

Shreyas Srinivas Rangan

Email address: shreyassrinivasrangan@gmail.com · Phone number: +37126707091

SUMMARY

Fiber-optic communications researcher with hands-on experience in optical network testing, fiber installation, fusion splicing, OTDR measurements, and optical component integration. Conducted advanced research on Raman, EDFA, and FOPA-based hybrid optical amplifiers, authoring two peer-reviewed publications and contributing to the optimization of optical communication system performance. Proficient in fiber-optic connectors, splitters, couplers, adapters, system troubleshooting, performance optimization, and technical documentation. Strong analytical and problem-solving skills with experience supporting laboratory experiments and practical fiber-optic system deployments.

EXPERIENCE

SCIENTIFIC ASSISTANT- FIBER OPTICS | Nov 2023 — Dec 2026

Riga Technical University - Riga, Latvia

- Conducted research on hybrid optical amplifier technologies, including Raman Amplifiers, Erbium-Doped Fiber Amplifiers (EDFAs), and Fiber Optical Parametric Amplifiers (FOPAs), resulting in two peer-reviewed publications.
- Designed, simulated, and analyzed optical communication systems using RSoft OptSim, evaluating key performance metrics such as BER, Q-factor, and OSNR.
- Performed fiber characterization, fault localization, and loss measurements using the EXFO FTB-500 OTDR platform.
- Conducted fusion splicing of optical fibers using the Fujikura FSM-50S fusion splicer and worked extensively with fiber-optic connectors, splitters, couplers, and adapters.
- Prepared technical documentation and supported the installation, configuration, and maintenance of fiber-optic experimental setups for research and laboratory demonstrations.
- Assisted in laboratory testing, troubleshooting, and performance optimization of fiber-optic communication systems, ensuring accurate and reliable experimental results.

EDUCATION

Riga Technical University - Riga, Latvia | Ph.D. IN TELECOMMUNICATIONS

(Fiber Optics) | Sep 2022 - Dec 2026

Research Focus: Hybrid Optical Amplifiers (Raman, EDFA, and FOPA) for Optical Communication Systems.

SKILLS

- Raman, EDFA, and Fiber Optical Parametric Amplifiers
- DWDM/WDM transmission systems
- Optical system design and simulation using RSoft OptSim, including performance optimization using BER, Q-factor, and OSNR metrics.
- MATLAB for data analysis, visualization, and post-processing of optical simulation results
- OTDR (Exfo FTB-500) testing and fiber characterization. Fusion Splicing (Fujikura FSM – 50S fusion splicer) and Fiber Installation

PUBLICATIONS

- **Shreyas Srinivas Rangan**, Jurgis Porins, Toms Salgals, *Performance Improvement of Long-Reach Optical Access Systems Using Hybrid Optical Amplifiers*, Photonics & Electromagnetics Research Symposium – Spring (PIERS–Spring), 2025. DOI: <https://doi.org/10.1109/PIERS-Spring66516.2025.11276343>
- **Shreyas Srinivas Rangan**, Jurgis Porins, Toms Salgals, *Fiber Optical Parametric Amplifiers in 40 Gbps WDM Systems: Performance Limits and Optimization*, Photonics & Electromagnetics Research Symposium – Fall (PIERS–Fall), 2025. DOI: <https://doi.org/10.23919/PIERS-Fall62445.2025.11394521>