

Dr. K. Venkata Krishna

H. No-29-117A, Tekke, Nandyal,
Nandyal (D.T), Andhra Pradesh,
India-518501, Tel: +91-8208193644,
e-mail: venkat2010@gmail.com



**PhD in Chemistry and Physics
of Polymers (Natural Sciences)**

Research and Development | Synthesis |

Physics and chemistry of polymers

[linkedin.com/in/dr-venkata-krishna-2b087974](https://www.linkedin.com/in/dr-venkata-krishna-2b087974)

<https://scholar.google.com/citations?hl=en&user=ylsLDV0AAAAJ&view>

EDUCATION:

- Doctoral studies: 2009- 2014 Doctorate in **Natural Sciences (*Polymer Science*)**, *University of Fribourg*, Fribourg, Switzerland,
Advisor, Prof. Raffaele Mezzenga
- Post Graduate: 2004-2006 Master of Science in ***Polymer Science (77.57%)***,
Sri Krishnadevaraya University, Anantapur, India.
- Under Graduate: 1999-2002 Bachelor of Science (***Maths, Physics, Chemistry***),
Sri Krishnadevaraya University, Kurnool, India.

AWARDS & FELLOWSHIPS:

- **Postdoctoral Fellow**, 2019, *Chaoyang University of Technology*, Taichung, Taiwan.
- **National Post-Doctoral Fellowship (NPDF)**, 2016, *DST-SERB*, INDIA.
- **Postdoctoral Fellow**, 2015, *Durban University of Technology*, Durban, South Africa.
- **Doctoral Fellowship**, 2009, *University of Fribourg*, Fribourg, Switzerland.
- University **3rd rank** holder, 2006, Master of Science, *Sri Krishnadevaraya University*, INDIA.

Sponsored Projects Undertaken

No.	Sponsoring Agency	Title of Project	Amount of grant (Rs.)	Period	Role (PI/Co-PI)
1	DST-Science & Engineering Research Board, India.	Stimuli-responsive Silkfibroin/Peptide based materials for Biomedical Applications	19.2 Lakhs	2 years (2016-2018)	PI

RESEARCH INTERESTS:

- Synthesis and characterization of block copolymers
- Self-assembly of stimuli-responsive materials
- Bio-inspired materials: Structure-property relationships in peptide-based micelles and gels
- Hybrid nanocomposites, nanostructured materials and self-healing materials
- Sustainable materials

RESEARCH EXPERIENCE:

- 2019- 2021: **Postdoctoral Fellow** in Polymer Composite Research Group, Chaoyang University of Technology, Taichung, Taiwan.
Synthesized eco-friendly modified cellulose nanofiber and incorporated them into polymer nanocomposites for enhanced properties. Utilized FTIR, TGA, DMA, UV-Vis, X-RD and SEM techniques to investigate the thermal behavior, mechanical strength, optical properties, and structure & morphology analysis.
- 2016- 2018: **SERB-NPDF** in Polymers & Advanced Materials Group, CSIR-National Chemical Laboratory, Pune, India.
Novel protein/peptide based smart-materials were created for bio-medical applications by synthesizing copolymers using the ring-opening polymerization of the NCA monomer and the corresponding amino-terminated polymer. The chemical, thermal, mechanical and self-assembly properties of these materials were investigated using advanced techniques such as NMR, FTIR, UV-Vis, CD, TGA, DMA, SAXS and TEM.
- 2015- 2016: **Postdoctoral Fellow** in Composite Research Group, Durban University of Technology, Durban, South Africa.
Developed biodegradable hybrid nanocomposites using sustainable materials and examined their thermal, mechanical, optical, and structure & morphology characteristics through FTIR, TGA, DMA, UV-Vis, X-rd and SEM techniques.
- 2009- 2014: **Doctoral Student** in Food and Soft Materials Group, ETH, Zurich, Switzerland.
Peptide-based di and tri block copolymers with functionalized properties were created through the ring-opening polymerization of the BLG-NCA monomer, utilizing the corresponding mono-and di amino-terminated polymer. The self-assembly behavior of these copolymers in solution and solid state were analyzed using various methods including NMR, FTIR, UV-Vis, CD, DLS, SAXS and TEM.
- 2007- 2009: **Project Assistant** in Polymer Science & Eng Group, CSIR-National Chemical Laboratory, Pune, India.
Functionalized SiO₂ nanoparticles were synthesized and utilized to reinforce polypropylene nanocomposites. The nucleation effect of these nanoparticles on the PP matrix was investigated through the use of FTIR, DSC, TGA, and SEM techniques.
- 2006: **Project Intern** in Pidilite Industries Limited, Mumbai.
A series of Styrene-Acrylic based copolymers were synthesized and their chemical, thermal, optical, mechanical, and morphological properties were examined using NMR, FTIR, DSC, TGA, and SEM techniques.

Referees:

	Referee 1	Referee 2
Name	Dr. E. Bhoje Gowd	Dr. A.V. Sesha Sainath
Designation Organization/Institute	Principal Scientist CSIR-NIIST, Thiruvananthapuram.	Principal Scientist CSIR-IICT, Hyderabad.
Mailing Address	Material Sciences and Technology Division, CSIR-National Institute for Interdisciplinary Science and Technology, Thiruvananthapuram- 695 019, Kerala, India.	Polymers and Functional Materials Division, CSIR-Indian Institute of Chemical Technology, Hyderabad- 500007, India.
Telephone	+91-9048427911	+91-9440732018
Email	bhojegowd@niist.res.in	avss.iict@gov.in