Organic, Polymer, Nano Material Chemistry Research
Pradip K. Bhowmik

- Professor Chemistry, Department of Chemistry and Biochemistry
- Fellow, American Chemical Society
- Fellow, Polymer Chemistry Division
- Ph.D., University of Massachusetts at Amherst
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Areas of Expertise
- Organic Chemistry
- Green Chemistry
- Polymer Chemistry
- Materials Chemistry
- Nanostructured Materials
- Anticancer Drugs
- Drugs for Alzheimer’s Disease

Research Summary:

Bhowmik and his team are developing the following key areas:
- light-emitting and liquid-crystalline ionic polymers for multitude applications in modern technology
- fire retardants polymers
- nanostructured ionic liquids and ionic liquid crystals for advanced functional materials
- organic salts that emit light for sensors, are excellent lubricants and phase change materials
- cisplatin analogs for cancer therapy
Jun Yong Kang

- Assistant Professor, Department of Chemistry and Biochemistry
- Ph.D., Chemistry, Texas A&M University, College Station, TX
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Areas of Expertise
- Synthetic organic chemistry
- Development of new synthetic methodology
- Asymmetric organocatalysis
- Organophosphorus chemistry
- Synthesis of bioactive small molecules

Research Summary:
The development of new synthetic methodologies plays a key role in medicinal chemistry, biochemistry, and materials chemistry. Professor Kang and his group have been developing novel synthetic transformation and new chemical reagents such as commercially available NHP-thiourea and NHP-butane to apply for pharmaceuticals and bioactive molecules.
Organic Materials Chemistry

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Expertise

• Organic semiconductors with tunable electronic properties
• Self-assembly (nanomaterials, organogels, etc.)
• All organic room-temperature phosphors
• Materials development for solid-state emission with high quantum yield
### Electronic-Property Tuning with Smart Molecular Design

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Solvent-Dependent Morphology Control through Organogelation

Solid-State Emission with High Quantum Yield

Gel-Induced Room Temperature Phosphorescence