The Eindhoven University of Technology has a vacancy for a

Postdoctroral position in
Ultrafast optical signal processing in semiconductor optical amplifiers

This position is at the COBRA Research Institute (Department of Electrical Engineering) of Eindhoven University of Technology, The Netherlands.

/ The Project

The throughput of Internet-nodes is growing with roughly a factor 1000 every eight years. The transport of Internet data takes place over fiber optic connections. In the telecommunication nodes, routing of the data is carried out in the electronic domain. Conversion of high-speed optical data to the electrical domain (and the other way around) is a power-hungry process. Present day Internet routers can dissipate a few Megawatts of power, which forms a main hurdle of scaling such nodes further.

Photonic switching technology for packet routers provides solutions for this problem, since all the data are no longer converted from the optical domain to the electronic domain. The research school COBRA is involved in research to ultra-fast optical switches for packet routing. High speed operation and low power dissipation are key issues.

In this postdoctoral project, we focus on ultrafast photonic signal processing in semiconductor optical amplifiers. The postdoctoral project is carried out within the context of the 7th European framework project BOOM which is carried out in collaboration with other academic and industrial partners in Europe. The role of Eindhoven University of Technology in the BOOM project is to investigate wavelength conversion and other optical signal processing at bit-rates › 320 Gigabit/sec using semiconductor optical amplifiers. Special attention has to be paid to clock-recovery and optical time-domain demultiplexing. More details can be found on: www.ict-boom.eu

COBRA has state-of-the-art and unique laboratory infrastructure for investigating and characterizing devices and (sub) systems operating at ultra-high data rates. Our laboratory is constantly subject to upgrading and improvement. The postdoctoral fellow is expected to play an active role in this. The postdoctoral fellow is also expected to closely collaborate with partners in the BOOM-project and with COBRA researchers.

/What we ask

We would like to get in contact with talented individuals who have recently obtained a PhD degree in optical communication or high-speed electronics and wish to continue their research in a state-of-the-art and stimulating environment. Preference is being given to those with a strong experimental background.

/Appointment and Salary

The appointment is for three years. As an employee of the university you will receive a competitive salary as well as excellent secondary benefits (including excellent sport facilities and child care).

Moreover 8% bonus share (holiday supplement) is provided annually. A salary offer will be based on your knowledge and experience. Assistance for finding accommodation can be given.

/ Information and application

If you are interested in this position, please send a detailed curriculum vitae, a motivation letter, a publication list, and the names of 3 references to Prof. Dr. Harmen Dorren (H.J.S.Dorren@tue.nl), Dr. Eduward Tangdiongga (E.Tangdiongga@tue.nl) or Dr. Huug de Waardt (H.d.Waardt@tue.nl)