



Issue 1 | Date: 31 May 2019 | <https://fonte.astonphotonics.uk/>

## THE FIRST 12 MONTHS

FONTE, the European Industrial Doctorate funded by the European Commission under GA 766115, is coordinated by **Aston University** (UK) with close participation of its academic partners **TU Delft** (Netherlands), **DTU** (Denmark) and **Telecom Paris France**, alongside its industrial partner **Nokia Bell Labs** (Germany). The network has now recruited its full set of four Early Stage Researchers (ESRs) and most of the Work Packages have started.

In this newsletter we introduce our PhD students **Vladislav** (Aston), **Vinod** (TU Delft), **Stenio** (DTU) and **Abtin** (TPT) in more details.

They have already benefited from the training activities co-organised by the FONTE network partners, such as the **FONTE Induction** (virtual), a **Winter school** at NBL and **NLP2019** (Andalo; Italy), organised by FONTE's sister programme MOCCA. In June and July 2019 our ESRs will have the opportunity to attend **ICTON2019** in Angers/France, co-organised by FONTE partner TPT, as well as the **FONTE First Annual Workshop** on Presentation Skills at NBL/Stuttgart.

WEBSITE: <https://fonte.astonphotonics.uk/>



### Research

In the FONTE project focuses on the development of **disruptive nonlinear techniques and approaches to fibre-optic communications beyond the limits of current technology**. The project will make important innovative steps in development of the technique of the nonlinear Fourier transform (NFT) and its implementation in the practical communication systems.

[READ MORE](#)

### Consortium

The FONTE consortium unites **five world leading groups** working in Fibre-optic communication systems, which have already made important contributions to this booming field: the four high profile **academic** groups at Aston Institute of Photonic Technologies at Aston University (UK), Technical University of Denmark (Denmark), Delft University of Technology (Netherlands) and Télécom ParisTech (France), alongside the **industrial** partner Nokia Bell Labs (Germany).

[READ MORE](#)

The FONTE consortium is organising a **FREE** open-to-all workshop on **Nonlinear Fourier Transform**, covering both Theory and a hands-on NFT software practical session

Register and join us for FREE



5

Partner Organisations

1,1

Million EUR Grant received

4

Early Stage Researchers

1

Industrial Partner

ESR1: Vladislav Neskornikuk



**Project:** Novel design, coding and digital signal processing techniques for NFT-based systems

**Host:** Aston University, UK

*(click on the photo for more info about Vlad, including social media)*

ESR2: Vinod Bajaj



**Project:** Impact of impairments on the NFT

**Host:** Delft University of Technology, Netherlands

*(click on the photo for more info about Vinod, including social media)*

ESR3: Stenio M. Ranzini



**Project:** Machine learning based optical performance monitoring

**Host:** Technical University of Denmark, Denmark

*(click on the photo for more info about Stenio, including social media)*

ESR4: Abtin Shahkarami



**Project:** Achievable spectral efficiencies of the NFDm in optical fibre mesh networks

**Host:** Telecom Paris, France

*(click on the photo for more info about Abtin, including social media)*

Our Followers on Twitter



Our FONTE Consortium



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## Meet our FONTE ESRs

### ESR1: V. Neskorniuk; Aston



#### EDUCATION

**Vladislav Neskorniuk** received both his B.Sc. degree (2015) and M.Sc with honors (2017) from Moscow Institute of Physics and Technology, the leading physics educational institution in Russia and the former Soviet Union. The topic of his master thesis was the nonlinear phenomena in fiber-optic communication systems, in particular, stable molecules of solitons. Having graduated, Vladislav gained research experience both in academia and in industry. Vladislav spent a year finalizing his master research in Skolkovo Institute of

Science and Technology, a brand-new university, established in Russia in collaboration with the Massachusetts Institute of Technology. Later, Vladislav worked at Huawei, where he developed and numerically tested methods of nonlinear interference compensation in fiber-optic communication systems. Before joining AiPT, Vladislav authored several conference papers and an "Optics Letters" journal paper. His work at Huawei was awarded company's "Technology and Breakthrough Award".

Besides his research activities, Vladislav was an active member of the university debating community of Russia. He participated in the organization of several debating tournaments in Russia and raised substantial funds for one of them.

**Vladislav will start by Aston University in August 2019.**

#### Find out more

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<https://fonte.astonphotonics.uk/esr-1/>

## Meet our FONTE ESRs

### ESR2: Vinod Bajaj; TU Delft



#### EDUCATION

**Vinod Bajaj** holds a Bachelor of Technology degree in Electronics and Communication Engineering from Government Engineering College Ajmer, India and Master of Technology degree in Electrical Engineering from Indian Institute of Technology Madras, India. His Master of Technology thesis work was on development of digital signal processing algorithms to mitigate impairments in coherent optical communication.

His work was mainly focused on algorithms to mitigate polarization impairments and fiber nonlinearity induced phase modulation for high capacity coherent optical communication systems.

Apart from his academic career, he has two years of industrial experience in R&D department of Sterlite Technologies Limited, India, one of the leading optical fiber and telecom products manufacturer. At Sterlite Tech., he worked on characterization of different optical fibers over 100G DWDM long-haul test-bed. Currently, he is a PhD student at the Technical University of Delft (DTU) in the Fiber Optic Nonlinear Technologies (FONTE) project.

Vinod is employed by TU Delft since December 2018.

#### Find out more

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## Meet our FONTE ESRs

### ESR3: Stenio Ranzini; DTU



He also helped to found the Brazilian photonic society (SBFoton) in 2017, where he was the administrative director.

Stenio is pursuing a Ph.D. in optical communications at the Technical University of Denmark in the Machine Learning in Photonic Systems group. Currently, he is in the fiscal council of the organization and a Marie-Curie Fellow.

Stenio is employed by DTU since September 2018.

### EDUCATION

**Stenio Magalhaes Ranzini** received his bachelor's degree at the University of Sao Paulo, Brazil, and his master's degree at the State University of Campinas, Brazil. From 2011 to 2018, he was a researcher at CPqD Foundation, Campinas, Brazil. At CPqD, he developed and implemented state-of-art digital signal processing algorithms to be employed in a commercial physical layer ASIC for high speed (400G) optical communication transceivers.

### Find out more

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## Meet our FONTE ESRs

### ESR4: Abtin Shahkarami; TPT



### EDUCATION

**Abtin Shahkarami** received both his Bachelor and Master degrees from the University of Tehran in Computer Science and Multimedia Systems, respectively. In 2017 he was awarded "Top inventor of the University of Tehran" for creating a speech recognition device for the Persian language called "Ravannevis". In addition he got the first-rank student in the Master's level.

Abtin's Master's thesis was in the area of configuring topology of classifiers in real-time large-scale stream mining systems, an area where he holds a publication in the prestigious Springer Nature Journal.

Prior to joining Telecom Paristech, Abtin worked as a research assistant at the Goethe University (Frankfurt, Germany). In his free time Abtin is a passionate fan of learning, innovating, and swimming.

**Abtin is employed by Telecom Paris Tech since May 2019.**

### Find out more

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