

Detailed Publications of Prof Bolin Kumar Konwar

Total Publications

Books 4, Booklets 3, Book chapters 17, Research publications/presentations 282 = **306**

Books: 04

01. B K Konwar (2001). Deshapremi Pariyal: Barbaruah Barphukan (History: Assamese), Banalata, Dibrugarh.
02. Prof B K Konwar (2013). Medicinal Plant Repertoire: A Perspective of Biogeographical Gateway of India. Labanya Prakashan, Amingaon, Guwahati-781032, Assam, ISBN No. 978-81759-6902-5.
03. Dr Bolin Kumar Konwar (2015). Prospects of Microbe and medicinal plant resources (Ed), Educationist Press, a Divn of Write and Print Pub, New Delhi-110015, ISBN No. 978-93-84649-23-4.
04. Prof B K Konwar and Dr. Kalpana Sagar (2017). Lipase: an Industrial Enzyme through Metagenomics, Apple Academic Press, Inc., New Jersey, USA and Ontario, Canada.

Book Chapters: 17

01. Mayur M Phukan and B K Konwar (2012). Microalgae Chlorella and Scenedesmus as a potential bioenergy source. In: Renewable energy and sustainable development (Eds: R Katakai and A C Borah), EBH Pub. (India), pp 3 – 12, ISBN No. 978-93-80261-78-2.
02. B. K. Konwar (2013). Wetland: Potential and Prospects. In: Frontiers of Wetlands Fishers and Aqueous Research (Eds. Devashish Kar and Anjam Hussain Barbhuiya), Manglam Publications, New Delhi, pp 33-50, ISBN No. 978-93-81142-99-8.
03. Mayur M Phukan and B K Konwar (2014). Isolation and characterization of fresh water microalgae Scenedesmus from contaminated field samples for bioenergy generation. In: Recent Advances in Bioenergy Vol. III (Eds. Sachin Kumar, A K Sarma, S K Tyagi and Y K Yadav), Published as a book chapter by National Institute of Renewable Energy, ISBN No. 978-81-927097-2-7.
04. **B. K. Konwar** (2015). Morphological, nutraceutical, biochemical and genomic characters of some important medicinal plants of North East India. Prospects of Microbe and medicinal plant resources, Bolin Kumar Konwar (Ed), Educationist Press, Divn. of Write and Print Pub, New Delhi-110015, **ISBN No. 978-93-84649-23-4**, pp 1-9.
05. D. Chowdhury, S. Maibongsa and **B. K. Konwar** (2015). Biodiversity: global scenario and Indian perspective for conservation. Prospects of Microbe and medicinal plant resources, Bolin Kumar Konwar (Ed), Educationist Press, Divn. of Write and Print Pub, New Delhi-110015, **ISBN No. 978-93-84649-23-4**, pp 16-25.
06. R. Kandali, R. K. Goswami and **B. K. Konwar** (2015). Medicinal plant diversity conservation in North East India: An overview. Prospects of Microbe and medicinal plant resources, Bolin Kumar Konwar (Ed), Educationist Press, Divn. of Write and Print Pub, New Delhi-110015, **ISBN No. 978-93-84649-23-4**, pp 35-42.
07. R. Kandali and **B. K. Konwar** (2015). Nutraceutical potentiality of fruits of Spondias pinnata Kurz.: An important medicinal plant of Assam. Prospects of Microbe and medicinal plant resources, Bolin Kumar Konwar (Ed), Educationist Press, Divn. of Write and Print Pub, New Delhi-110015, **ISBN No. 978-93-84649-23-4**, pp 92-94.
08. **B. K. Konwar**, D. Chowdhury and D. Gogoi (2015). Chemical composition of the aromatic essential oil from Karphul [Etlingers linguiformis (Roxb.) Smith] rhizome and its antimicrobial property. Prospects of Microbe and medicinal plant resources, Bolin Kumar

Konwar (Ed), Educationist Press, Divn. of Write and Print Pub, New Delhi-110015, **ISBN No. 978-93-84649-23-4**, pp 95-107.

09. P Bharali, A Ray, B K Konwar (2015). Ethnobotanical based Phyto-medicines for different hair ailments used in North-Eastern Region of India. Biotic: A collection of Research articles on Biodiversity and Sustainability, ISBN no. 978-93-83230-06-8.
10. A. Roy and B. K. Konwar (2015). Antioxidant activity in traditionally prescribed medicinal plants for hair growth. Prospects of Microbe and medicinal plant resources, Bolin Kumar Konwar (Ed), Educationist Press, Divn. of Write and Print Pub, New Delhi-110015, ISBN No. 978-93-84649-23-4, pp 108-116.
11. B. K. Konwar (2015). Bio-resources for economic growth of North East India: An appraisal. Prospects of Microbe and medicinal plant resources, Bolin Kumar Konwar (Ed), Educationist Press, Divn. of Write and Print Pub, New Delhi-110015, ISBN No. 978-93-84649-23-4, pp 175-187.
12. K. Gogoi and B. K. Konwar (2015). Polyphenol estimation and in vitro assessment of antioxidant activity of aqueous and alcoholic extracts of *Musa balbisiana* pseudostem. Prospects of Microbe and medicinal plant resources, Bolin Kumar Konwar (Ed), Educationist Press, Divn. of Write and Print Pub, New Delhi-110015, ISBN No. 978-93-84649-23-4, pp 117-126.
13. K. Sagar and B. K. Konwar (2015). Metagenomics for industrially important enzymes. Prospects of Microbe and medicinal plant resources, Bolin Kumar Konwar (Ed), Educationist Press, Divn. of Write and Print Pub, New Delhi-110015, ISBN No. 978-93-84649-23-4, pp 158-168.
14. B. K. Konwar (2015). Prospects of value addition to bioresources through biotechnology. Prospects of Microbe and medicinal plant resources, Bolin Kumar Konwar (Ed), Educationist Press, Divn. of Write and Print Pub, New Delhi-110015, ISBN No. 978-93-84649-23-4, pp 188-201.
15. B. K. Konwar and M. M. Phukan (2015). Biotechnological intervention and value addition to Biomass management. Prospects of Microbe and medicinal plant resources, Bolin Kumar Konwar (Ed), Educationist Press, Divn. of Write and Print Pub, New Delhi-110015, ISBN No. 978-93-84649-23-4, pp 202-210.
16. B. K. Konwar and J. Buragohain (2015). The microbial antimicrobial compound 2-methylheptyl isonicotinate from *Zanthoxylum oxyphyllum* Edgew.: A traditional medicinal plant of Assam. Prospects of Microbe and medicinal plant resources, Bolin Kumar Konwar (Ed), Educationist Press, Divn. of Write and Print Pub, New Delhi-110015, ISBN No. 978-93-84649-23-4, pp 211-219.
17. B. K. Konwar (2015). Biodiversity and intellectual property right for the best of mankind! Prospects of Microbe and medicinal plant resources, Bolin Kumar Konwar (Ed), Educationist Press, Divn. of Write and Print Pub, New Delhi-110015, ISBN No. 978-93-84649-23-4, pp 220-231.

Articles on Science topics: English 32 Assamese 70 Booklets 03

Popular articles (Assamese): 62, Project reports: 20, Scientific reports: 12

Topics of popular articles

- (i) Science and scientific thinking to popularize science education
- (ii) Great leaders and achievers of Assam History
- (iii) River water of Assam as economic enterprise and resource for the Country
- (iv) Cost of sustaining democracy and financial loss due to log jams in the Parliament
- (v) Agriculture, biotechnology and environment

List of Total Research Publications/Presentations– 280 (A: 134 + B: 10 + C: 62+ D: 74)

A) Publications in National/International journals (Cit index 133 on 27.06.18, T 1695 Av. >13)

01. Stability analysis of yield and its components in soybean. Konwar, B K and Talukdar, P (1986). Crop Improvement 13 (1): 172-175, ISSN.1054-2116.
02. Environmental sensitiveness of genetic association of yield and yield attributing characters in soybean (*Glycine max* L. Merrill.). Konwar, B. K. and Talukdar, P. (1987). J. Res. 5 (2): 9-14, ISSN 0743-0167 HI 66921.
03. Genetic variability in pigeon pea. Konwar, B K and Hazarika, M H (1988). Crop Improvement 15 (1): 100-104, ISSN: 0256-0933.
04. Environmental impact on different characteristics of soybean (*Glycine max* L Merrill.). Konwar, B K and Talukdar, P. (1988). Soybean Genetics Newsletter, Iowa State University, USA12: 28-32, ISSN. 1054-2116.
05. Pattern of genetic variability in soybean. Konwar, B K (1991) J Res 11 (1): 20-25, AAU, ISSN 0743-0167.
06. Isolation and culture of leaf mesophyll protoplasts of sugar beet. Konwar, B K. (1993). Crop Improvement 20 (1):69-77, ISSN: 0256-0933.
07. Plant regeneration in three genotypes of sugar beet. Konwar, B. K. (1993). Crop Improvement, 20 (1): 88-97, ISSN: 0256-0933.
08. Agrobacterium tumefaciens-mediated genetic transformation of sugar beet (*Beta vulgaris* L.), Konwar, B K (1994). Plant Biochem. & Biotech. 3: 37-41, ISSN: 0971-7811, IF 1.352.
09. Environmental influence on the estimates of genetic parameters in soybean. Konwar, B K and Talukdar, P (1994). J Res 5 (2): 135-142, ISSN 0743-0167.
10. Phenotypic stability of soybean genotypes for field germination. Talukdar, P and Konwar, B K (1994). Soybean Genetics Newsletter, Iowa State University, USA 11: 38-41, ISSN. 1054-2116.
11. Genetic engineering in tea: I. molecular genetic markers. Bera, B, Konwar, B K and Singh, I D (1995). Two and a Bud, 42(1): 2-6, ISSN. 0496-6201.
12. Genetic engineering in tea: II. gene transfer. Konwar, B. K. (1995). Two and a Bud, 42(2):13-20, ISSN. 0496-6201.
13. Japonica x indica rice hybrids through embryo rescue technique. Sarma, D, Konwar, B K and Deka, P. C. (1996). Rice Biotechnology Quaterly Vol. 25, RBQ 9, ISSN 0014-2336.
14. Patenting and its application for the legal protection of crop plants including tea. Konwar, B. K. (1998). Two and a Bud 45 (1): 5-7, ISSN. 0496-6201.
15. Hairy root development in tea through Agrobacterium rhizogenes-mediated genetic transformation. Konwar, B. K., Das, S. C., Bordoloi, B. J. and Dutta, R. K. (1998). Two and a Bud 45 (2): 21-22, ISSN. 0496-6201.

16. Female fertility in clones KP 6/25 and Mornoi 30, Ahmed, N and Konwar, B K (1999). *Two and a Bud* 46 (2): 37-39, ISSN. 0496-6201.
17. Rooting of in vitro shoots and field establishment of tissue culture-derived tea plants in the field. Konwar, B K, Bordoloi, B J, Dutta, R K and Das, S C (1999). *Two and a Bud* 46 (2): 26-32, ISSN. 0496-6201.
18. Biodiversity of tea in North East India and their conservation at Tocklai. Konwar, B K (2001). *Two and a Bud* 46 (2): 7-12, ISSN. 0496-6201.
19. Transient expression of B-glucuronidase activity in electroporated sugar beet protoplasts. Konwar, B K (2001). *JASS* 10(1):14-18, ISSN 0743-0167.
20. Biodiversity and molecular characterization of tea genetic resources using DNA markers. Bera, B; Konwar, B K, Saikia, H. and Mazumder, S. C. (2005). *Two and a Bud* 49: 30–37. ISSN 0496-6201.
21. Morphophenology and karyotype study of Patidoi (*Schumannianthus dichotomus* (Roxb.) Gagnep. synonym *Clinogyne dichotoma* Salisb.) – a traditional plant of Assam. Dhiren Chowdhuri and Bolin K Konwar (2006). *Curr. Sci*, Vol. 91 (5): 648, ISSN 0011-3891, IF 0.46.
22. A new less expensive method for genome size determination of plants. B K Konwar, D Chowdhury, J Buragohain & R Kandali (2007). *Asian J. Plant Sci.* 6 (3): 565 – 567, ISSN 0971-5444.
23. Ethnomedicinal plants used in skin diseases by some Indo-Mongoloid communities of Assam. Jitu Buragohain and B K Konwar (2007). *Asian J Expt Sci* 21 (2): 283- 290, ISSN 2249-7412.
24. An efficient and reliable method of DNA extraction from *Meyna spinosa*: a traditional medicinal plant from North East India. Jitu Buragohain and B K Konwar (2008). *J of Plant Biochem and Biotech* 17 (1): 103-105, ISSN 0971-7811, IF 1.352.
25. Microbial surfactant-enhanced mineral oil recovery under laboratory conditions. Bordoloi, N K and Konwar, B K (2008). *Colloids and Surfaces B: Biointerfaces* 63: 73 – 82, ISSN 0927-7765, IF 3.09.
26. Genome size determination of *Zanthoxylum oxyphyllum* and *Meyna spinosa* by flow cytometry: A preliminary study. Jitu Buragohain and B K Konwar (2008). *J Cell Tissue Research* 8(1): 1249-1252, ISSN 1432-0878, IF 4.07.
27. Bacterial biosurfactant in enhancing solubility of petroleum hydrocarbons. B K Konwar and N K Bordoloi (2008). *J Petrotech Society* V: 45-52.
28. Bacterial biosurfactant in enhancing solubility and metabolism of petroleum hydrocarbons. N. K. Bordoloi and B K Konwar (2009). *J Hazardous Materials* 170: 495-505, ISSN 0304-3894, IF 4.8.
29. Investigation of antioxidant property of iron oxide particles by 1'-1' diphenylpicryl-hydrazyle (DPPH) method. S Paul, J P Saikia, S K Samdarshi and B K Konwar (2009). *Journal of Magnetism and Magnetic Materials*, 321 (21): 3621-3623, ISSN0304-8853, IF 2.3.
30. Biocompatible epoxy modified bio-based polyurethane nanocomposites: mechanical property, cytotoxicity and biodegradation. S Dutta, N Karak, J P Saikia and B K Konwar (2009). *Bioresource Technology*, 100 (24): 6391-6397, ISSN 0960-8524, IF 5.744.

31. Antioxidant activity and haemolysis prevention efficiency of polyaniline nanofibers. Somik Banerjee, Jyoti P Saikia, A Kumar, B K Konwar (2010). *Nanotechnology* 21 (4): 045101 (8pp), ISSN 0957-4484, IF 5.20.
32. Antibacterial property of medicinal plants used in Assamese traditional medicine for the treatment of dysentery and diarrhea. Luna Barooah and B. K. Konwar (2010), *Journal of Eco-friendly Agriculture* 5 (1):40-42:2010, ISSN 1999-7957.
33. Swift heavy ion irradiation induced enhancement in the antioxidant activity and biocompatibility of polyaniline nanofibers. A Kumar, Somik Banerjee, Jyoti P saikia and B K Konwar (2010), *Nanotechnology* 21 (17): 175102 (8pp, cited by Nature India), ISSN 0957-4484, IF 5.20.
34. Nickel oxide nanoparticles: A novel antioxidant. Jyoti Prasad Saikia, Samrat Paul, Bolin Kumar Konwar, Sanjoy Kumar Samdarshi (2010), *Colloids and Surfaces B: Biointerfaces* 78: 146 -148, ISSN 0927-7765, IF 3.21.
35. Biodegradation of Epoxy/ MF Modified Polyurethane Films Derived from a Sustainable Resource. Suvangshu Dutta, Niranjan Karak, Jyoti Prasad Saikia and Bolin Kumar Konwar (2010), *J of Polymer and the Environment*, 18 (3): 167-176 (Springer Netherlands), ISSN 1566-2543, IF 1.9.
36. Ultrasonication: enhances the antioxidant activity of metal oxide nanoparticles. Jyoti Prasad Saikia, Samrat Paul, Bolin K Konwar and Sanjoy K Samdarshi (2010). *Colloids and Surfaces B: Biointerfaces* 79: 521-523 (Elsevier), ISSN 0927-7765, IF 3.21.
37. Nickel oxide nanoparticles: A novel antioxidant. Jyoti Prasad Saikia, Samrat Paul, Bolin K Konwar and Sanjoy K Samdarshi (2010). *Colloids and Surfaces B: Biointerfaces* 78: 146–148 (Elsevier), ISSN 0927-7765, IF 3.21.
38. Biocompatible novel starch/polyaniline composites: characterization, anti-cytotoxicity and antioxidant activity. Jyoti Prasad Saikia, Somik Banerjee, Bolin Kumar Konwar, Ashok Kumar. *Colloids and Surfaces B: Biointerfaces* 81 (2010): 158 – 64, ISSN 0927-7765, IF 3.21.
39. Biochemical composition and bioactivity of four edible aroids. J. P. Saikia and B. K. Konwar (2010). *Journal of Root Crops* 01/2010, ISSN 2454-9053.
40. ‘Poly (ethyl glycol)- magnetic nanoparticles - curcumin’ trio: directed morphogenesis and synergistic free radical scavenging. R Konwar, J P Saikia, N Karak, B K Konwar (2010). *Colloids and surfaces B: Biointerface* 81 (2): 578-586, ISSN 0927-7765, IF 3.21.
41. Determination of Genome Size of Bhim Kol (*Musa balbisiana*). M Zaman, B K Konwar (2010). *Research Journal of Biotechnology* Vol 5: 2, ISSN 0973-6263, IF 0.11
42. Genome size determination and RAPD analysis of four edible aroids of North East India. Jyoti Prasad Saikia and Bolin Kumar Konwar (2010). *IIOAB Journal* 1 (3): 25-30, ISSN 0976-3104, IF 0.55.
43. Physico-chemical analysis of an edible *Colocasia esculenta* var. ghee kachu starch. Jyoti Prasad Saikia and Bolin Kumar Konwar (2010). *Journal of Root Crops*, index-95391, ISSN 2454-9053.
44. Physicochemical analysis of *Colocasia esculenta* starch. J P Saikia, B K Konwar and Ashok Kumar (2011), *Journal of Root Crops*, Vol 37 (1): 77 – 85, ISSN 2454-9053.
45. Synthesis of silver – polystyrene nanocomposite particles using water in supercritical carbon dioxide medium and its antimicrobial activity. I R Kamrupi, P Phukon, B K Konwar and S K Dolui (2011). *The Journal of Supercritical Fluids* 55 (3): 1089-1094, ISSN 0896-8446, IF 3.138.

46. Microalgae *Chlorella* as a potential bioenergy feed stock. M M Phukon, R S Chutia, B K Konwar and R Kataki (2011). *Applied Energy* 88 (10): 3307 – 3312, ISSN 0306-2619, IF 4.783 [Elsevier, cited 150 times as per Google scholar].
47. Crude biosurfactant from thermophilic *Alcaligenes faecalis*: Feasibility in petro-spill bioremediation. P Bharali, S Das, B K Konwar and A J Thakur (2011). *Int J Biodeterioration & Biodegradation* 65 (5): 682-69, ISSN 0964-8305, IF 2.074.
48. Bio-plastic (P-3HB-co-3HV) from *Bacillus circulans* (MTCC 8167) and its biodegradation. Pinkee Phukan, J.P. Saikia and B.K. Konwar (2011). *Colloids and Surfaces B: Biointerfaces* 92: 30-34, ISSN 0927-7765, IF: 3.456.
49. Enhancing the stability of colloidal silver nanoparticles using polyhydroxyalkanoates (PHA) from *Bacillus circulans* (MTCC 8167) isolated from crude oil contaminated soil. Pinkee Phukan, J. P.Saikia and B. K. Konwar (2011). *Colloids and Surfaces B: Biointerfaces* 86:314-318, ISSN 0927-7765, IF: 3.456.
50. Isolation and characterization of active compound from fruits of medicinal plant *Spondias pinnata* Kurz. R. Kandali and B K Konwar (2011). *Indian Journal of Agril. Biochem* 24(1): 29-33, ISSN 0970-6399. IF 0.14.
51. Production and Physico-chemical characterization of a biosurfactant produced by *Pseudomonas aeruginosa* OBP1 isolated from petroleum sludge. Pranjal Bharali and Bolin K Konwar (2011). *Appl Biochem Biotechnol*, 164 (8):1444–1460, ISSN 0273-2289, IF 2.09.
52. Physicochemical properties of starch from aroids of north east India. Jyoti Prasad Saikia, B K Konwar (2012), *Int J Food Properties*, 15: 1247 – 1261, ISSN 1094-2912, IF 0.877.
53. *In silico* structure assessment analysis of core domain of six protein data bank entries of HIV - 1 Integrase. Salam Pradeep Singh and B K Konwar (2012). *J Computational Biology and Bioinformatics Research* 4 (1): 01-07, ISSN 0219-7200, IF 1.31.
54. Molecular docking studies on analogues of quercetin with D-alanine: D-alanine ligase of *Helicobacter pylori*. Salam Pradeep Singh, Rocktotpal Konwar, Bolin Kumar Konwar and Niranjana Karak (2012). *Medicinal Chemistry Research* 22 (5): DOI 10.1007/s00044-012-0207-7, ISSN 1054-2523, IF 1.436.
55. Synthesis, characterization and properties of a castor oil modified biodegradable poly(esteramide) resin. Sujata Pramanika, Kalpana Sagar, Bolin Kumar Konwar, Niranjana Karak (2012). *Progress in Organic Coatings* 75 (4): 569-578, ISSN 0300-9440, IF 1.848.
56. Biosynthesis and characterization of a new copolymer, poly (3-hydroxyvalerate-co-5-hydroxydecanoate), from *Pseudomonas aeruginosa*. Pinkee Phukan, Binod Pokhrel, B K Konwar and S. K. Dolui (2012). *Biotechnol Lett.* DOI 10.1007/s10529-012-1119-9, ISSN 0976-7053, IF1.853.
57. Molecular docking studies of quercetin and its analogues against human inducible nitric oxide synthase. Salam Pradeep Singh and Bolin Kumar Konwar (2012). *SpringerPlus* 1: 69 10.1186/2193-1801-1-69, ISSN 2193-1801, IF 0.98.
58. Computational Insights in to the Competitive Inhibition of Acetyl Coenzyme A and Succinyl Coenzyme A of the First Step of Citric Acid Cycle. SP Singh, BK Konwar (2012). *Bioenergetics* 2 (109): 2, ISSN 2167-7662, IF 1.33.
59. Possible protection of silver nanoparticles against salt by using rhamnolipid. Jyoti Prasad Saikia, Pranjal Bharali, Bolin Kumar Konwar (2013). *Colloids and surfaces B: Biointerfaces* 104: 330-332, ISSN 0927-7765, IF: 4.287.
60. Colloidal silver nanoparticles/rhamnolipid (SNPRL) composite as novel chemotactic antibacterial agent P Bharali, JP Saikia, S Paul, B K Konwar (2013). *Int. J. Biol. Macromolecules* 61: 238-242 (Elsevier), ISSN 0141-8130, IF 3.096.

61. Silver-embedded modified hyperbranched epoxy/clay nanocomposites as antibacterial materials. Buddhadeb Roy, Pranjal Bharali, B K Konwar and Niranjana Karak (2013). *Bioresource Technology* 127C: 175–180, ISSN 0960-8524, IF 4.32.
62. Modified Hyperbranched Epoxy/Clay Nanocomposites: Anti-fungal, Thermal and Biodegradation Study. Buddhadeb Roy, Pranjal Bharali, B K Konwar and Niranjana Karak (2013). *Colloids and Surfaces B: Biointerfaces* 102: 450-456, ISSN 0927-7765, IF: 4.287.
63. Mode of antibacterial activity of eclalbasaponin isolated from *Eclipta alba*. A Ray, P Bharali & B K Konwar (2013). *Appl. Biochem. & Biotech.* 171 (8): 2003-2019 (Springer), ISSN 0273-2289, IF 2.10.
64. Assessment of five soil DNA extraction methods and a rapid laboratory-developed method for quality soil DNA extraction for 16S rDNA-based amplification and library construction. Sagar, K., S.P. Singh, K.K. Goutam and B K Konwar (2013). *J. Microb. Methods*, 10.1016/j.mimet.2013.11.008, ISSN 0167-7012, IF 1.23.
65. Carbon Nanotube Assisted Drug Delivery of the Anti-Malarial Drug Artemisinin and Its Derivatives - A Theoretical Nanotechnology Approach. S P Singh, B K Konwar (2013) *Journal of Bionanoscience* 7: 1-7, ISSN 1557-7910, IF 1.19.
66. Strong and conductive reduced graphene oxide/ polyester resin composite films with improved mechanical strength, thermal stability and its antibacterial activity. C. Bora, P Bharali, S Baglari, SK Dolui, BK Konwar (2013). *Composites Science and Technology* 87: 1-7 (Elsevier), ISSN 30266-3538, IF 4.34.
67. Organic Reactions in “Green Surfactant”: An Avenue to Bisuracil Derivative. S Das, S J Kalita, P Bharali, BK Konwar, B Das & AJ Thakur (2013). *ACS Sustainable Chem. & Engg.* 1 (12):1530-1536 (American Chemical Society), ISSN 2168-0485, IF 4.642.
68. Production and statistical optimization of biodiesel from kitchen chimney dump lard Mayur Mausom Phukan, Salam Pradeep Singh, Pinki Phukon, Tapanjit Borah, Bolin Kumar Konwar, Nipum Dutta (2013). *Sustainable Chemical Processes* 1 (1): 12-20. [Chemistry Central (BMC)], ISSN 2043-7129.
69. Homology modelling and molecular docking studies of nitric oxide synthase (inducible) of *Gallus gallus*. S. P Singh, B. Gogoi, B K Konwar and A. Ramteke (2013). *J. Pharmacy Res.*, 7: 443-447, ISSN 0974-6943, IF 0.22.
70. Bio-degradable vegetable oil based hyperbranched poly (ester amide) as an advanced surface coating material. S Pramanik, R Konwarh, K Sagar, B K Konwar, N Karak (2013). *Progress in Organic Coatings* 76 (4), 689-697, ISSN0300-9440, IF 2.577.
71. Biosynthesis and characterization of a new copolymer, poly (3-hydroxyvalerate-co-5-hydroxydecanoate) from *Pseudomonas aeruginosa*. P Phukon, B Pokhrel, BK Konwar, SK Dolui (2013). *Biotechnology letters*, 35 (\$):607-611, ISSN 0141-5492, IF 1.736 .
72. Synergistic effect of nano TiO₂ and nanoclay on mechanical, flame retardancy, UV stability, and antibacterial properties of wood polymer composites. R R Devi, K Gogoi, B K Konwar, TK Maji (2013). *Polymer Bulletin*, Vol 70: 1397. doi:10.1007/s00289-013-0928-x, ISSN 0170-0839, IF 1.491.
73. Molecular Docking, DFT and ADME-Toxicity Studies on Analogues of Epigallocatechin Gallate as SARS Coronavirus 3CL Protease Inhibitors. SP Singh, B K Konwar (2013). *J Bioinf Inte Control* 2 (1), 1-10, ISSN 2326-7496.
74. *In silico* Proteomics and Genomics Studies on ThyX of Mycobacterium Tuberculosis. SP Singh, BK Konwar. (2013). *J Bioinformatics and Intelligent Control* 2 (1), 11-18, ISSN 2326-7496.
75. Study on the Effect of pH, Temperature and Aeration on the Cellular Growth and Xanthan Production by *Xanthomonas campestris* Using Waste Residual Molasses. P Mudoi, P Bharali, B K Konwar (2013). *J Bioprocess Biotech* 3 (135): 2-9 (OMICS), ISSN 2155-9821.

76. Molecular docking and *in silico* studies on analogues of 2-methylheptyl isonicotinate with DHDPS enzyme of *Mycobacterium tuberculosis*. S. P. Singh, B. K Konwar, R. L. Bezbaruah and T.C. Bora (2013). *Med. Chem. Res.*, 22: 4755-4765, ISSN 1054-2523, IF 1.27.
77. Strategy in metagenomic DNA isolation and computational studies of humic acid. S. P. Singh, K. Sagar and B K Konwar (2013). *Curr. Res. Microbiol. Biotechnol.* 1: 9-11, ISSN 2320-2246.
78. Optimization of nutrient requirements and culture conditions for the production of rhamnolipid from *Pseudomonas aeruginosa* (MTCC 7815) using *Mesua ferrea* seed oil. Singh, S.P., P. Bharali and B.K. Konwar (2013). *Indian J. Microbiol.*, 53: 467-476 (Elsevier), ISSN 0046-8991, IF 1.143.
79. Molecular docking studies on analogues of quercetin with D-alanine: D-alanine ligase of *Helicobacter pylori*. Singh, S.P., R. Konwarh, B K Konwar and N. Karak (2013). *Med. Chem. Res.*, 22: 2139-2150, ISSN 1054-2623, IF 1.402.
80. Isolation and immobilization of Aroid polyphenol on magnetic nano-particles : Enhancement of potency on surface immobilization. JP Saikia, R Konwarh, B K Konwar, N Karak (2013). *Colloids and Surfaces B: Biointerfaces* 102, 450-456, ISSN 0927-7765, IF: 4.287.
81. Immobilizing silver nanoparticles (SNP) on *Musa balbisiana* cellulose. Krishna Gogoi, Jyoti Prasad Saikia and Bolin Kumar Konwar (2013). *Colloids and Surfaces B: Biointerfaces* 102: 136-138, ISSN 0927-7765, IF: 4.287.
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29. Microalga *Chlorella* and *Scenedesmus* as a potential bioenergy source. M. M. Phukan and B. K. Konwar (2010), Proce. National Conf on Renewable energy for Development of Underdeveloped Areas with Special Reference to North East India, 23rd – 25th March.
30. Bioresources as economic growth of North East India: An appraisal. (Guest Talk) B. K. Konwar (2011). Proce. National Seminar on “Biochemical and Biotechnological Research Approaches for Bioresource Management of North East India towards Sustainable Rural Development (DBT Sponsored)”, 11 – 12th November, 2011: XVI – XX, Biswanath College of Agriculture, Biswanath Chariali, Sonitpur, Assam.
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33. Naga Society, Culture and Development. (Guest Talk) B. K. Konwar (2012). National Seminar on “Society, Culture and Development: Emerging Issues in Nagaland”, Kohima Science College, Kohima and Asiatic Society, Kolkata, 14 – 15th March.
34. Wetland: Potential and Prospects, B. K. Konwar (2012). Proce. National Seminar on ‘Wet lands’, Assam University, Silchar 10-13th November.
35. Quality Higher Education in India, B. K. Konwar (2012). NAAC-sponsored State Level Workshop on “Higher Education in India”, Garhgaon College, Nazira, Sibsagar, Assam, 24th – 25th November.
36. Agriculture and allied education for economic growth, (Chief Guest Talk) B K Konwar (2013). Seminar Education (Agriculture) Day, 3rd Sept, NRC-Pig, Rani, Assam.
37. Quality improvement of research and teaching in North Eastern States, Presentation by B K Konwar (2013). Seminar 27th Oct., NEHU, Shillong.
38. Education and sustainable development. (Chief Guest Talk) B K Konwar (2013). Nagaland University Foundation Day Talk , B K Konwar (2013). 6th September, Lumami, Zunheboto, Nagaland.
39. Quality Education. (Chief Guest Talk) B K Konwar (2013). Convocation (2nd), Sept, Patkai Christian College (Autonomous), Chumukdema, Nagaland.
40. Agriculture related common issues of the North Eastern region. B K Konwar (2015). ICAR Regional Committee Meeting, May 22-23, Agartala, Tripura.
41. Capacity building of human resources of the North Eastern states. B K Konwar (2014). Workshop organised by VV Giri National Labour Institute, New Delhi, 30th July.
42. Bioinformatics and research needs, Inaugural talk presentation by the Chief Guest B. K. Konwar (2014). 7th NEBI-NET (DBT, S&T, GoI, New Delhi), 11th Nov., Lumami, Nagaland.
43. Research in Nanobiotechnology in North East India. (Chief Guest Talk) B K Konwar (2014). Workshop on Biotechniques, DBT-AAU Biotechnology Centre, Assam Agril University, Jorhat, Sept., 2014.
44. Biotechnology research in North East India. (Invited talk), B K Konwar (2014). National Seminar, Dept of Mol Biol & Biotech, Tezpur University, Napaam, Tezpur, Assam.
45. Promotion and improvement of higher education in North Eastern States of India. (Chief Guest Talk) B. K Konwar (2015). 2nd North East Teachers Congress-2014, National Seminar on “Changing Scenario in Academic Performance & Audit”, organised by University of Science and Technology, Baridua, Meghalay, 4th January.
46. Harnessing biotechnological approaches for enhancing horticultural crop production. (Chief Guest Talk) B. K. Konwar (2015). Souvenir, National Seminar on “Sustainable Horticulture vis-à-vis Changing Environment”, Feb. 26 – 28, Medziphema, Nagaland.
47. Higher Education at a Cross Road. (Chief Guest Talk) B K Konwar (2015). Convocation (3rd) Address, 27th June, Patkai Christian College (Autonomous), Chumukdema, Nagaland.
48. Quality Aspects of Higher Education, (Chief Guest talk), B. K. Konwar (2015). NAAC sponsored Workshop for Quality Improvement in Higher Education, March 26-27th, SASRD, Medziphema, Nagaland. 49. Globalization and issues of food security, (Keynote talk), B K Konwar (2015). National Seminar on ‘Globalization, Development and Environment with special reference North East Region’, 19th March, Nagaland University, Lumami, Zunheboto, Nagaland.
50. Biotechnology and biotechnology research for microbial, plant and animal improvement. (Inaugural talk), B K Konwar (2015). Presentation on the occasion of Science Day, 227th Feb, 20015, Dept. of Botany, NU, Lumami, Zunheboto, Nagaland
51. Biodiesel and other Secondary Metabolites from Algae. (Invited talk) B K Konwar (2015). DBT Workshop, BSS on marine bio-energy, nutraceuticals and bio-prospecting, including secondary metabolites and by-products from micro- and macro-algae on 9th July, 2015 at NIIST, Trivandrum, Kerala

52. Nagaland A Way Forward (Key Note Speaker), B. K. Konwar (2015). Inaugural Session, Seminar entitled “Nagaland A Way Forward”, organized by Assam Rifles, Kohima, 21st January.
53. Bioresources, Threats and Research Needs, (Chief Guest Inaugural talk), Prof. B. K. Konwar (2016). National Seminar on ‘Inventory, Sustainable Utilization and Conservation of Bioresources’, Feb. 26-27, 2016, Nagaland University, Lumami.
54. Nagaland: A Treasure-trove and Potentiality (Chief Guest Inaugural Talk), Prof. B. K. Konwar (2016). 40th Foundation of Indira Gandhi Rastriya Manab Sangrahalaya (IGRMS), Bhopal, March 22nd, 2016.
55. Research on Resources of North Eastern India for Knowledge Generation and Socio-economic Development, Prof. B. K. Konwar (2016). (Foundation Talk), Rajiv Gandhi University, Itanagar, 04th February 2016 (11 am to 1-30 pm).
56. Human Resource and Economic Development of North East India. (Key Note Speaker) B. K. Konwar (2016). National Seminar on “Human Resource and Economic Development in India: Prospects, Challenges and Strategies”, St Joseph’s College, Jakhama, Kohima, 26th August.
57. Metagenome-based lipase gene and the enzyme (Chief Guest Inaugural talk), B. K. Konwar (2016) Lecture Series on Advance Biology, Bioinformatics Infrastructure Facility, Nagaland University, Lumami, 2nd Sept 2016.
58. Agro-horticultural Food Entrepreneurs and Industrialization in North East India (Inaugural Talk), B. K. Konwar (2016). MOFPI & ASSOCHAM Sponsored Conf. on ‘Linking Prospective Food Entrepreneurs with Government Schemes and Markets’, Nagaland University, Medziphema, Nagaland August 12th 2016. Dated August 12th 2016.
59. Biology, Advance Biology and Biotechnology. B K Konwar (2016). Orientation talk, Department of Biotechnology, University of Science and Technology Meghalaya (USTM), 21st September, 2016.
60. Agro-processing Sector: Finding a Doable Answer, Concept Paper by Prof. B K Konwar (2016). Brain Storming Meeting “Doable Solutions to the Problems in Growth of Agro-processing (Sector) in North East India”, December 7th, Indian Institute of Crop Processing Technology (IICPT), MoFPI, Govt. of India, Guwahati.
61. Quality higher education in India. B. K. Konwar (2017). Multidisciplinary Refresher Course, Dept of Cultural Studies, Tezpur university, Napaam, Tezpur -784 028, Assam (02.01 to 22.01.2017) dtd. 07.01.2017, 11am – 1 pm.
62. Ahomor rajatwakalat bibhinna jati-janagusthir samany sadhan, B. K. Konwar (2017). Freedom fighter Chabilal Upadhaya ‘Oikya and Sapriti’ Lecture, organized by Assomiya Club, Tezpur (Estb in 1915), Dist. Sonitpur, Assam, India on August 6th 2017.

D) Papers presented in National/International Seminars/Conferences

01. Selection value of the period from flowering to maturity and its relation with seed yield over environment in soybean (*Glycine max L. Merrill*). **Konwar, B. K.** and Talukdar, P. (1985). 31st Annual Conf. of Assam Sci. Society, AAU, Jorhat, Assam, 1985.
02. Transient expression of the B-glucuronidase gene in electroporated leaf mesophyll protoplasts of sugar beet (*Beta vulgaris L.*). **Konwar, B. K.** and Coutts, R. H. A., presented in the World Cong. on Cell & Tissue Culture, Anaheim, California, USA, 1991.
03. Genetic transformation in plant. **Konwar, B. K.** (1992). Seminar talk at the Dept. of Applied Bot. & Biotech., Gauhati University.

04. Agrobacterium-mediated genetic transformation in sugar beet (*Beta vulgaris* L.). Konwar, B. K. (1992). 1st National Symp. on Plant Biotechnology, IARI, New Delhi.
05. Genetic transformation: model plant sugar beet (*Beta vulgaris* L.). **Konwar, B. K.** (1992). Seminar organized by the Indian Soc of Biochem & Biotech, AAU, Jorhat.
06. Biotechnology and tea improvement. **Konwar, B. K.** (1995). Seminar in Tocklai Expt. Station, TRA, Jorhat, Assam, July 12th.
07. Tea improvement: conventional Vs innovative approaches. **Konwar, B. K.** (1995). Seminar in Tocklai Expt. Station, TRA, Jorhat, Assam, July 31st.
08. Haploid regeneration from embryo rescued japonica x indica rice (*Oryza sativa* L) hybrids. **Konwar, B. K.**, Sarma, D. and Pathak, M. (1996). paper presented in the Golden Jubilee Int Symp on "Rainfed rice for sustainable food security", Sept. 23-25, CRRI, Cuttack.
09. Production of haploids from embryo rescued plants of japonica x indica rice hybrids. Pathak, M. and **Konwar, B. K.** (1996). paper presented in the poster session II of the Golden Jubilee Int. sym. on 'Rainfed rice for sustainable food security', 23-25th Sept, Cuttack.
10. Classification of plants, its identification and collection of specimen. **Konwar, B. K.**, Workshop on Environment and Nature Conservation, 17 – 25th Nov, 1997, Jorhat.
11. Plant Biodiversity. **Konwar, B. K.** (1997). workshop on Environment and Nature conservation, 17-25th Nov, Jorhat.
12. Indian tea: present position and future prospects. **Konwar, B. K.** (1999). concept paper presented in the Brain Storming session on 'Improvement of tea through biotechnological tools, December 1st, DBT, New Delhi.
13. An appraisal on the popularity of Tocklai released clones and biclonal seed stocks in the North Eastern region. **Konwar, B. K.** and Neog, N. J. (2001), presented in the poster session of the 33rd Tocklai Conference, 11th-13th Feb.
14. Promising clones for the coming decade. **Konwar, B. K.**, Bordoloi, S. C. and Bordoloi, R.K. (2001). Presented in the oral Technical session IV: Genetic modification and tea improvement- the new dimension, 33rd Tocklai Conference, 11th-13th Feb..
15. Biodiversity and molecular characterisation of tea (*Camellia sinensis* (L.) O. Kuntze) cultivars using DNA markers. Bera, **B.**, **Konwar, B. K.**, Saikia, H. and Mazumder, C. S. (2001). Presented in the oral Technical session IV: Genetic modification and tea improvement-the new dimension, 33rd Tocklai Conference, 11th-13th Feb.
16. Recycling of tea garden weeds and pruning litters. **Konwar, B. K.**, Das, M. and Das, J. (2001), presented in the poster session of the 33rd Tocklai Conference, 11th-13th Feb.
17. Studies on stomata in TV and generative clones with particular reference to drought tolerance. Handique, A. C., Barman, T. S. and **Konwar, B. K.** (2001). Presented in the poster session of the 33rd Tocklai Conference, 11th-13th Feb.
18. Somaclonal variation through tissue culture of tea. Das, S. C., **Konwar, B. K.**, Bordoloi, B. J. and Dutta, R. K. (2001) presented in the poster session of the 33rd Tocklai Conference, 11th-13th Feb.
19. Human genome. **Konwar, B. K.** Scientific Seminar (Oral Presentation), 18th Sept., 2002, Zoological Society of Assam, Tezpur.
20. The self forming biomaterial DNA, its characterization and contribution. **Konwar, B. K.** (2003). National Workshop on 'Advanced Materials: processing and characterization (Oral Presentation), Oct. 29th – 30th, Deptt of Physics, Tezpur University, Napaam, Tezpur.

21. Biotechnology. **Konwar, B. K.** (2003). Science Week Key Note Seminar Talk, The Assam Valley School, Balipara, Sonitpur, Assam. dtd. March 1st.
22. DNA: the molecule of life and its voyage beyond the realm. **Konwar, B. K.** (2003). (Key note Address, Commemoration of 50th Anniversary of DNA Discovery, Defense Research Laboratory, DRDO, Tezpur, Assam. Dtd. 28th Feb.
23. Biosurfactant induced enhanced oil recovery. Bordoloi, N. K. and **Konwar, B. K.** (2003). National Seminar on 'Hydrocarbon degrading microbes'. 22nd – 23rd Dec., Tezpur University, Napaam.
24. Bioremediation of petroleum hydrocarbons by microbial consortia. Bordoloi, N. K. and **Konwar, B. K.** (2003). National Seminar on 'Hydrocarbon degrading microbes'. 22nd – 23rd Dec., Tezpur University, Napaam.
25. Lectin typing of Pseudomonas isolates from petroleum rich soils of Assam. B. Tanti, A. K. Buragohain, S. K. Ray and **B. K. Konwar** (2003). National Seminar on Hydrocarbon Degrading Microbes (Oral Presentation), Tezpur University 22-23 Dec.
26. Potential application of biosurfactant produced by thermophilic Pseudomonas sp. DM-02 strain in microbial enhanced oil recovery (MEOR) and Bioremediation. Das K., Mukherjee, A.K. & **Konwar, B.K.** (2003) National Seminar on Hydrocarbon Degrading Microbes (Oral Presentation), Tezpur University 22-23 Dec.
27. Degradation of crude oil by bacterial consortia. Bordoloi, N. K. and **Konwar, B. K.** (2004). National Workshop on 'Science & Technology for regional development: case for North East India'. (Oral Presentation), Feb. 3rd – 6th, Indian Institute of Technology, Guwahati.
28. Evaluation of nutraceutical potentiality of a minor fruit of Assam – Spondias pinnata Kurz. Kandali, R. and **Konwar, B. K.** (2006). Souvenir cum Abstract: Value addition to bioresources of NE India, Post harvest technology and Cold chain, National Seminar (Oral Presentation), Gauhati University, Guwahati, Assam, 19-21 May, pp 99.
29. Antimicrobial activity of the fruits of Meyna spinosa Roxb. Ex Link: a potential medicinal plant of North East India. Buragohain, J. and **Konwar, B. K.** (2006). Souvenir cum Abstract: Value addition to bioresources of NE India, Post harvest technology and Cold chain, National Seminar, Gauhati University, Guwahati, Assam, 19 – 21 May, pp 113.
30. Microbial consortium in bioremediation of contaminant hydrocarbon. Bordoloi, N. K. and **Konwar, B. K.** (2006). Souvenir cum Abstract: Value addition to bioresources of NE India, Post harvest technology and Cold chain, National Seminar, Gauhati University, Guwahati, Assam, 19 – 21 May, pp 121.
31. Studies on the microflora of fermentation starter culture used by the Ahom community of Asom. Barman, K. R. and **Konwar, B. K.** (2006). Souvenir cum Abstract: Value addition to bioresources of NE India, Post harvest technology and Cold chain (Oral Presentation), National Seminar, Gauhati University, Guwahati, Assam, 19–21 May, pp 123.
32. Morphophenology and karyotype study of Patidoi (*Schuannianthus dichotmus* (Roxb) Gagnrep. Synonym *Clinogyne dichotoma* Salisb) – a traditional plant of Assam. Chowdhury, D. and **Konwar, B. K.** (2006). Souvenir cum Abstract: Value addition to bioresources of NE India, Post harvest technology and Cold chain, National Seminar (Oral Presentation), Gauhati University, Guwahati, Assam, 19 – 21 May: pp 124.
33. Biodiversity of medicinal plants of Assam. L. Barooah & **B.K. Konwar** (2006). National Seminar on Biodiversity & Indigenous Knowledge System, Itanagar Oct, pp 37.
34. Morpho-phenological and leaf nutritional characteristics of *Streblus asper* Lour.: an important medicinal plant of Assam. R. Kandali & **B.K. Konwar** (2006) National Seminar on Biodiversity & Indigenous Knowledge System (Oral Presentation). Itanagar Oct 2006: pp 72.

35. Isolation of genomic DNA from *Zanthoxylum oxyphyllum* for assessment of genetic diversity. J. Buragohain & **B.K. Konwar** (2006) National Seminar on Biodiversity & Indigenous Knowledge System, Itanagar Oct 2006: pp 73.
36. Petroleum biotechnology research. **B. K. Konwar** (2007). Petrotech Society Seminar on R&D-Round Table Conference (Oral Presentation), March 20th 2007, New Delhi.
37. Morphophenological, nutraceutical, biochemical and genomic characters of some important medicinal plants of North East India. **B. K. Konwar** (2007). National Seminar-cum-workshop on potential growth and development of medicinal and aromatic plants to provide alternative employment opportunities for the rural poor and youth (Oral Presentation), National Rural Development Institute – North East Regional Centre, Khanapara, Guwahati, 23rd – 24th March.
38. Biosurfactant and its catalytic activity in increasing crude oil mobility. N.K.Bordoloi and **B.K. Konwar** (2007). Catalysis for future fuels, 18th National Symposium & Indo-US seminar on catalysis (Oral Presentation), 16-18th April, Indian Institute of Petroleum, Dehradun, Uttarakhand, India.
39. Comparative digestibility of some edible aroids of North East India. Jyoti Prasad Saikia and **B. K. Konwar** (2007). 76th Annual meeting of Society of Biochemist (India), Tirupati.
40. Microbial degradation of *Mesua ferra* L. seed oil-based polyurethane film. J. P. Saikia, S. Dutta, **B. K. Konwar** and N. Karak (2008). International Symposium on microbial biotechnology: diversity, genomics and meta-genomics, 49th Annual Conference, Association of Microbiologists of India (Oral Presentation), November 18th – 20th.
41. Crude oil-contaminated soil, its bioremediation and cultivation of rice (*Oryza sativa* L.). **B. K. Konwar** (2009), Invited Lecture, Environment Science Section, 96th Indian Science Congress, Shillong, Meghalaya, 3rd - 7th January.
42. Role of biosurfactant in reducing surface tension and its biodegradation. Pranjal Bharali and **B. K. Konwar** (2009), Poster presentation in Environment Science Section, 96th Indian Science Congress, Shillong, Meghalaya, 3rd - 7th January.
43. Biopolymer producing bacteria isolated from oil well sites of Assam. Pinkee Phukan and **B. K. Konwar** (2009), Poster presentation in Environment Science Section, 96th Indian Science Congress, Shillong, Meghalaya, 3rd - 7th January.
44. Biochemical and morphological study of four edible aroids of Assam. J. P. Saikia and **B. K. Konwar** (2009), Poster presentation in Plant Science Section, 96th Indian Science Congress, Shillong, Meghalaya, 3rd - 7th January.
45. Isolation and characterization of active compound from *Spondius pinnata* Kurz fruits. R. Kandali and **B. K. Konwar** (2009) (Oral Presentation). Abstract of Papers, Technical Session of 54th Annual Session of Assam Science Society, Tezpur University, February 4th, pp 64.
46. Removal of crude oil from contaminated soil. **B. K. Konwar** (2009), Fortnightly Faculty Seminar (Friday), School of Science & Technology, Tezpur University, Napaam, 14th August.
47. Leaf nutritional characteristics of *Streblus asper* Lour as green fodder. R. Kandali and **B. K. Konwar** (2009) (Oral Presentation), Abstract of Papers, Technical Session of 54th Annual Session of Assam Science Society, Tezpur University, February 4th, pp 75.
48. Biopolymer from crude oil scavenging bacteria. Pinkee Phukan and **B. K. Konwar** (2009). National Seminar on Emerging Trends in Polymer Science and Technology (Poly-2009) (Oral Presentation). October 8-10.
49. Bioactivity of four edible aroids of north east India. J. P. Saikia and **B. K. Konwar** (2009). Indian National Science Academy (INSA), NCL, Pune, November 21-23.

50. Polyaniline nanofiber: Potential antioxidant for biomedical and Industrial application. S. Banerjee, A. Kumar, J. P. Saikia and **B. K. Konwar** (2009). International Conference on Advanced Nanomaterials and Nanotechnology, IIT Guwahati, December 9-11.
51. Investigation of antioxidant property of zinc oxide particles by 1'-1'-diphenylpicryl-hydrazyle (DPPH) method. B. K. Konwar, S. Banerjee, J. P. Saikia and A. Kumar (2009). 4th Global Summit on Medicinal and Aromatic Plants, Sarawak, Malaysia (Borneo Island), Dec.:1-5.
52. The microbial antimicrobial compound 2-methylheptyl isonicotinate from *Zanthoxylum oxyphyllum* edgew, a traditional medicinal plant of Assam. **B. K. Konwar** and J. Buragohain (2009). 4th Global Summit on Medicinal and Aromatic Plants (Oral Presentation). Kuching, Sarawak, Malaysia.
53. Plant- Based active compounds for Hair Regeneration. A. Ray and **B. K. Konwar**. (2009). Indian National Science Congress (INSC), NCL, Pune, Nov. 21-23.
54. Antibacterial activity of crude banana (*Musa balbisiana*) pseudostem. K. Gogoi and **B. K. Konwar**. (2009). Indian National Science Congress (INSC), NCL, Pune, Nov. 21-23.
55. Bioactivity of four edible aroids of north east India. J. P. Saikia and **B. K. Konwar** (2009). Indian National Science Academy (INSA), NCL, Pune, November 21-23.
55. Biopolymer Isolated from Bacteria available in Oil well sites of Assam. Pinkee Phukon, B. K. Konwar (2009). Indian Science Congress, 2009, NEHU, Shillong.
56. Solubilization of non-mulberry eri (*Philosamia ricini*) and muga (*Antheraea assamica*) cocoon silk fibers and comparison of protein content. R. K. Sanjukta and B. K. Konwar (2010). (Oral Presentation). Int. Conf. on Climate Change & Bioresource, Bharathidasan Univ., 09-12 Feb.
57. Creative structure and leadership. B. K. Konwar (2010), Seminar on Creativity in Education, Tezpur University, Napaam, 6th April (oral presentation).
58. Bacterial gene(s) through metagenomic study to obtain industrial enzymes. Kalpana Sagar and B. K. Konwar (2010). (Oral Presentation). Int. Conf. on Climate Change & Bioresource, Bharathidasan Univ., 09-12 Feb.
59. Bioethanol production from banana (*Musa balbisiana*) pseudostem. K. Gogoi and B. K. Konwar (2010). (Oral Presentation). Int. Conf. on Climate Change & Bioresource, Bharathidasan Univ., 09-12 Feb.
60. Isolation of rhamnolipid from bacterial strains isolated from crude oil contaminated soil near by the drilling sites of Assam. Pranjal Bharali and B. K. Konwar (2010). (Oral Presentation). Int. Conf. on Climate Change & Bioresource, Bharathidasan Univ., 09-12 Feb.
61. Plant-based active compounds for hair regeneration. Anggana Ray and B. K. Konwar (2010). (Oral Presentation). Int. Conf. on Climate Change & Bioresource, Bharathidasan Univ., 09-12 Feb.
62. Physiochemical and functional properties of high-grade alpha and microcrystalline cellulose obtained from an abundant agricultural waste in North-East India. Emeje, M.O.; Gogoi. K.; Konwar, B.K.; Isimi,C.Y.; Kunle,O.O. and Ofoefule, S.I. (2010). National Conference of the Nigerian Association of Pharmacists in Academia; Faculty of Pharmaceutical Sciences, Nnamdi Azikiwe University, Agulu Campus, Nigeria; Oct.
63. Phytochemical screening, in vitro antioxidant and haemolysis prevention activity of aqueous extract of *Musa balbisiana* inflorescence. K. Gogoi and B. K. Konwar (2011). Proce. National Seminar on Biochemical and Biotechnological research approaches for bioresource management of North East Inia towards sustainable rural development. 11-12th November: pp14.
64. Patidoi (*Schumanniantus dichotomus* (Roxb.) Gagnep. Synonym *Clinogyne dichotoma* Salisb.) – a traditional economically important plant of Assam and its karyotype study. Dhiren Chowdhury and B. K. Konwar (2011). Proce. National Seminar on Biochemical and

- Biotechnological research approaches for bioresource management of North East India towards sustainable rural development. 11-12th November: pp20.
65. Biochemical studies of yeast strains isolated from traditional starter cultures used by Karbi and Mising communities of Assam, India. K. R. Barman and B. K. Konwar (2011). Proce. National Seminar on Biochemical and Biotechnological research approaches for bioresource management of North East Inia towards sustainable rural development. 11-12th November: pp49.
 66. Research trends and scope in Nagaland. B. K. Konwar (2012). Keynote lecture in the Inaugural Session of the State Level Workshop on “Present Trend and Future Scope of Research in Nagaland”, 05th July, Kohima, Nagaland.
 67. Biodiversity and Bioresources. B. K. Konwar (2012). Mission Conclave, NEPED, NEPeD, NBDA, NBRM and NBHM, Nagalandl Bamboo and Honey Bee Mission Complex, Six Mile, Dimapur, Nagaland, 20th July.
 68. ITKS and farmers’ variety, Presidential address by B. K. Konwar (2012). National Seminar-cum-Farmers’ Scientists Interaction on Progressive Agriculture (Friday, 16th November), North East Region Agri Expo, 15th – 17th November.
 69. From Oral Traditions to Literary Progression, B K Konwar (2012). (Opening remarks, Hornbill literature fest May 06th, Venue: Kisama Bamboo Heritage Hall, Kohima, Nagaland.
 70. Production and optimization of extracellular lipases by *Bacillus* species KB-S102 isolated From domestic-waste contaminated soil. Kalpana Sagar and Bolin Kumar Konwar (2013). Oral Presentation in the 3rd Int. Conf. on Env. Biomedical and Biotechnology (ICEBB), Singapore 24 – 25th August.
 71. Agriculture and allied Education for Economic Growth. Prof. B. K. Konwar (2013), Education Day talk at National Research Centre on Pig, Rani, Dist. Kamrup, Assam, dated 3rd Sept.
 72. Foundation day Talk of Nagaland University, Prof. B. K. Konwar (2013). 20th Foundation Day, dated 6th September, HQ: Lumami (Named the Auditorium as ‘I. Ihose Kinnimi Hall’).
 73. Rapid and simple DNA extraction protocol from goat rumen digesta for metagenomic studies. Yasir Basir and B K Konwar (2014). Nat. Sem. on Recent Adv. in Biotech. research in N E India: Challenges and Prospects. Dept. of MBBT, Tezpur University, Napaam, Nov 27-29th.
 74. Construction and screening of metagenomic library derived from goat rumen digesta: a potential source for novel cellulases for efficient deconstruction of cellulosic biomass. Yasir Basir and B K Konwar (2015). Ist Int. Conf. on Recent Advances in Bioenergy research, SSS-NIRF, Kapurthala, Punjab, March 14-17, 2015.
 75. DNA-coding strand derived mRNA to Ribosome and translation. B K Konwar (2017). Technical talk 1, Workshop cum Training Program on Ribosome and Translation, DBT and MBBT, Tezpur University, Nappam , 25-26th Nov 2017.
 76. Metagenomic Alkane Hydroxylase Gene and Application of Bioinformatics. B K Konwar 92017). Symposium on ‘Omics Technology’, IIT Guwahati 19.06.2017 (also Chaired the Sesssion).
 77. Cellulase enzyme through metagenomics. B K Konwar (2018). ADNAT International Symposium ‘Biodiverse-2018, IIT Guwahati, 27-29th January 2018 (Chaired one Technical Session).
 78. Forest Ecology. B K Konwar (2018), “Workshop on Wildlife Ecology and Seribioresources (BIOCONVERSE 2018)”, Directorate of Sericulture, Bodoland Territorial Council (BTC)

- and College of Veterinary Science (AAU), Khanapara in association with IITG and ADNAT at Manas National Park 30.01.18-01.02.2018 (Chaired the Opening and Technical Sessions).
79. Potential bioremediating enzyme of Metagenomics AlkB gene. B K Konwar (2018). Satellite International Symposium ‘Technological Intervention in Microbial Resource’ at Tezpur University, Napaam as a part of “Advance DNA Technology (ADNAT)” Symposium organised in collaboration with IIT Guwahati, 4-5.02.2018 (Chaired the Opening Session).
80. Status, problems and prospects of Silkworm cultivation in Assam and adjoining states. B K Konwar (2018). National Workshop “SeriBioEcon, 2018”, CMER&TI, Lahdoigar, Jorhat 12-13.03.2018 (Chaired the Inaugural and one Technical Session).

Major Research Findings of Prof Bolin Kumar Konwar

1. *Agrobacterium tumefaciens*-mediated genetic transformation of sugar beet with NPT II and GUS genes. Electroporation-mediated transient expression of GUS gene in sugar beet protoplasts. Standardised the rapid in vitro culture technique of sugar beet.
2. Developed green gram varieties AAU 34 and AAU 39.
3. Isolation and culture of tea protoplasts. Genetic transformation of tea with *Agrobacterium rhizogenes* carrying the Ri plasmid. Isolated and multiplied 12 strains each of anaerobic bacteria and fungi involved in the degradation of tea pruning litters and tea garden weeds. TV 15 clones were nationally registered at the NBPGR, New Delhi with RAPD-based genetic fingerprinting.
4. Developed a bacterial consortium which can degrade crude oil contaminant in 180 days for soil reclamation. Isolated bacterial bio-surfactant 55% superior to SDS in crude oil recovery.
5. Chrom no. of *E. linguiformis* (tetraploid) 48. The plant (specially rhizome) was assessed to contain 86% flavoury compound anethole. The chemical can potentially be used as food and medicine as additive. The plant is thus a better source for anethole against anise seed (82%) and funnel seed (75%). The chemical structure of anethole is determined (1-methoxy-4-(1-propenyl)-benzene).
6. The crude protein content in the fruit of *Spondias pinnata* is determined to be 3.34%, reducing sugar 69.56 mg g⁻¹, crude fibre 23.07 mg g⁻¹, phosphorous 0.483 mg g⁻¹, iron 0.043 mg g⁻¹, calcium 5.97 mg g⁻¹ and potassium 83.60 mg g⁻¹. The fruit also contains 0.06% ‘3 β-hydroxyolea-12-en-28-oic acid’ commonly known as ‘oleanolic acid’. The acid is antimicrobial against *Staphylococcus aureus* and *Bacillus subtilis*.
7. Leaf of *Streblus asper* is assessed to contain protein and fat 16.73% and 1.029±0.029%, respectively. The ash content is 8.1 mg g⁻¹, starch 12.05 mg g⁻¹ and reducing sugar 1.15 mg g⁻¹; as well as high content of crude fibre (17.08 mg g⁻¹). Also lupeol [i.e. Lup-20(29)-en-3 β-ol] 0.05%.
8. Chrom no of *Zanthoxylum oxyphyllum* 36 (diploid), *Rubus alceifolius* 28 (tetraploid) and *Meyna spinosa* 44 (tetraploid). Tender leaves of the plants contain antimicrobial compound 2-methylheptyl isonicotinate against *B. subtilis*, *E. coli*, *K. pneumoniae*, *S. aureus* and yeast *C. albicans*, where as the mature fruits of *M. spinosa* contain oleanolic acid and oleanol. Genome size of *Zanthoxylum oxyphyllum* is 3.79 (3.70 x 10⁹), *Rubus alceifolius* 2.84 (2.77 x 10⁹) and *Meyna spinosa* 3.93 (3.84 x 10⁹).
9. Chrom no of *Xanthosoma caracu* is 26, *X. sagittifolium* 26, *Amorphophallus paeoniifolius* 28: all diploid, but *Colocasia esculenta* with 28 is tetraploid. The genome size of the tetraploid species is 14.1 pg (C-value).
10. Total phenolic and flavonoid content is high in *A. paeoniifolius*. The DPPH free radical scavenging property is the highest in *X. caracu* and blood coagulation enhancing property high in *X. sagittifolium*. Five polyphenolic compounds, 3,4-dihydroxy benzoic acid, 3,4-

- dihydroxycinnamic acid, trans-in-hydroxycinnamic acid, 4-hydroxy-3-methoxycinnamic acid and 4-hydroxy-3,5-dimethoxybenzoic acid were isolated from *Colocasia* species.
11. *C. esculenta* possesses high amylase content with the smallest starch granule size. The biggest starch granule size and highest relative crystallinity are recorded in *A. paeoniifolius* starch. Due to small granule size *C. esculenta* starch is the most suitable for composite preparation with polyaniline. The starch-polyaniline composite has clear formation of three new types of composites having better antioxidant activity along with biocompatibility.
 12. The small granule-sized starch of *C. esculenta* is suitable for baby food formulation as well as for making fine printing paper, plastic sheets as binder with orally active ingredients, and as carrier material in cosmetics. There is a potential of this starch in cosmetic, paper, textile and photographic industries. *C. esculenta* starch can be used in the synthesis of edible films.
 13. Three different PHA producing bacterial isolates were recovered from the crude oil contaminated soil of Assam. One isolate was identified to be *Bacillus circulans* MTCC8167. The optimum growth and production of PHA was found to be pH 7, and 37°C. Biopolymers possessed high degree of thermal as well as melting stability.
 14. Biopolymers isolated from *P. aeruginosa* JQ796859, *B. circulans* MTCC8167 and *P. aeruginosa* JQ866912 were assessed to be poly (3-hydroxyvalerate) co- (5-hydroxydecanoate) (P-3HV-5-HDE), poly-3-hydroxybutyrate-co-3-hydroxyvalerate (P-3HB-3HV) & poly-3-hydroxyvalerate-co-5-hydroxydecanoate-co-3-hydroxyoctadecenoate (P-3HV-5HDE-3HODE), respectively. Mol wt of the biopolymers is in the range of 5.6×10^3 to 4.2×10^4 Da and the polydispersity index bears a narrow value in the range of 1.05 to 1.21. The polymers possess luminescence property and are biodegradable by microbial action.
 15. The PHA of *B. circulans* MTCC8167 is useful in enhancing the stabilization of colloidal solution of SNP. Incorporating the metal oxide nanoparticles with biopolymer, the intensity of the emission peak could be increased. The resulting nanocomposites could be used for further application as sensors. A 540-bp PCR product proved the presence of *mcl* biosynthesis genes *phaC1/C2* in the bacterial strains *P. aeruginosa* JQ796859 and *P. aeruginosa* JQ866912.
 16. A selective and sensitive PHA/AuNPs/HRP/ITO biosensor based nanocomposite probe was developed for direct determination of artemisinin in bulk and spiked human serum. The method possessed distinct advantage over other existing methods regarding sensitivity, selectivity, time saving and minimum detectability.
 17. The compound eclalbasaponin ($C_{32}H_{62}O_8$) and aliphatic compound $C_{15}H_{28}N_2O_2$ were isolated from *Eclipta alba*; $C_{13}H_{18}O_4$ and $C_{14}H_{14}O_5$ from in *Aloe barbadens*. DPPH scavenging assay confirmed eclalbasaponin and aloenin to possess higher radical scavenging property than standard gallic acid and quercetin. These two compounds possessed regeneration ability in the case of warfarin induced alopecia (animals) as compared to the standard drug minoxidil. Hair follicle regeneration time and completion of hair growth are much faster due to eclalbasaponin treatment as compared to aloenin and minoxidil treated ones. No adverse effect is observed up to 15 days in the case of animals treated topically with eclalbasaponin and aloenin, hair follicle regeneration started on 4th, 6th and 9th day in the case of eclalbasaponin, aloenin and minoxidil treated animals, respectively.
 18. High biomass yield, attractive biochemical profile and high energy content in the microalgal strains *Chlorella* spp. KJ499988, *Scenedesmus* spp. KF279644 and *Parachlorella kessleri* KF163441 offers strong candidature as bioenergy feedstocks. Mass culture of *P. kessleri* in permanently inundated water bodies is possible. *Chlorella* spp. KJ499988 biomass could be used as feedstock for bio and thermo-chemical conversions.

- P. kessleri* KF163441 deoiled cake could be directly used as a feedstock for bio-oil production. However, biodiesel from yeast was found to be superior to microalgal biodiesel with regard to calorific value and cetane number.
19. Soil metagenomic DNA was successfully used to clone the lipase gene (KBS-plip1: 891 bp) in to the expression vector pET-32a. The transformed *E. coli* cells having KBS-plip1 cloned pET-32a could produce lipase enzyme in tributyrin (1%) agar medium. The purified industrial enzyme was found to be stable in different solvents, temperature 37°C and pH 7.5.

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