

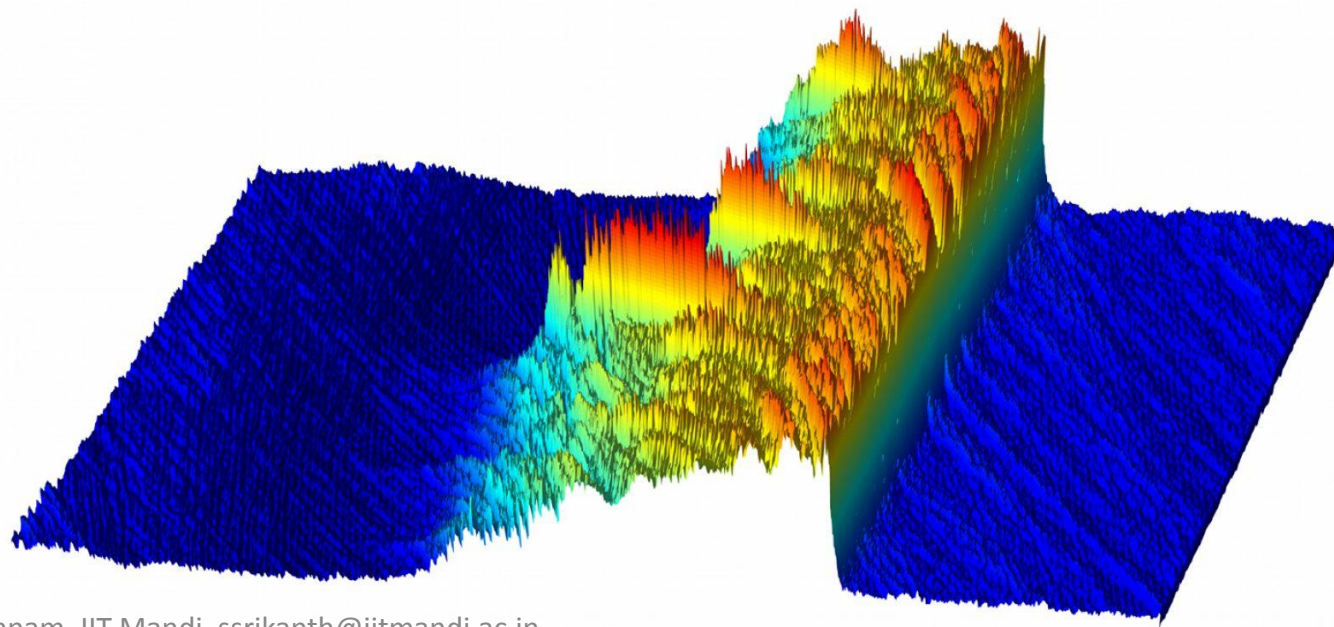
Srikanth Sugavanam

Assistant Professor, School of Computing and Electrical Engineering

IIT Mandi, Himachal Pradesh

ssrikanth@iitmandi.ac.in

www.srikanthsugavanam.com



03-09-2026



Srikanth Sugavanam, IIT Mandi, ssrikanth@iitmandi.ac.in

Personal Biography

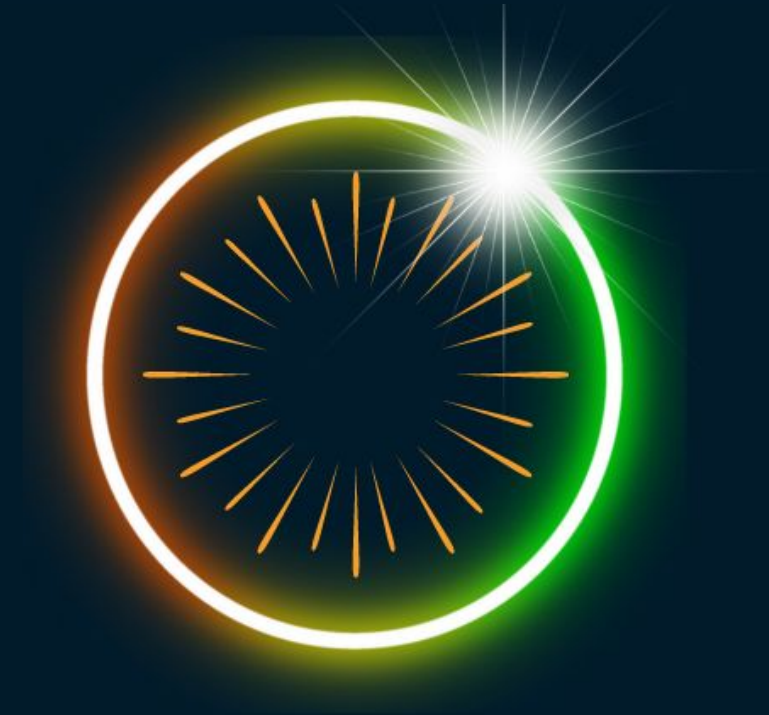
Year	Education/Designation
2005-2008	B.Tech Optics and Optoelectronics, Department of Applied Optics and Photonics, University of Calcutta, India.
2008-2009	MS Optomechatronics, Warsaw University of Technology, Poland
2009-2011	MS Optics, Friedrich Schiller University, Jena, Germany.
2011-2015	PhD , Aston Institute of Photonic Technologies, Prof. Sergei Turitsyn.
2015-2020	Post-doctoral associate , Aston Institute of Photonic Technologies, Aston University, UK
2020-Present	Assistant Professor , School of Computing and Electrical Engineering, IIT Mandi

Teaching activities –

- **IC231/EE231** – Measurement and Instrumentation practicum
- **EE551** – Applied Photonics for Scientists and Engineers
- **EEXXX** – *Nonlinear fiber optics and its applications (in preparation)*

Pratibimb Photonics Labs, IIT Mandi

- **State-of-the-Art Photonics Labs at IIT Mandi**
- ***Research areas***
 - Ultrafast fiber lasers (DST-CRG 2022-25)
 - Fiber optic sensor platforms
 - Lean optomechatronics
- *Actively seeking bright and motivated M.Tech (Res), PhD, project and intern students!*



Pratibimb
Photonics Labs, IIT Mandi

PI – Dr. Srikanth Sugavanam,
Assistant Professor, SCEE
Pratibimb Photonics Labs, IIT Mandi
www.srikanthsugavanam.com

People

4 PhD, 1 MS, Multiple Mtech, Btech students, *and growing!*

Projects

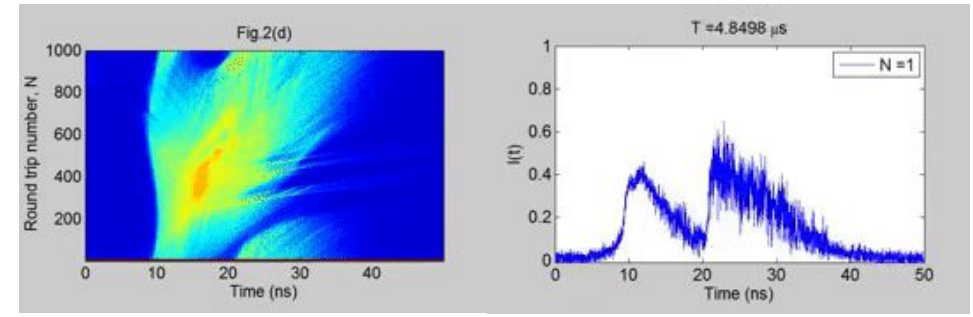
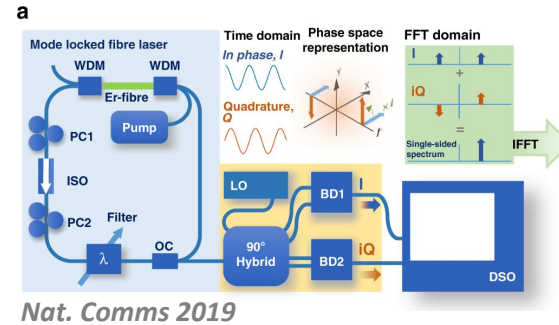
DST-CRG, March 2022-2025

Collaborations

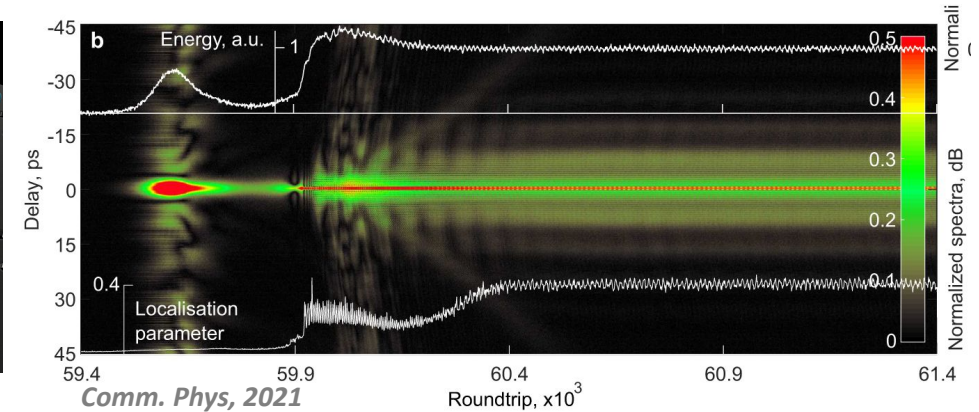
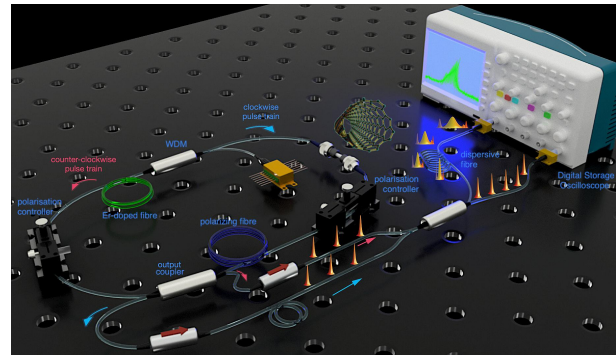


Research areas

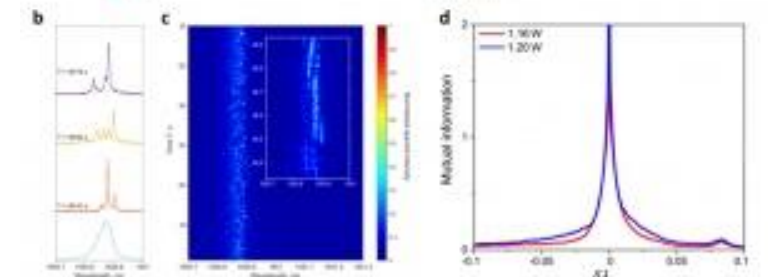
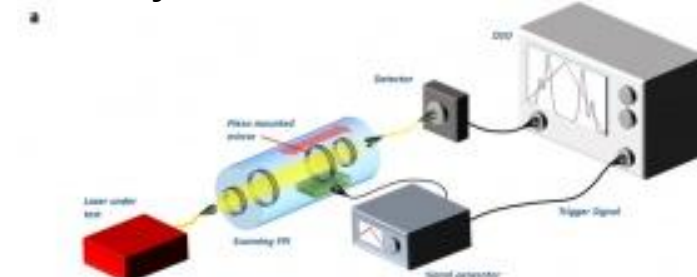
Ultrafast fiber lasers and real-time measurements



Ultrafast fiber laser gyroscopes



Random fiber lasers



Research areas

- *Ultrafast fiber lasers*
- *Random fiber lasers*
- *Real-time intensity and spectral measurements*
- *Photonic and fiber optic sensors*

nature photonics

Explore content ▾ About the journal ▾ Publish with us ▾ Subscribe

nature > nature photonics > letters > article

Published: 22 September 2013

The laminar–turbulent transition in a fibre laser

E. G. Turitsyna, S. V. Smirnov, S. Sugavanam, N. Tarasov, X. Shu, S. A. Babin, E. V. Podivilov, D. V. Churkin, G. Falkovich & S. K. Turitsyn

Nature Photonics **7**, 783–786 (2013) | [Cite this article](#)

4392 Accesses | 159 Citations | 4 Altmetric | [Metrics](#)

nature communications

Explore content ▾ About the journal ▾ Publish with us ▾

nature > nature communications > articles > article

Open Access | Published: 18 May 2017

Spectral correlations in a random distributed feedback fibre laser

Srikanth Sugavanam, Mariia Sorokina & Dmitry V. Churkin

Nature Communications **8**, Article number: 15514 (2017) | [Cite this article](#)

3628 Accesses | 29 Citations | 4 Altmetric | [Metrics](#)

nature communications

Explore content ▾ About the journal ▾ Publish with us ▾

nature > nature communications > articles > article

Open Access | Published: 07 May 2015

Stochasticity, periodicity and localized light structures in partially mode-locked fibre lasers

D. V. Churkin, S. Sugavanam, N. Tarasov, S. Khorev, S. V. Smirnov, S. M. Kobtsev & S. K. Turitsyn

Nature Communications **6**, Article number: 7004 (2015) | [Cite this article](#)

5169 Accesses | 104 Citations | 1 Altmetric | [Metrics](#)

nature communications

Explore content ▾ About the journal ▾ Publish with us ▾

nature > nature communications > articles > article

Article | Open Access | Published: 11 December 2019

Analysis of laser radiation using the Nonlinear Fourier transform

Srikanth Sugavanam, Morteza Kamalian Kopae, Junsong Peng, Jaroslav E. Prilepsky & Sergei K. Turitsyn

Nature Communications **10**, Article number: 5663 (2019) | [Cite this article](#)

4637 Accesses | 21 Citations | 7 Altmetric | [Metrics](#)

Home > APL Photonics > Volume 5, Issue 1 > 10.1063/1.5121723

Open • Submitted: 26 July 2019 • Accepted: 18 December 2019 • Published Online: 07 January 2020

Real-time observation of the optical Sagnac effect in ultrafast bidirectional fibre lasers

APL Photonics **5**, 016104 (2020); <https://doi.org/10.1063/1.5121723>

M. Chernysheva^{1,a)}, S. Sugavanam², and S. Turitsyn^{2,b)}

communications physics

Explore content ▾ About the journal ▾ Publish with us ▾

nature > communications physics > articles > article

Article | Open Access | Published: 06 November 2020

Pulse-onset dynamics in a bidirectional mode-locked fibre laser via instabilities

Igor Kudelin, Srikanth Sugavanam & Maria Chernysheva

Communications Physics **3**, Article number: 202 (2020) | [Cite this article](#)

ADVANCED PHOTONICS RESEARCH

Open Access

Research Article | Open Access | CC BY

Ultrafast Gyroscopic Measurements in a Passive All-Fiber Mach-Zehnder Interferometer via Time-Stretch Technique

Igor Kudelin, Srikanth Sugavanam, Maria Chernysheva

First published: 12 June 2022 | <https://doi.org/10.1002/adpr.202200092>

Vision for Pratibimb Photonics Labs

- ***Core hub for the development of state of the art mode locked fiber lasers***
 - Ultrashort pulse generation (<100 fs)
 - Low noise and timing jitter capabilities – experimental and theory
 - Development of novel, cost-effective characterization technologies
- ***Machine learning and AI augmentation***
 - Inverse design
 - Laser stabilization
 - Auto tuning
- ***Laser sensing technologies***
 - Fiber-based tech – (Bragg gratings, distributed) – focus on interrogator design.
 - Free-space aspects – (LIDARs , diagnostics for DEW systems) – high-speed diagnostics.
 - Miniaturization for manufacture and deployment.