



PRESS RELEASE, 14 November 2012

A new European network crosses the boundaries for excellence in language and perception research

The EU invests €4.15 million to study human abilities to map visual information and language. **LanPercept**, a new Marie Curie Initial Training Network funded through the 7th EU Framework Programme, will develop cutting edge techniques to understand vision-language mapping across the life-span in typically and atypically developing populations. New tools and training software will be tested to help disabled and elderly people negotiate the translation between vision and language.

The network will train 11 PhD researchers and 4 postdoctoral researchers across 8 leading academic and 7 industrial and private sector partners in Europe. The project starts in January 2013 and lasts for four years.

Targeting marginalization of people with disabilities and the aging population

The network brings together professionals from psychology, neuroscience and linguistics in an attempt to identify behavioral and brain mechanisms that are involved in mapping visual information and language in everyday situations. The knowledge gained will be used to develop innovative testing and training tools and software for clinical work with elderly people suffering from dementia and people with autism spectrum disorders, deafness and reading disabilities.

LanPercept will provide new tools for practitioners in educational and health institutions and in this way targets the marginalization of persons with disabilities and aging individuals, which is one of the major challenges in the current-day European society. In order to take innovative steps in the development of new tools in tackling this problem, a close collaboration of professionals from different fields is crucial. This was also identified by the coordinator of the network, Professor Mila Vulchanova from The Norwegian University of Science and Technology:

"The current network is unique in bridging together basic research and clinical research (which is still rare), with a strong focus on methodology and advanced techniques for studying language and perception. This is a must for the European researcher for the future."

In addition to helping people with vision-language mapping problems, the clinical aspects of the network are important in advancing basic research in the field, as Vulchanova notes:

"Typically, we can see why and how basic research can contribute to improve and address clinical research and concerns. However, basic research can also benefit from studies conducted in clinical settings or with clinical populations, and clinical studies bring in a completely new perspective. The evidence we get from clinical

populations is extremely valuable and helps research zoom into specific problems or areas which may be specifically highlighted in the case of developmental or acquired deficits. This evidence complements the picture we have from typical populations."

In this unique collaboration, the network researchers are developing theories that can capture the features of the visual environment that humans typically attend to. The theories will also explain how visual objects, events and actions are shaping language understanding. In experiments, researchers are also testing how language shapes our attention to the visual environment. Taking into account both of these directions, it is expected that LanPercept will develop theories that can explain the complicated interplay of vision-language mapping in humans.

Young professionals for societal and industrial needs

More and more young researchers who finish their PhD or postdoctoral training at universities are seeking ways to build a professional career outside of academia. LanPercept is targeted to train interdisciplinary professionals who are no longer confined to the traditional boundaries between academia and the private sector.

Vulchanova continues: *"In Europe today there is a clear trend for interdisciplinary research and enterprise, with novel and unforeseen cross-fertilizations across traditional fields. Clearly, postgraduate education should follow lead and prepare graduates for the needs of changing technological markets, and society at large."*

In LanPercept, the strong clinical aspect and collaboration with leading industrial partners guarantee a smooth career path from academia to industry and the public sector. Young researchers in the Network will do internships with the participating market-leading eye-tracking and brain research companies that offer technical tools for vision-language research. Industrial partners will also offer direct training to teach to identify direct applications of research outputs, as well as train entrepreneurial skills. Collaborators in the world-leading eye-tracking companies have also named direct benefits of participating in EU's LanPercept network:

Tommy Strandvall, Global Head of Knowledge and Training at Tobii Technology (Sweden): *"This is a great opportunity for us as a full partner of LanPercept to collaborate closely with eight outstanding European universities. By engaging an experienced researcher for 24 months we aspire to make new knowledge and eye tracking solutions available to the research community."*

Martin Pötter, Product Manager at SensoMotoric Instruments GmbH (Germany): *"We at SMI are looking forward to the collaboration with senior specialists as well as future professionals in the area of language and perception to better understand the needs and develop the next generation of research tools for this community."*

These unique collaborations are expected to lead to strong ties and improved synergy between researchers in academia and the private sector, as well as for long-lasting partnerships beyond the network to further benefit language and perception research.

The Internet site of LanPercept is currently under development. In the near future, more information can be obtained here: www.ntnu.edu/lanpercept.

Contacts

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The list of participating institutions and project leaders (with numbers of hosted young researchers in brackets):

Universities:

- Norwegian University of Science and Technology (2 PhD students)
Prof. Mila Vulchanova, Network Coordinator; Prof. Juhani Järvikivi; Dr. Valentin Vulchanov
- Aston University, UK (1 PhD student, 1 post doc)
Prof. Joel Talcott, Dr. Caroline Witton
- Erasmus University Rotterdam, the Netherlands (1 PhD student)
Prof. Rolf Zwaan
- Saarland University, Germany (1 PhD student, 1 post doc)
Prof. Matthew Crocker, Dr. Pirita Pyykkönen-Klauck
- University of Bielefeld, Germany (1 PhD student)
Prof. Pia Knoeferle
- University of East Anglia, UK (2 PhD students)
Prof. Kenny Coventry
- University of Sevilla, Spain (2 PhD students)
Prof. David Saldaña, Prof. Isabel Rodrigues
- University of Southern Denmark (1 PhD student)
Prof. Teresa Cadierno

Private sector partner:

- Fundación Instituto Valenciano de Neurorehabilitación (FIVAN), Spain (1 post doc), *Pablo Duque, Pablo Gagliardo*

Industrial partners:

- Tobii Technology, Sweden (1 post doc), *Tommy Strandvall*
- Acuity ETS Ltd., UK
- Brain Products GmbH, Germany
- Elekta Oy, Finland
- Lingit AS, Norway
- SensoMotoric Instruments GmbH, Germany