

Department of Telecommunication and Information Processing (TELIN)

Demo and Information Sessions Master Dissertations
Department of Telecommunication and Information Processing
TELIN

Technicum, Blok III

Monday 20 and Tuesday 21 April 2015

Dear students,

The TELIN department (Telecommunication and Information Processing) is organizing information sessions for its proposals of master dissertation subjects. These sessions will take place in Blok III of the Technicum building on Monday 20 and Tuesday 21 of April 2015.

We organize two demo sessions (please refer to the next page for more details) which give you some insight in the research of TELIN's research groups and provide you with more details on the master dissertation subjects. This will help you to make an informed choice of your master dissertation topic.

You can select the demos that interest you most on the online submission forms. Each demo takes 50 minutes in total and covers a number of related topics.

During the demos you will be able to ask questions. However, feel free to contact the supervisor(s) and/or contact person of dissertation proposals at any time for further information.

We wish you an interesting journey!

Department of Telecommunication and Information Processing

Demo session 1: Queueing Systems (SMACS)/Digital Communication (DIGCOM)

Students are welcomed in the ‘Green Room’ of the TELIN department at the Technicum, building III, first floor (see <http://telin.ugent.be/telin/map/>), where the theses of the SMACS (Stochastic Modelling and Analysis of Communication Systems) research group will be explained in more detail by ir. Kurt Van Hautegeem and dr. Tom Maertens. A queueing system is any situation in which ‘customers’ have to wait in order to receive some kind of ‘service’. Real-life examples are abundant: traffic jams, train delays, choosing the wrong queue in a supermarket, hospital waiting rooms,... Moreover, all supply chains and assembly lines can be modelled as a queueing system as well. Besides these examples of physical queues, waiting for service also occurs in virtual environments: call centers, buffering of a YouTube movie, lag in your favorite first person shooter,... The SMACS research group offers a wide selection of master theses in these research domains which are as practical and hands-on as they are theoretically challenging and conceptual provocative. We will illustrate the importance of queueing analysis, elaborate on the different research domains, and answer questions about the subjects offered this year.

After this, Prof. Nele Noels will present the Master thesis subjects proposed by the DIGCOM research group. DIGCOM’s research is in the field of digital communications, and involves the design and analysis of algorithms for reliable digital data storage, reliable digital data transport over wireless and wired channels (satellite, mobile radio, twisted-pair cable, chip-to-chip interconnects, ...) and the use of digital signals for localization in various environments (indoor, rural area, urban area). The research covers both fundamental topics and topics with applications in industry. After a brief presentation of the various Master thesis subjects, Samuel Van de Velde will give a short demo which illustrates how (localization) algorithms under development can be verified experimentally on a testbed.

This demo will take 50 minutes in total and will take place on Monday April 20 at 14pm and 16pm and on Tuesday April 21 at 15pm and 17pm.

Demo session 2: Databases (DDCM)/Image Processing (IPI)

Students first meet with prof. Guy De Tré in the ‘Green’ meeting room of the TELIN department, Technicum, block III, 1st floor. Prof. De Tré will introduce the subjects of the available master theses of DDCM. This year, the subjects include a.o. data merging, analysis of motion in sport matches (soccer and volleybal), decision support and calibration of membership functions.

Afterwards, the Image Processing and Interpretation (IPI) group will offer several demonstrations in the computer lab of the Technicum building, block III, 2nd floor. These demos will give you an idea of the wide range of topics that IPI is active in and the large number of master’s thesis topics available within the group. Demos that will be shown include: 3D image processing (how to reconstruct a 3D reproduction with cameras), application-specific research (such as the restoration of Lam Gods or old film fragments, analysis of historical prints, etc.), intelligent cameras (for surveillance applications), medical/biological image processing (for computed tomography (CT), magnetic resonance imaging (MRI), light microscopy, electron microscopy, etc.), and medical/biological image analysis (automatic cell counting, measurement of blood or organ volume, vessel length, etc.) and finally the quality control of image processing algorithms.

This demo will take 50 minutes in total and will take place on Monday April 20 april at 15pm and 17pm and on Tuesday April 21 at 14pm and 16pm.