1.	Vivek Kumar	MSc Biotechnology	Thapar University, Patiala	Jun-Jul 06
2.	Ashish Sharma	MSc Biotechnology	Thapar University, Patiala	Jun-Jul 07
3.	Mayur Agrawal	BTech (III) Biotechnology	IIT Guwahati, Guwahati	May-Jul 07
4.	Saazida Bhanu	MSc Biotechnology	Loyola College, Acharya Nagarjuna University, Vijaywada	May-Jun 08
5.	Shilpi Harish	BTech (III) Biotechnology	IIT Guwahati, Guwahati	May-Jul 08
6.	Hifzur Rahman	BTech (II) Biotechnology	IIT Guwahati, Guwahati	May-Jun 08
7.	Nadeem Akhtar	MSc Biotechnology	Thapar University, Patiala	Jun-Jul 08
8.	Mayur Agrawal	BTech (IV) Biotechnology	IIT Guwahati, Guwahati	Jun-Jul 08
9.	S. Rajesh	MSc Biotechnology	A. Nagarjuna Univ., Guntur	May-Jun 09
10.	G. Sunil	MSc Biotechnology	A. Nagarjuna Univ., Guntur	May-Jun 09
11.	Atul Kumar	BTech (III) Biotechnology	IIT Guwahati, Guwahati	May-Jun 09
12.	Ankur Tyagi	BTech (III) Biotechnology	IIT Guwahati, Guwahati	May-Jun 09
13.	Anurag Mohta	BTech (III) Biotechnology	IIT Guwahati, Guwahati	May-Jun 09
14.	Debraj Das	BTech (III) Biotechnology	IIT Guwahati, Guwahati	May-Jun 09
15.	K.N.V. Sivakumar	MSc Biotechnology	A. Nagarjuna University, Guntur	May-Jun 10
16.	B. Ganesh Kumar	MSc Biotechnology	A. Nagarjuna University, Guntur	May-Jun 10
17.	Ashwini Akhileshwer	BTech (III) Biotechnology	Rajendra Agric. University, Bihar	Jun –Jul 10
18.	Monmi Pangging	BTech (II) Biotechnology	IIT Guwahati, Guwahati	Jun-Jul 11
19.	Anish Jain	BTech (II) Biotechnology	IIT Guwahati, Guwahati	Jun-Jul 11
20.	D. Obaiah	BTech (II) Biotechnology	IIT Guwahati, Guwahati	Jun-Jul 11
21.	K. Siddardha	BTech (II) Biotechnology	IIT Guwahati, Guwahati	Jun-Jul 11
22.	Reema A. Shah	BTech Biotechnology	Heritage Inst. Technol, WBUT, Kolkata	Jun-Jul 11
23.	Himesh V. SubbaRao	MSc Biotechnology	JNTU, Ananthapur, AP	Jun-Jul 11
24.	Sung-hyun Kim	BTech	Hanyang University, South Korea	Jan-Feb 12
25.	S.R. Raju Guvvala	MSc Biotechnology	A. Nagarjuna Univ., Guntur	May-Jun 12
26.	Rajan Choudhary	BTech Biotechnology	NIT Durgapur	May-Jun13
27.	K. Venkatesh	BTech Biotechnology	NIT Warangal	May-Jun14
28.	Rajan Choudhary	BTech Biotechnology	NIT Durgapur	May-Jun14
29.	Anand Milind Deshpande	MSc Biotechnology	Marathwada University, Aurangabad	May-Jun 15
30.	Raghvendra Chauhan	BTech Biotechnology	NIT Raipur	May-Jun 15
31.	Neha Mishra	BTech Biochemical Engineering	BTKIT Dwarahat, Uttarakhand Technical University, Dehradrun	Jun-Jul 16
32.	Jyotsna Mehra	BTech Biochemical Engineering	BTKIT Dwarahat, Uttarakhand Technical University, Dehradrun	Jun -Jul 16
33.	Hitesh Gupta	BTech Biotechnology	Manav Rachna Int. University	Jun-Jul 16
34.	Anshuman Suneja	BTech Biotechnology	Manav Rachna Int. University	Jun-Jul 16
35.	Anshul Sharma	MSc Microbiology	Panjab Univeristy, Chandigarh	May –Jul 2017
36.	Prabha Gill	MSc Microbiology	Panjab Univeristy, Chandigarh	May –Jul 2017
37.	Rahul Ranjan	BTech Biochem. Engg.	IIT Banaras Hindu University	May –Jul 2017
38.	Kakali Borah	MSc Life Science	NIT Rourkela	May –Jul 2018
39.	Mihir Anand	BTech Biochem Engg.	IIT BHU, Varanasi	May –Jul 2018
40.	Harsh Raj	MSc Biotechnology	Central University of Bihar, Patna	May –Jul 2018
41.	Shubham Singal	MSc Microbiology	Panjab University, Chandigarh	May –Jul 2018
42.	Sanjeev Kumar	MSc Microbiology	Panjab University, Chandigarh	May –Jul 2018
43.	Tanushree Borgohain	M.Sc. Agricultural Biotechnology,	Assam Agricultural University Jorhat	May-July 2019
44.	Rahul	M.Sc. Microbiology	Panjab University, Chandigarh	May-July 2019
45.	Shubha Singh	B.Tech Biotechnology	NSIT, New Delhi	May-July 2019
46.	Amrita	B.Tech Biotechnology	NIIT University, Neemrana	Jun-July 2019
47.	Aastha Kapoor	B.Tech Biotechnology	GGV IP University, New Delhi	Jun-July 2019

Teaching experience:

- Sep. 2003 - contd. Involved in teaching BTech, MTech and PhD courses.
- Sep. 2003 - contd Taught 18 different courses singally or sharing in last 18 years.

BTech Core courses:

S.No	Name of the Course	Code	Core/ Elective	Credits	Contact hour/ week	Semester/Year	No. of Students	Performance Index
1.	Microbiology Laboratory	BT220	Core	6	6	Jan-Apr 2004	18	-
2.	Plant Biotechnology Lab	BT240	Core	6	6	Jan-Apr 2004	18	-
3.	Plant Biotechnology	BT204	Core	6	1	Jan-Apr 2004	18	-
4.	Industrial Microbiology	BT305	Core	6	3	Jul-Dec 2004	18	-
5.	Modern Biology	BT101	Core	8	4	Jan-Apr 2005	218	2.9/4 (3)
6.	Industrial Microbiology	BT305	Core	6	3	Jul-Dec 2005	19	2.8/4 (3)
7.	Microbiology Laboratory	BT220	Core	6	6	Jan-May 2006	22	2.5/5
8.	Microbiology Theory	BT202	Core	8	1.3	Jan-May 2006	22	3.5/5 (7)
9.	Enzyme Reaction & Kinetics	BT426	Elective	6	3	Jan-May 2006	04	3.7/5 (5)
10.	Industrial Microbiology	BT305	Core	6	3	Jul-Dec 2006	22	3.5/5
11.	Microbiology Theory	BT202	Core	6	3	Jan-May 2007	23	3.71/5
12.	Microbiology Laboratory	BT220	Core	6	6	Jan-May 2007	23	3.6/5
13.	Modern Biology (Tutor)	BT101	Core	8	1	Jan-May 2007	38	-
14.	Industrial Microbiology	BT305	Core	6	3	July-Nov 2007	23	4.55/5.0
15.	Microbiology Laboratory	BT220	Core	6	6	Jan-May 2008	30	3.5/5.0
16.	Industrial Microbiology	BT305	Core	6	3	July-Nov 2008	30	4.2/5.0
17.	Industrial Microbiology	BT305	Core	6	3	July-Nov 2009	29	4.3/5.0
18	Industrial Microbiology	BT305	Core	6	3	July-Nov 2010	25	4.45/5.0
19.	Industrial Microbiology	BT305	Core	6	3	July-Nov 2011	35	4.2/5.0
20.	Industrial Microbiology	BT305	Core	6	2	Jan-Apr/ 2013	35	4.6/5.0
21.	Industrial Microbiology	BT305	Core	6	3	Jan-Apr/ 2014	39	-
22.	Modern Biology	BT101	Core	6	6	Jan-Apr 2015	632	3.4/5.0 (104)
23.	Molecular Biotechnology Laboratory	BT380	Core	6	6	July-Nov 2015	44	3.65/5 (18)
24.	Industrial Microbiology	BT305	Core	6	1.5	Jan-Apr/ 2016	44	4.0/5.0 (28)
25.	Industrial Microbiology	BT305	Core	6	1.5	Jan-Apr/ 2017	37	4.2/5.0 (23)
26.	Industrial Microbiology	BT305	Core	6	1.5	Jan-Apr/ 2018	47	3.8/5.0 (43)
27.	Molecular Biotechnology Laboratory	BT380	Core	6	3	July-Nov 2018	52	4.2/5.0 (42)
28.	Industrial Microbiology	BT305	Core	6	1.5	Jan-Apr/ 2019	47	3.7/5.0 (43)
29.	Industrial Microbiology	BT305	Core	6	1.5	Jan-Apr/ 2020	58	3.5/5.0 (44)
30.	Cellular and Molecular Biology	BT205	Core	6	1.5	Jul –Nov 2020	63	4.56/5.0 (62)
31.	Introductory Biology	BT101	Core	6	3	Mar-Jun 2021	894	4.23/5.0 (814)
32.	Enzymology	BT412	Elective	6	3	Jan-May 2022	41	
33.	Microbial Biotechnology	BT608	Elective	6	3	Jan-May 2023		

MTech Core

S.N o	Name of the Course	Code	Core/ Elective	Credits	Contact hour/week	Semester Year	No. of Students	Performance Index/ Rank
1.	Biomolecular and Cellular Process Engineering	BT504	Core	6	3	Jan-May 2009	12	4.1/5.0
2.	Applied Biology and Bioengineering Laboraory	BT520	Core	6	6	Jan-May 2009	12	4.3/5.0
3.	Biomolecular and Cellular Process Engineering	BT504	Core	6	3	Jan-May 2010	24	4.45/5.0
4.	Biomolecular and Cellular Process Engineering	BT504	Core	6	3	Jan-May 2011	29	4.0/5.0
5.	Experimental techniques in Bioengineering	BT530	Core	6	3	July-Nov 2022	60	

BTech, MTech and PhD Elective Courses

S.No	Name of the Course	Code	Core/ Elective	Credits	Contact hour/week	Semester Year	No. of Students	Performance Index (No. of feedback)
1.	Microbial Biotechnology	BT608	Elective	6	3	Jan-Apr, 2004	06	-
2.	Plant Biotechnology	BT607	Elective	6	1	Jan-Apr, 2004	06	-
3.	Basic Biotechnology	BT602	Core	6	1	Jul-Dec, 2004	05	-
4.	Microbial Biotechnology	BT608	Elective	6	3	Jul-Dec, 2008	42	3.7/5.0
5.	Microbial Biotechnology	BT608	Elective	6	3	Jan-Apr, 2012	42	4.4/5.0
6.	Protein Structure and Function	BT 631	Elective	6	3	Jul-Nov, 2014	49	2.86/5.0 (7)
7.	Protein Structure and Function	BT 631	Elective	6	3	Jul-Nov, 2016	48	3.9/5.0 (36)
8.	Protein Structure and Function	BT 631	Elective	6	3	Jul-Nov, 2017	70	3.7/5.0 (58)
9.	Protein Structure, Function and Crystallography	BT 631	Elective	6	3	Jul-Nov, 2019	44	4.4/5.0 (44)
10.	Protein Structure, Function and Crystallography	BT 631	Elective	6	3	Jul-Nov, 2021	29	4.45/5.0

PhD Thesis Evaluated

S. No.	Name	Thesis Title	Department/Organization	Month, Year
1.	Arvind Sinha	Studies on bioremediation and nanoparticle synthesis by metal bioaccumulating bacteria and their enzymes.	Department of Chemistry, IIT Delhi, Delhi	Dec, 2011
2.	Nitin Mahendra Chauhan	Alcohols as Modulators of Dimorphic switching in *Candida albicans*	Swami Ramanand Teerth Marathwada University, Nanded, Maharashtra	Dec, 2011
3.	Aarati C. Kulkarni	Isolation of *Bacillus thruinginesis* from different locations and its characterization	Sant Gadge Baba Amravati University, Amravati, Maharashtra	Apr, 2012
4.	Rohit	Study of trehalose production and metabolism in *Propionibacterium shermanii* under osmotic stress	Department of Biotechnology IIT Roorkee, Roorkee, Uttarakhand	Jun, 2012
5.	Nitika Ghosh	Genetic characterization of plantaricin (*pln*) L4 14 locus in a potentially probiotic strain, *Lactobacillus plantarum* L4/14	Department of Genetics, University of Delhi, Delhi	Sep, 2012
6.	Debabrata Garai	Production of fungal xylanase using agricultural residues	Department of Chemical Engineering, IIT Roorkee	Jun, 2012
7.	Sanjoy Kumar Bhunia	Structural characterization and biological investigation of mushroom polysaccharides	Department of Chemistry and Chemical Technology Vidyasagar University Midnapore, West Bengal	Oct, 2013
8	Chanchal Kumar Nadan	Studies on structural investigation of plant and mushroom polysaccharides	Department of Chemistry and Chemical Technology, Vidyasagar University, Midnapore, West Bengal	Dec, 2013
9.	Randhir Singh	Metabolic and genetic aspects of carbaryl degradation from *pseudomonas* sp. Strain c6	Department of Biosciences and Bioengineering, IIT Bombay, Mumbai, Maharashtra	Jan, 2014
10.	Pavan Kumar	Modelling and simulation of large scale streptokinase production using *E. coli* as a host	Department of Biotechnology IIT Roorkee, Roorkee, Uttarakhand	Feb, 2014
11.	Aakanksha Vatsal	Production, purification and characterization of dehalgenase from *Yarrowa liplytica*	Institute of Bioinformatics and Biotechnology, University of Pune, Pune, Maharashtra	Aug, 2014
12.	Priyanka R. Sharma	Functionalzed celluloses and their nanoparticles: Synthsis properties and applications	Academy of Council of Scientific and Industiral Research (ACSIR), NCL Pune, Maharashtra	Aug, 2014
13.	A. Shivananda	Phytochemical, Biological and Pharmalogical studies of some Medicial plant extracts	Department of Biotechnology Jawahar Lal Nehru Technological University Anantapur, AP	Sep, 2014
14.	R.E.M. Muhamed (MSc Thesis)	Biochemical and Molecular aspects of Cypermethrin pesticide on albino rats.	Department of Chemistry, Faculty of science Cairo University, Giza, Egypt	Nov, 2014
15.	S. Suneetha	Basic studies on marine microbial strain isolation and bioprocess development for the microbial production of L-glutaminase	Faculty of Biotechnology, Jawaharlal Nehru Technological University Hyderabad Kukatpally, Hyderabad	Dec, 2014
16.	EmanRefat El-Mahdy Herz (MSc Thesis)	A biochemical study on the relationship between some biochemical parameters and different gene Polymorphisms in breast cancer"	Department of Chemistry Faculty of Science , Cairo University Giza, Egypt	Apr, 2015
17.	Leya Thomas	Microbial Xylanases: Production, Molecular Cloning, characterization and application	Faculty of Applied Sciences and Technology, Kerala University	Jan, 2016
18.	Deepa C.K.	Isolation and characterization of Plant Growth promoting rhizobacteria (PGPR) to improve plant growth	Faculty of Applied Sciences and Technology, Kerala University	Jan, 2016
19.	Gururaj Shivange	Studies on *Escherichia Coli* AlkB mediated direct DNA Repair: Molecular characterization of RecA and AlkB interaction	Department of Biotechnology, IIT Hyderabad	Jan, 2016
20.	Piyush Verma	Improving drainage characteristics of pulps using commercial and isolated fungal enzymes	Department of Paper Technology, IIT Roorkee	June 2016

21.	Kiran Kumar Sindhu	DNA damage and repair: possible beneficial effects of rasayana therapy in aging rats	Faculty of Biotechnology, Jawaharlal Nehru Technological University Hyderabad Kukatpally, Hyderabad	June 2016
22.	Karthik Narayanan	Production, purification and characterization of chitinolytic enzymes from microbial cultures isolated from coastal environment samples	Faculty of Biological Sciences Academy of Scientific and Innovative Research (AcSIR), NIIST Thiruvananthapuram	Oct 2016
23.	Kunzes Dolma	Understanding Gelsolin(s) Mediated Gold and Silver Nanoparticle Synthesis	IMTECH Chandigarh, Jawahar Lal Nehru University, Delhi	Dec 2016
24.	Amandeep Monga	Production, purification and characterisation of hemicellulases from *Pencillium janthinellum*	Department of Microbiology, Guru Nank Dev University, Amrtisar, Punjab	Jan 2017
25.	Rajal Debnath	Bacterial community analysis and lipase screening from cold adapted Tawang region of Arunanchal Pradesh, India	Department of Biotechnology, Gauhati University, Guwahati, Assam	Feb 2017
26.	Priya Saini	Cloning and characterization of epoxide hydrolase from Steptomyces griseus for bioresolution of epxides	Department of Biochemistry, Panjab University, Chandigarh	April 2017
27.	Vijaya	Diversity of Bacterial Laccase like multi-copper oxidase in the activated sludge of pulp and paper industry and hot spring soils and its application in deinking of waste paper	Department of Microbiology, Panjab University, Chandigarh	May 2017
28.	Rishabh	Investigation of a cellobiose dehydrogenase from lignocellulose degrading Termitomyces sp. OE 147	Department of Biotechnology, Shri Mata Vaishno Devi University, Katra, Jammu	Sep 2017
29.	B. Goutham Kumar	Qualitative and quantitative characterization of biotechnologically important enzyme – Fungal cellulase	Jawaharlal Nehru Technological University Anantapur, Andhra Pradesh	Sep 2017
30.	N. Grihalakshmi Devi	Prospect of bioethanol production from the biowastes generated within the Imphal valley	Department of Biotechnology, Gauhati University, Guwahati, Assam	Nov 2017
31.	Ayman Salih Omer Idris	Fungal cellulase production and application	Faculty of Chemical Sciences, Academy of Scientific and Innovative Research (AcSIR), CSIR-NIIST, Trivandrum	Jan 2018
32.	Lashaihun Dohtdong	Functional characterization of an endosperm specific promoter P1028 from common Buck-wheat (*Fagopyrum Esculentum Moench*) for driving tissue specific gene expression.	Department of Botany, North Eastern Hill University (NEHU) Shillong, Meghalaya	Mar 2018
33.	Kamalpreet Kaur	Biotechnological strategies for conversion of lignocellulosics into ethanol and biodiesel	Department of Microbiology, Guru Nanak Dev University Amritsar	May 2018
34.	Sampurna Datta	Characterizing the role of Nitric oxide and reactive nitrogen species in cellular autophagy	Department of Biochemistry University of Calcutta	Sep 2018
35.	Thota Sai Praneeth	Hydrolysis of groundnut shell to sugars and biomass-derived carbon materials for renewable energy applications	Department of Chemistry, Sri Sathya Sai Institute of Higher Learning, Prasanthi Nilayam, AP.	Oct 2018
36.	Rohit Rai	Bioprospecting fungal strains for diverse and catalytically efficient lignocellulolytic glycosyl hydrolases and auxiliary enzymes	Department of Microbiology, Guru Nanak Dev University Amritsar	Sep 2018
37.	Amanjit Kaur	Persistence of Acinetobacter baumannii Against Antibiotics	Department of Microbiology, Panjab University, Chandigarh	Apr 2019
38.	Smt Shamila Sarwar	Studies on the antibacterial activity of ZnO nanoparticle and its effect on *Vibrio cholera* proteome	Biophysics, Molecular Biology and Bioinformatics, IICB Calcutta University, West Bengal	March 2019
39.	Prajakta V Naval	Studies on κ-carrageenases and membrane vesicles secreted by marine bacterium alteromonas macleodii	Department of Biotechnology, IIT Madaras	Aug 2019
40.	Mukul Sharma	Identification of new protein-coding open reading frames in Mycobacterium leprae and characterization of hypothetical protein ML0190	Department of Biotechnology, IIT Hyderabad	Oct 2019

41.	Saugata Roy	Production and properties of insdustrially important cellulose and xylanase isolated from Fungus.	Department of Biochemistry, University of Calcutta	Nov 2019
42.	Neeraj Chandra Pant	Cloning, characterization and contraceptive efficacy assessment of *Staphylococcus warneri* Sperm agglutination factor	Department of Microbiology, Faculty of Sciences, Panjab University, Chandigarh	Feb 2020
43.	Olusola Akintayo Ogunyewo	Engineering and functional characterization of key celluloytic enzymes of *Penicillium funiculosum* NCIM 1228.	International Center for Genetic engineering and Biotechnology (ICGEB), JNU, New Delhi	June 2020
44.	Ranjita Rai	Filamentous molds associated with some traditionally prepared starter cultures of north east India and their functionality	Department of Microbiology, Sikkim University, Gangtok, Sikkim	July 2020
45.	Anu Anupma	Filamentous Moulds Associated with Some Traditionally Prepared Starter Cultures of North East India	Department of Microbiology, Sikkim University, Gangtok, Sikkim	Aug 2020
46.	Lalit K. Gautam	Role of polyphosphate kinase in virulence and stress responses of *Acinetobater baumanni*	Department of Biotechnology, Panjab University, Chandigarh	Dec 2020
47.	Manisha Maity	Studies on microbial production of β-galactosidase for use in making low lactose dairy products and other value added food ingredients.	School of Community Science And Technology, Indian Institute of Engineering Science & Technology, Shibpur, Howrah, WB	Aug 2021
48.	Nikhil Bharadwaj N.	Synthesis of 3,4-dihydroxyphenylalanine and its derivatives in microbial system	Department of Chemical Engieering, IIT Bombay	Sep 2021
49.	Jai Kumar Gupta	Investigating the effect of bicarbonate transporters overexpression on growth and glycogen content in *Synechococcus* sp.PCC 7002	Jawaharlal Nehru University, New Delhi-110067	Sep 2021
50.	Sushil Kumar Rai	Development and characterization of nanobiocatalysts for the synthesis of rare sugra D-Tagatose	Deartment of Biotechnology, Panjab University, Chandigarh	Sep 2021
51.	Anica Dadwal	Production and applicability of thermostable recombinant cellobiohydrolase and β-glucosidase of *Myceliophthora thermophila* in the conversion of cellulosic residues to ethanol	Department of Applied Sciences & Humanities, Faculty of Technology University of Delhi	Feb 2022
52.	Nira Parshi	Preparation and study of insight view of sugar derived low molecular weight gels and their applications	Department of Chemistry, Indian Institute of Engineering Science and Technology, Shibpur	March 2022
53.	Payal Gaggar	Identification and Molecular Characterization of SNARE and NPSN genes in wheat (*Triticum aestivum* L.) and their Response to Leaf Rust Disease	Department of Bioengineering and Biotechnology, Birla Institute of Technology, Ranchi	March 2022
54.	Pranav Bhaskar	Identification, cloning, overexpression and characterization of putative Terpene Cyclase from *Stackerbrandtia nassauensis*	Department of Biochemistry, Panjab University.	April 2022

Student's Acheivements

Sl no	Name of student	Award/ Grant	Year/ Duration	Description
34.	Maibam P. Devi	Best Oral Presenation award	Jan 2022	Received best Oral presentation award for research work entitled "Optimization of saccharification for enhancing the production of monosaccharides for biorefineries approach using delignified rice-straw". Presented at the Research and Industrial Conclave 2022 (RIC 2022): An amalgamation of Academia, Industry & Start-up, Jan, 20–23, 2022, organized by Indian Institute of Technology Guwahati, Assam, India
33.	Parmeshwar V. Gavande	Best Oral Presenation award, 2nd Prize	Jan 2022	Received 2nd Prize of Best Oral Presentation Award for research work entitled "An efficient cellulase enriches the toolbox of biomass conversion and bioethanol production". at **Research and Industrial Conclave 2022 (RIC 2022)**: An amalgamation of Academia, Industry & Start-up, **January, 20–23, 2022,** Indian Institute of Technology Guwahati, Guwahati, Assam, India.
32.	Maibam P. Devi	Best Oral Presenation award	Dec 2021	Received best oral presentation award for research work entitled "Delignification of rice straw by deep eutectic solvent for enhancing saccharification of biofuel feedstock and extraction of lignin using RSM-CCD approach". Presented at the International Conference on Advances in Chemistry and Biology of Carbohydrates (CARBO XXXV) jointly organized by Forest Research Institute, Dehradun & Association of Cabohydrate Chemists and Technologists India (ACCTI), India, Dec 04 - 05, 2021, Dehradun, India.
31.	Kaustubh Chandrakant Khaire	Best poster Award	April 2021	Received best poster award for research work entitled Alkaline pretreatment and RSM based recombinant enzymatic saccharification of sugarcane tops for production of bioethanol. Presented at the International Conference on Biotechnology for Sustainable Agriculture, Environment and Health, jointly organized by Malaviya National Institute of Technology, Jaipur and the Biotech Research Society, India, April 04-08, 2021, Jaipur, India.

Student's Acheivements

Sl no	Name of student	Award/ Grant	Year/ Duration	Description
30.	Kedar Sharma	COVID-19 Grand Challenge	May 2020	Cash prize of Rs. 10,000.00 for his idea on "Repurposing of FDA approved drug for targeting NEDD8 activating enzyme (NAE) of ubiquitination pathways to combat SARS-CoV-2 infection" in COVID-19 Grand Challenge organized by Indian Institute of Technology Guwahati jointly with IIT Guwahati Research Park.
29.	Kedar Sharma	IUCr Young Scientist DST Travel award	2019	Received IUCr Young Scientist Award and AsCA and DST travel grants to attend 16th Conference of the Asian Crystallographic Association, 17-20 December 2019, NUS, Singapore.
28.	Kedar Sharma	Best Poster	2019	received best poster award for research work entitled "Isolation and characterization of glucuronoxylan from Babool as substitute of commercial xylan for xylanase activity evaluation". International Carbohydrate Conference on Emerging Frontiers in Carbohydrate Chemistry and Glycobiology, Dec. 5-7, 2019, University of Lucknow, UP, India.
27.	Kedar Sharma	Best Poster	2019	received best poster award for research work entitled Molecular organization and protein stability of the *Clostridium thermocellum* glucuronoxylan endo-β-1,4-xylanase of family 30 glycoside hydrolase in solution. Presented at Research Conclave, March 14-17, 2019, IIT Guwahati, Assam.
26.	Abhijeet Thakur	Best Poster	2019	received best poster award for research work entitled "Efficient saccharification of finger millet stalk by a new thermostable α-L-arabinofuranosidase (*Ps*GH43A) from *Pseudopedobacter saltans.*" Presented at Research Conclave, March 14-17, 2019, IIT Guwahati, Assam.
25.	Shweta Singh	Best Poster	Nov 2018	received best poster award for research work entitled "Ultraviolet irradiation of *Bacillus amyloliquefaciens* SS35 for producing hyperactive mutant strain for improved celluase activity" presented at International conference on Biotechnological Research and Innovation for Sustainable Development (BioSD-2018), in association with the Biotech Research Society, India (BRSI) and IBA-International Forum for Industrial Bioprocesses (IBA-IFIBiop), France held at Hyderabad. 22-25 Nov 2018, CSIR-IICT, Hyderabad, India.
24.	Rishikesh Shukla	Young Scientist Award, SBCI	Nov 2017	Received Young Scientist Award at 86th Annual Meeting of Society for Biological Chemists, India, Nov. 16-19, Jawaharlal Nehru University, New Delhi, India.
23.	Arun Dhillon	Best Poster Award	Nov 2017	*Rgl*-CBM35 of family 35 Carbohydrate Binding Module (CBM) from *Clostridium thermocellum* represents first CBM targeting rhamnogalacturonan I and mediating binding by two sites. 23rd INPEC (International Network of Protein Engineering Centers) Meeting Protein Structure, function and Engineering, 9-11 Nov 2017, Bose Institute, Kolkata.

Student's Acheivements

Sl No	Name of student	Award/ Grant	Year/ Duration	Description
22.	Krishan Kumar	Best Poster Award	Mar 2017	Research Conclave 2017, IIT Guwahati
21.	Rishikesh Shukla	Young Scientist Award, AMI	Nov 2016	Received Young Scientist Award by Association of Microbiologists of India (AMI) in 57th International Annual Conference of Association of Microbiologists of India (AMI), November 24-26, 2016, Gauhati University, Guwahati, Assam.
20.	Sumitha Banu J.	Best Poster Award, NABS	Aug 2016	Comparative study of pretreatment methods for agrowaste pearl millet (*Pennisetum glaucum*) stalk for bioethanol production. 9th NABS National Conference on New Biological Researches: Opportunities and challenges for sustainable development, Aug 11-12, 2016, School of Energy, Environment and Natural Resources, Madurai Kamaraj University, Madurai, India
19.	Kedar Sharma	Travel Grant, AsCA	Dec 2016	Early Career Research Travel Award by International Union for Crystallography and Asian Crystallography Association for attending 14th Asian Crystallography Association Conference (AsCA-2016), Hanoi, Vietnam.
18.	Shuchi Singh	Best Thesis Award, ACCTI	2016	Best Thesis Award by Association Carbohydrate Chemist and Technologist of India (ACCTI) for thesis entitled "Bioethanol production from *Parthenium hysterophorus* involving cellulase from *Bacillus amyloliquefaciens* SS35: Process development, optimization and intensification".
17.	Kedar Sharma	Travel Grant, DST	May-July 2016	Worked as exchange student at Faculty of Veterinary Medicine (FMV), University of Lisbon under Indo-Portugal Jopint Project.
16.	Shuchi Singh	Best Poster Award, ISEES	2015	Intensification of ethanol production from *Parthenium hysterophorus* by sonication: A mechanistic investigation. 7th ISEES International Workshop on Sustainable Energy, Environment & Safety with Railway Centric Theme, Dec 21-23, 2015, Ministry of Railways, RITES, Ministry of Railways, Lucknow, India
15.	Priyanka Nath	Best Poster Award, AMI	2015	Identification of promising functional residues capable of introducing endo-xylanase activity into an exo-acting arabinofuranosidase (*Ct*43Ara*f*) with enhanced activity: An *in silico* approach. 56th International Annual Conference of Association of Microbiologists of India (AMI), Dec 7-10, 2015, Jawaher Lal Nehru University, New Delhi.
14.	Rwivoo Baruah	Best Poster Award, BRSI	2015	Characterization of glucan from *Weissella cibaria* RBA12 as a potential food additive and hydrocolloid. Annual Conference of Biotech Research Society of India (BRSI), New Horizons in Biotechnology, Nov 22-25, 2015, Trivandrum, India.
13.	Aruna Rani	Travel Grant, DBT	May 2015	International travel grant (Department of Biotechnology, DBT) for attending 11th Carbohydrate Bioengineering meeting (CBM 11), Helsinki, Finland.

Student's Acheivements

12.	**Arun Dhillon**	**Travel Grant, DST**	**Oct-Nov 2015**	Worked as exchange student at Faculty of Veterinary Medicine (FMV), University of Lisbon under Indo- Portugal Joint Project.
11.	**Rwivoo Baruah**	**CIMO Fellowship, Finland**	**Sep 2014-Apr 2015**	Centre for International Mobility (CIMO) fellowship Finland. Research work done at VVT Technical Research Centre of Finland, Espoo Finland and University of Helsinki, Finland.
10.	**Ashutosh Gupta**	**Best Poster Award, ACCTI**	**Dec 2014**	Bioethanol production from Copra meal involving recombinant β-(1→4)-Mannanase from *Clostridium thermocellum.* 29th ACCTI Carbohydrate Conference (CARBO-XXIX) on ChemBio Innovations for Bioproducts, December 29-31, 2014, Center of Innovative and Applied Bioprocessing (A National Institute under DBT, Govt. of India, Mohali, Punjab, India.
9.	**Shuchi Singh**	**Best Poster Award**	**Nov 2014**	Ultrasound-enhanced bioethanol production from *Parthenium hysterophorus* (carrot grass) by simultaneous saccharification and fermentation. Indo-US Conference on Advanced Lignocellulosic Biofuels, November, 10-11, 2014, CSIR-Indian Institute of Chemical Technology, Hyderabad, India.
8.	**Sparativ P. Das**	**Travel Grant, DBT**	**Nov 2013**	CTEP (Conference, Travel, Exhibition and Popular Lectures) International travel grant (Department of Biotechnology,DBT) for France
7.	**Damini Kothari**	**Travel Grant, DST**	**Dec 2013**	International Travel Support (ITS) grant from Department of Science and Technology for attending 5th Congress of European Microbiologists FEMS 2013, Leipzig, Germany.
6.	**Shraddha Shukla**	**CIMO Fellowship, Finland**	**Jun 2013-Nov 2013**	Centre for International Mobility (CIMO) fellowship Finland. Research work done at VVT Technical Research Centre of Finland, Espoo Finland and University of Helsinki, Finland.
5.	**Shuchi Singh**	**Best Poster Award, BRSI**	**Nov 2012**	Stability and specificity studies of cellulase produced from a facultative thermophilic and acidophilic *Bacillus amyloliquefaciens* SS35. International Conference on Industrial Biotechnology, BRSI, Nov. 21-23, 2012, Punjabi University, Patiala, India.
4.	**Shraddha Shukla**	**Travel Grant, DBT**	**Oct 2012**	CTEP (Conference, Travel, Exhibition and Popular Lectures) International travel grant (Department of Biotechnology,DBT) for attending 11th Carbohydrate Bioengineering meeting (CBM 11) held at Helsinki, Finland
3.	**Shadab Ahmed**	**Travel Grant, DST**	**Dec 2009**	International Travel Support (ITS) grant from Department of Science and Technology for attending 3rd International Conference on Environmental, Industrial and Applied Microbiology (BioMicroWorld 2009), Dec 2-4, 2009 University of Lisbon, Lisbon, Portugal.
2.	**Ravi Kiran Purama**	**Young Scientist Award, AMI**	**Dec 2009**	Received Young Scientist Award by Association of Microbiologists of India (AMI) in 50th International Annual Conference of Association of Microbiologists of India (AMI), Dec, 2009, NCL Pune.
1.	**Avishek Majumder**	**Post Doctoral Fellowship**	**Sep 2008**	Hans Christian Ørsted Fellowship, Technical University Denmark

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- ***Each soul is God passing through imagination in order to realize its own Divinity.***
- ***To get nearer to God one has to further away from, "I, my, me and mine"***
- ***Start learning to love God by loving those whom you cannot love.***
- ***To love God in the most practical way is to love our fellow beings.***
- ***Love is dynamic in action and contagious in effect.***
- ***Real happiness lies in making others Happy.***
- ***The heart holds the key to the mystry of life.***
- ***I have come not to teach but to Awaken.***
- ***Don't worry be Happy.***
- ***Mastery in Servitude.***

-: Avtar Meher Baba, Author of "God Speaks" and "Infinite Intelligence"