

Faculty Profile

Name: **Dr. Ch. Leela**
Designation: Assistant Professor
Teaching areas: Optics, thermodynamics, mechanics, electro-magnetic theory, structure and properties of materials, fluid mechanics, optical fiber communications, research methodology, laser physics, non-linear optics and numerical methods.
Research interests: Experimental: Laser matter interaction, imaging of laser induced shock waves from materials, time and spatially resolved spectral studies, laser ablation propulsion, filamentation, acoustic and radiofrequency detection of shock waves.
Education: Ph.D. Physics, University of Hyderabad, India, 2015.
M.Sc. Physics, Jawaharlal Nehru Technological University, Hyderabad, India, 2006.
B.Sc. Physics, Osmania University College for Women, Hyderabad, India 2004.



Professional experience: 8 years 6 months

1. Assistant Professor (Physics) (July 2016-Present), Faculty of Science and Technology, ICFAI-IFHE, Hyderabad, Telangana, India.
2. Teaching Assistant (Physics) (Aug 2015-May 2016), Mahindra École Centrale College of Engineering (In collaboration with École Centrale, Paris (now Centrale Supélec) and affiliated to JNTU, Hyderabad, Telangana, India.
3. Post Doctoral Fellow (Nov 2014-Nov 2015), University of Hyderabad, Hyderabad, Telangana, India.
4. Project Fellow (June 2007-June 2009), Advanced Centre of Research in High Energy Materials, Hyderabad, Telangana, India.
5. Assistant Professor (Physics) (Oct 2006-May 2007), Younis Sultan College of Engineering, Hyderabad, Telangana, India.

Research/Selected Publications: (Total: 18)

1. Nagaraju Guthikonda, Elle Manikanta, Leela Chelikani, S. Sai Shiva, S. Sree Harsha, V. R. Ikkurthi and P. Prem Kiran, "Interaction of two counter propagating laser induced plasmas and shock waves in air," **Physics of Plasmas**, Vol. 27, Issue 2 (2020).
2. S. Sai Shiva, **Ch. Leela**, P. Prem Kiran, C. D. Sijoy, V. R. Ikkurthi and S Chaturvedi, "Role of laser absorption and equation-of-state models on ns laser induced ablative plasma and shockwave dynamics in ambient air: Numerical and experimental investigations," **Physics of Plasmas**, Vol. 26, 072108 (2019).
3. S. Sai Shiva, **Ch. Leela**, P. Prem Kiran, C. D. Sijoy, V. R. Ikkurthi and S Chaturvedi, "Numerical investigation of nanosecond laser induced plasma and shock wave dynamics from air using 2D hydrodynamic code," **Physics of Plasmas**, Vol. 24, 083110 (2017).
4. E. Manikanta, L. Vinoth Kumar, **Ch. Leela** and P. Prem Kiran, "Effect of laser intensity on temporal and spectral features of laser generated acoustic shock waves: ns versus ps laser pulses," **Applied Optics**, Vol. 56, No.24 (2017).
5. S. Sai Shiva, **Ch. Leela**, P. Prem Kiran, C. D. Sijoy and Shashank Chaturvedi "The effects of electron thermal radiation on laser ablative shock waves from aluminum plasma into ambient air," **Physics of Plasmas**, Vol. 23, 053107 (2016).
6. E. Manikanta, L. Vinoth Kumar, P. Venkateshwarlu, **Ch. Leela** and P. Prem Kiran, "Effect of pulse duration on the acoustic frequency emissions during laser induced breakdown of atmospheric air," **Applied Optics**, Vol. 55, No. 3 (2016).
7. **Ch. Leela**, P. Venkateshwarlu, Raja V. Singh, Pankaj Verma and P. Prem Kiran, "Spatio-temporal dynamics behind the shock front from compacted nanopowders," **Optics Express**, Vol.22, No. S2 (2014).
8. L. Vinoth Kumar, E. Manikanta, **Ch. Leela** and P. Prem Kiran, "RF emissions from laser breakdown of target materials radio frequency emissions from laser induced breakdown of target materials," **Appl. Phys. Lett.** 105, 064102 (2014).
9. **Ch. Leela**, S. Bagchi, V. R. Kumar, S.P. Tewari, and P. P. Kiran, "Dynamics of laser induced micro-shock waves and hot core plasma in quiescent air," **Laser and Particle Beams**, 31, 263 (2013).