



**Arya Vidyapeeth College**  
আর্য্য বিদ্যাপীঠ মহাবিদ্যালয়



## Personal profile

**Name of the Faculty: Dr. Rajarshi Bayan**

**Designation: Assistant Professor**

Personal Information Date of Birth: 22-09-1990

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Date of joining the present service: 25-11-2020

Academic Qualification MSc, PhD.

Teaching Experience

In UG level: No.

In PG level: No.

Academic distinction i) 4th rank in UG examination under Gauhati University.

ii) 3rd rank in PG examination under Gauhati University

iii) SLET



Research Experience      Date of obtaining / PhD Degree : 27-07-2020, Tezpur University

                                         Title of the PhD thesis:  
                                         “Renewable resources derived hyperbranched polyurethane nanocomposites for multifaceted applications”

                                         Length of research experience: 5 Years

                                         Specialization (Area of interest): Material Chemistry

Publications      **No. Of Books chapters published: 02**

                                         i)      Two Dimensional Nanostructures for Biomedical Technology, Elsevier, 2020.

                                         ii)      Advances in Sustainable Polymers, Materials Horizon: From Nature to Nanomaterials, Springer, 2019.

**No. Of Research paper published: 08**

**Published Papers:**

                                         i)      R. Bayan and N. Karak, Bio-based hyperbranched polymer-supported oxygeneous graphitic-carbon nitride dot as heterogeneous metal-free solar light photocatalyst for oxidation and reduction reactions, Applied Surface Science, 2020, 514, 145909.

                                         ii)      R. Bayan and N. Karak, Photoluminescent oxygeneous-graphitic carbon nitride nanodots incorporated bioderived hyperbranched polyurethane nanocomposite with anticounterfeiting attribute, ACS Omega, 2019, 4, 9219–9227.

                                         iii)      R. Bayan and N. Karak, Hyperbranched polyurethane-supported Pd-Ag@CQD nanocomposite: a high performing heterogeneous catalyst, ChemistrySelect, 2018, 3, 11210-11218.

                                         iv)      R. Bayan and N. Karak, Bio-derived aliphatic hyperbranched polyurethane nanocomposites with inherent self healing tendency and surface hydrophobicity: Towards creating high performance smart materials. Composites Part A: Applied Science and Manufacturing, 2018, 110, 142-153.

                                         v)      R. Bayan and N. Karak, Photo-assisted synthesis of a Pd–Ag@CQD nanohybrid and its catalytic efficiency in promoting the Suzuki–Miyaura cross-coupling reaction under ligand-free and ambient conditions. ACS Omega, 2017, 2, 8868– 8876.

                                         vi)      R. Bayan and N. Karak, Renewable resource derived aliphatic hyperbranched polyurethane/aluminium hydroxide–reduced graphene oxide

nanocomposites as robust, thermostable material with multi-stimuli responsive shape memory features. *New Journal of Chemistry*, 2017, 41, 8781-8790.

vii) R. Bayan and N. Karak, Renewable resource modified polyol derived aliphatic hyperbranched polyurethane as a biodegradable and UV-resistant smart material, *Polymer International*, 2017, 66, 839-850, 2017.

viii) S. J. Kalita, R. Bayan, J. Devi, S. Brahma, H. Mecadon, and D. C. Deka, A new, convenient and expeditious synthesis of 4-alkyl-5-methyl-1*H*-pyrazol-3-ols in water through a multicomponent reaction, *Tetrahedron Letters*, 2017, 58, 566– 569.

Award  
received  
from Govt./  
reputed  
national  
society

i) Anundoram Borooh Award for Meritorious Students by Govt. of Assam

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