

Ultrafast laser frequency conversion **MecMode**

THE PROBLEM

Optical frequency conversion of continuous ultrafast lasers faces a fundamental scaling conflict: high pulse energy and high repetition rate are difficult to achieve simultaneously, particularly in the visible, ultraviolet, and mid-infrared spectral regions.

One compelling application is optical Earth–space communication, where high-pulse-energy, high-repetition-rate mid-infrared laser sources operating within atmospheric transmission windows could enable high-speed data transmission while improving communication reliability under adverse weather conditions compared with telecom counterpart.

OUR SOLUTION

Our team aims addressing this problem based on a patent which works based on gas-filled hollow-core fiber lasers.

PATENT STATUS

The patent was internationally published in May 2026 and is progressing toward national-phase.

FINANCIAL OVERVIEW & MILESTONES

- Received DTU Discovery Grant – 0.15 MDKK
- Secured 13 MDKK research funding from the Novo Nordisk Foundation to advance the underlying technology
- Completed initial validation of the laser technology, TRL: 3
- We aim to develop a prototype in the next 3 years, targeting free-space communication.

TARGET MARKET & CUSTOMERS

TNO: <https://www.tno.nl/en/digital/space/>

TESAT: <https://www.tesat.de/>

Mynaric: <http://mynaric.com/>

Thales Alenia Space:

<https://www.thalesaleniaspace.com/en>

THE PROFILE WE ARE LOOKING FOR

Preferred qualifications

- (Pre-)commercialization experience in high-tech and early-stage laser technologies.
- Experience approaching potential customers
- Experience securing investments

Personal fit

- Entrepreneurial and open-minded
- Strong communicator and relationship builder
- Prioritize physical presence when needed
- Can bear the slow growing up of start up (e.g., 10 years)

TASKS & RESPONSIBILITIES (FIRST 6 MONTHS)

- Communication with stakeholders
- Business strategy and market analysis
- Support fundraising and expansion
- Part-time participation

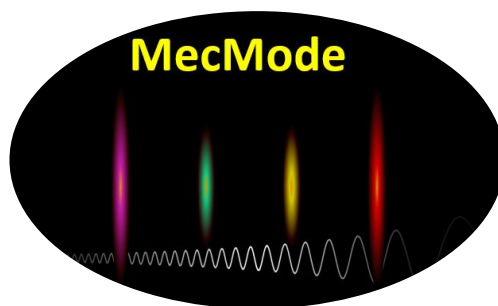
ACADEMIC & ENTREPRENEURIAL BACKGROUND OF CURRENT CO-FOUNDERS

Yazhou Wang: Researcher at DTU Electro – Founder

Christos Markos: Assoc. Prof. at DTU Electro – Adviser

PHYSICAL ADDRESS

Building 343, DTU Electro, 2800 Kongens Lyngby.



ABOUT OPEN ENTREPRENEURSHIP

Open Entrepreneurship (OE) is a collaboration between all Danish universities aiming to create more research-based startups.

REGISTER YOUR INTEREST

Deadline is November 8th, 2026

www.open-entrepreneurship.com/cofounder/