Tampere University of Technology
http://www.tut.fi/en

Mid Sweden University
http://www.miun.se/en

University of Valencia
http://www.uv.es

Newcastle University
http://www.ncl.ac.uk

Christian-Albrecht-University Kiel
http://www.uni-kiel.de

Fraunhofer IIS
http://www.iis.fraunhofer.de

Holografika
http://www.holografika.com

Raytrix GmbH
http://www.raytrix.de

Yleisradio Oy
http://yle.fi

New Factory Ltd.
http://newfactory.fi

Nanyang Technological University
http://www.ntu.edu.sg

RealEyes GmbH
http://real-eyes.eu/en

Centre for Genomic Regulation
http://www.crg.eu

Huawei Technologies Duesseldorf GmbH
http://www.huawei.com/de

Exact Innovation
http://www.exactinnovation.com

Pázmány Péter Catholic University
https://ppke.hu/en

www.full-parallax-imaging.eu
www.etn-fpi.eu

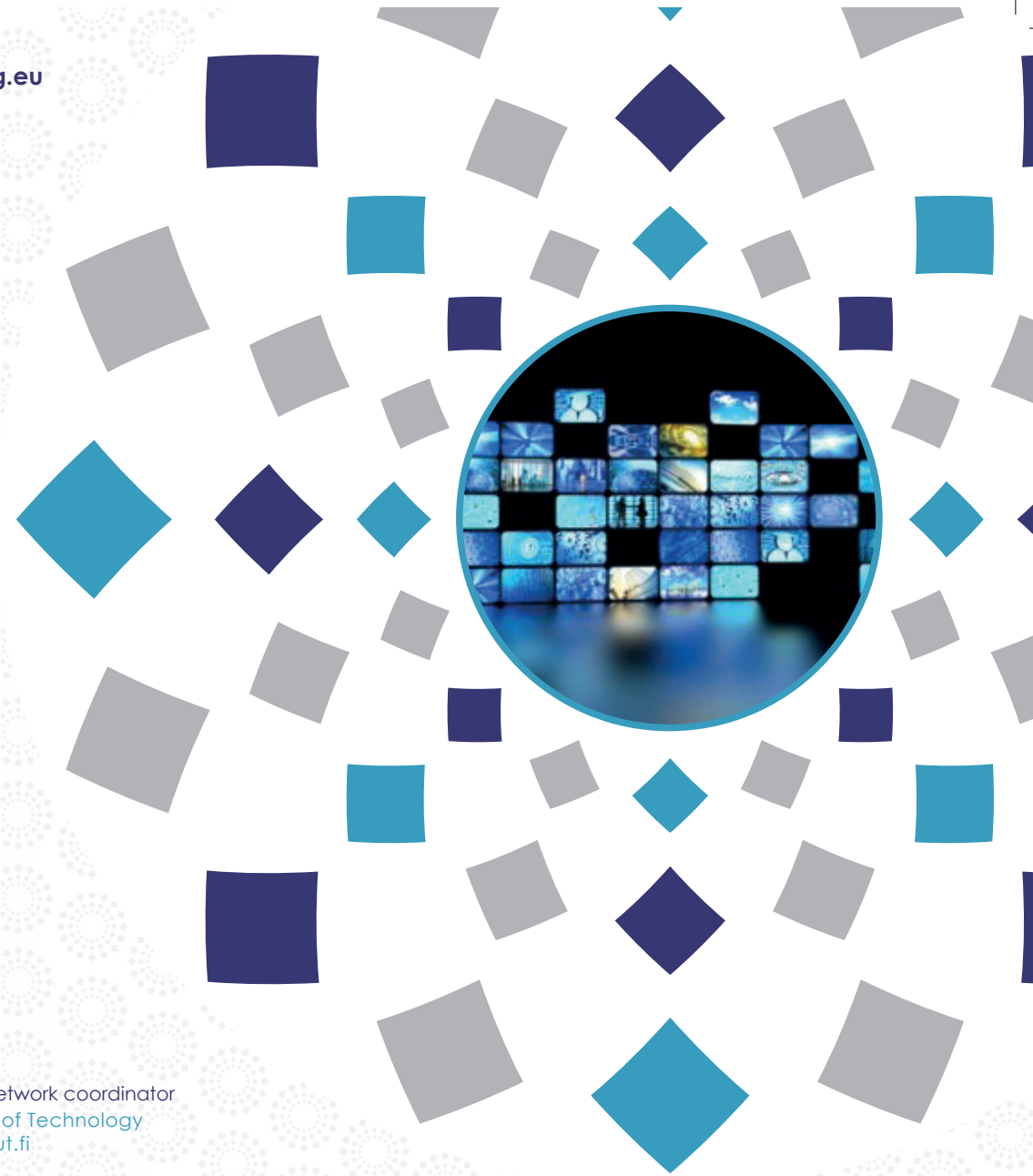**Atanas Gotchev** - Network coordinator
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network

contact

european training network
on full parallax imaging

Current displays fall far short of truly recreating visual reality. This can never be achieved by painting an image on a flat surface such as a TV screen, but requires a full-parallax display which can recreate the complete lightfield, i.e. the light traveling in every direction through every point in space. Recent years have seen major developments towards this goal, promising a new generation of ultra-realistic displays with applications in medicine, informatics, manufacturing, entertainment, gaming and more. However, achieving this will require a new generation of researchers trained both in the relevant physics, and in the biology of human vision. The European Training Network on Full-Parallax Imaging (ETN-FPI) aims at developing this new generation.

ETN-FPI is a four year (2015-2019) H2020 Marie Sklodowska-Curie Innovative Training Network that brings together 8 beneficiaries and 8 partner organizations from Finland, Sweden, Germany, United Kingdom, Spain, Hungary and Singapore, with the aim of training a new generation of researchers in the area of full parallax imaging. This will be achieved by hiring talented 15 early stage researchers (ESR) and training them to become future research leaders in this area.

The research programme aims at harmonizing and advancing the research in the areas of plenoptics, light field and integral imaging under the FPI umbrella. The research work is organized in tree work packages (WPs):

WP1: Sensing and content creation, focusing on problems of optimal spatial-angular resolution for lightfield sensing
WP2: Computational imaging and compression, focusing on problems of analysis, interpretation, and compression of lightfield data
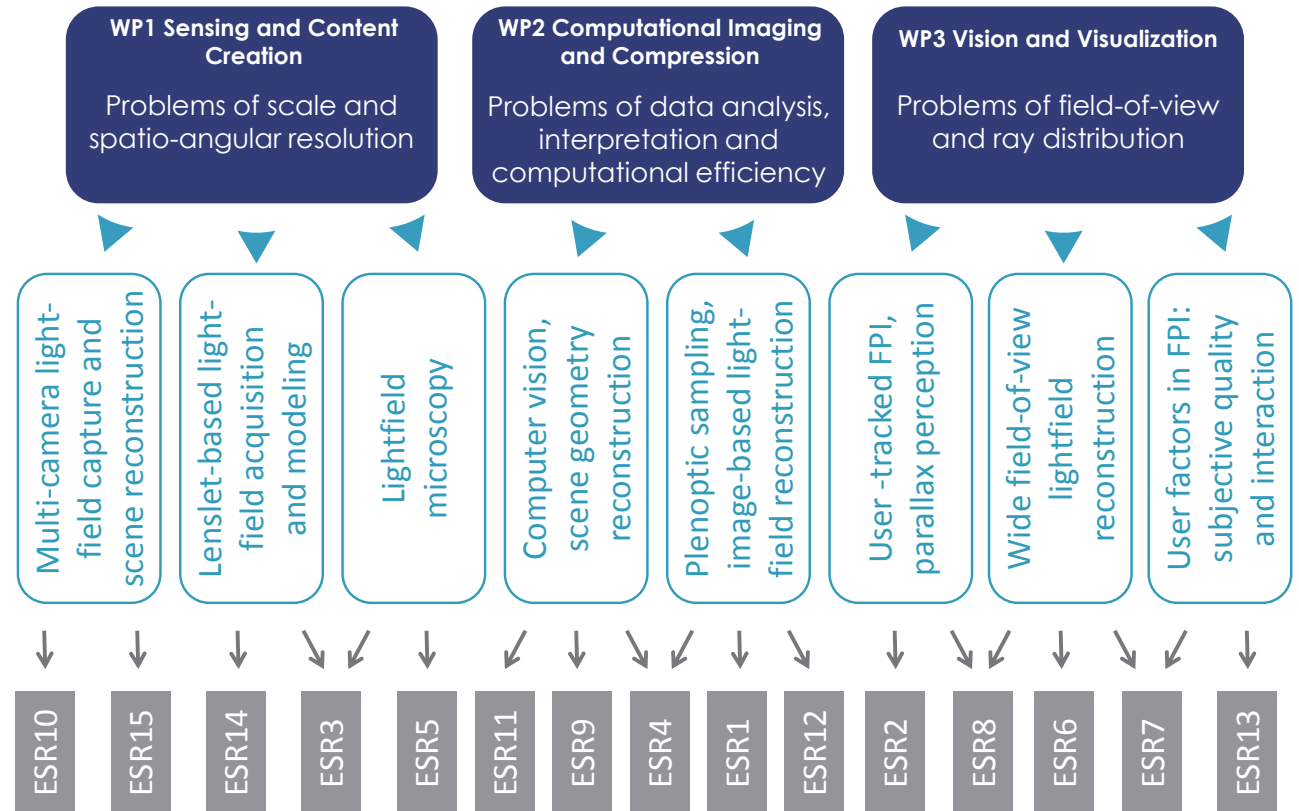WP3: Vision and Visualization, focusing on problems of full parallax visualization of 3D data

The training programme consists of online seminars, training schools, workshops and a conference. It encompasses the disciplines of theoretical and applied optics, multidimensional image processing, visual neuroscience, and management of innovations and aims at supporting the ESRs for gathering competitive skills and becoming highly competent in bringing innovations to the field of ultra-realistic and interactive visual media.

description

The programme will advance the knowledge in the area of 3D scene sensing, lightfield analysis and interpretation, and visualization of full parallax 3D content

The network combines five underlying fundamental areas for training and research:
- **visual neuroscience**
- **optics**
- **visual computing**
- **signal and data processing**
- **management of innovation**

etn fpi

WP1 Sensing and Content Creation

Problems of scale and spatio-angular resolution

WP2 Computational Imaging and Compression

Problems of data analysis, interpretation and computational efficiency

WP3 Vision and Visualization

Problems of field-of-view and ray distribution

Multi-camera light-field capture and scene reconstruction

Lenslet-based light-field acquisition and modeling

Lightfield microscopy

Computer vision, scene geometry reconstruction

Plenoptic sampling, image-based light-field reconstruction

User-tracked FPI, parallax perception

Wide field-of-view lightfield reconstruction

User factors in FPI: subjective quality and interaction

ESR10 | ESR15 | ESR14 | ESR3 | ESR5 | ESR11 | ESR9 | ESR4 | ESR1 | ESR12 | ESR2 | ESR8 | ESR6 | ESR7 | ESR13

research