

**OPTICAL MATERIALS GROUP**  
**SCHOOL OF SCIENCES (PHYSICS)**

**Thrust areas of research:**

- Development of **Photonic materials**
- Up-conversion phosphors for **enhancing solar cell efficiency**
- Preparation of oxide glasses for **luminescence applications**
- Growth of single crystals for **Radiation dosimetry applications**
- Synthesis of nano-phosphor materials for **white LED applications**

**Faculty-in-Charge:**



**Dr. R. ARUN KUMAR, M.Sc., Ph.D.**

Assistant Professor - Grade I

School of Sciences (PHYSICS)

Room No. 29, S.R.K. Academic Complex

National Institute of Technology Andhra Pradesh

Tadepalligudem 534 101, Andhra Pradesh, India

**(Also visit: <https://nitandhra.ac.in/dept/sos/20161>)**

## **Our team**

### **Research Scholars**



**Ms. Rajashree Panda**



**Mr. Mitrabhanu Behera**



**Ms. Sushree Bedamati**



**Mr. Sivakumar Maddela**

## OPTICAL MATERIALS GROUP

### FACILITIES AVAILABLE

High Temperature Furnace – 1300 °C



## High Temperature Furnace – 1400 °C



## JAR MILL FOR GRINDING GLASSES



**PLANETARY BALL MILL FOR SYNTHESIS OF NANO-PHOSPHOR  
MATERIALS**



## PLANETARY BALL MILL TOP-VIEW





## PLANETARY BALL MILL JAR MOUNT STAGE



**MICROWAVE OVEN**  
**SYNTHESIS OF NANOPHOSPHOR MATERIALS THROUGH**  
**COMBUSTION ROUTE**



## AUTOCLAVE

### HIGH PRESSURE SYNTHESIS OF NANO-PHOSPHOR MATERIALS



**UV CABINET (254 nm, 365 nm)**

