



PhD course

***Design science perspectives on innovation & entrepreneurship research***

Program Outline

11-20 January 2021

*This PhD course is offered by the [ITEM](#) group of the School of Industrial Engineering at Eindhoven University of Technology, in cooperation with [EuroTech](#) Universities, and is endorsed by the TU/e Graduate Program Industrial Engineering.*

***Aim and Learning Goals***

This intensive course is specifically designed for students in a PhD or MPhil program. It is assumed that students have extensive knowledge of basic theories of entrepreneurship, business design and innovation management. The PhD course provides participants with in-depth knowledge of Design Science (DS) approaches in the field of innovation and entrepreneurship. The main objective is that doctoral students become familiar with and develop an in-depth understanding of the key frameworks, concepts, models, and paradigms that collectively form the DS foundation for research in this field. In addition, participants learn how to review DS-based articles and how to publish work informed by DS in top journals in the field of innovation and entrepreneurship. This PhD course will also offer opportunities for a limited number of participants to present and get feedback on papers or dissertation proposals. In view of the current COVID restrictions, the course will be conducted fully online from Monday 11 January to Wednesday 20 January 2021.

## ***Program***

The program outline of the course is given below. Registered participants will receive a detailed course manual (with readings and assignments) six weeks before the start of the course. All sessions are conducted in Microsoft Teams, starting at 13:00h (with one exception: see January 18):

Monday 11 January, 13:00-16:00 CET

### **Entrepreneurship, innovation and design** (*Georges Romme*)

Studies of entrepreneurship, innovation and design are increasingly complementary and feeding on each other. This also reflects Herbert Simon's idea of business research as a design science (DS) that promotes the interaction between science- and design-oriented researches. This introductory session serves to discuss several DS notions and frameworks.

Tuesday 12 January, 13:00-17:00 CET

### **Designing boundary objects** (*Madis Talmar*)

This session focuses on the design and development of boundary objects between research and practice. Several example projects in which instrumental models and tools operate as boundary objects are discussed, to explore why this kind of work is valuable, how to engage in it, and so forth. The underlying 'boundary object' theories and implementation strategies are also elaborated.

Wednesday 13 January, 13:00-17:00 CET

### **Design principles in design science** (*Isabelle Reymen*)

This session explores several DS outputs and specifically the pivotal role of design principles in DS: how can design principles be shaped, based on systematic literature reviews and/or empirical findings? How do design principles inform the development and prototyping of solutions, etcetera? Furthermore, recent design-oriented work on decision-making logics in new business development is discussed.

Thursday 14 January, 13:00-17:00 CET

### **Doctoral students present & receive feedback from panel**

This session provides the opportunity to a limited number of participants to receive feedback on either a draft version of their PhD research proposal (for 1<sup>st</sup> year PhD students) or a paper-in-progress (for 2<sup>nd</sup> to 4<sup>th</sup> year PhD students). The panel in this session includes *Isabelle Reymen, Bob Walrave, Madis Talmar* and *Georges Romme*.

Friday 15 January, 13:00-17:00 CET

### **Front end of new product development** (*Fred Langerak & Katrin Eling*)

The front end of new product development (NPD) involves activities such as opportunity identification, ideation, concept development, and concept evaluation and testing. This session serves to discuss recent work on NPD at the interface of science and design, focusing on the question why some new products are more successful than others and how the front end contributes to this success.

Monday 18 January, 12:00-16:00 CET

**Design experiments in new product development** (*Philip Cash*)

The theoretical and methodological rigor of NPD work is often rather limited. This session explores how design driven NPD research can become more theory-driven and experimental in nature. Various examples of recent work drawing on so-called 'design experiments' are discussed.

Tuesday 19 January, 13:00-17:00 CET

**Open Innovation** (*Marcel Bogers & Jason Li-Ying*)

Open innovation entails a distributed innovation process that involved knowledge flows across organizational boundaries. This session with explores the state of the art of open innovation research, considering various conceptual and empirical perspectives. We also discuss the implications for designing innovation processes as well as the organizations in and across which they take place.

Wednesday 20 January, 13:00-16:00 CET

**Doctoral students present & receive feedback from panel**

This session provides the opportunity to a limited number of participants to receive feedback on either a draft version of the PhD research proposal (for 1<sup>st</sup> year PhD students) or a paper-in-progress (for 2<sup>nd</sup> to 4<sup>th</sup> year PhD students). The panel includes *Philip Cash, Myriam Cloodt, Fred Langerak* and *Georges Romme*.

***Instructors and Panel Members***

- *Georges Romme* is full professor of Entrepreneurship & Innovation at Eindhoven University of Technology.
- *Madis Talmar* is assistant professor of Innovation & Entrepreneurship at Eindhoven University of Technology.
- *Isabelle Reymen* is full professor in Design of Innovation Ecosystems at Eindhoven University of Technology.
- *Fred Langerak* is full professor of Management of Product Development at Eindhoven University of Technology.
- *Katrin Eling* is assistant professor of New Product Development at Eindhoven University of Technology.
- *Philip Cash* is associate professor of Behavioral Design at the Technical University of Denmark (DTU).
- *Marcel Bogers* is full professor of Open & Collaborative Innovation at Eindhoven University of Technology.
- *Jason Li-Ying* is full professor of Innovation & Corporate Entrepreneurship at the Technical University of Denmark (DTU).
- *Bob Walrave* is associate professor of Modelling Innovation Systems at Eindhoven University of Technology.
- *Myriam Cloodt* is associate professor of Open Innovation & Entrepreneurship at Eindhoven University of Technology.

## ***Administrative and Application Details***

The participation fee is €600 for non-EuroTech participants. This fee covers participation in all sessions and access to all course materials. From students of one of the [EuroTech](#) universities, no participation fee is required.

Participants successfully completing the course will obtain a certificate. The course has a study load of 6 ECTS. The maximum number of participants is 25.

Interested students should apply **before December 1, 2020**. Doctoral students of EuroTech universities are given priority, but only if the application is received before the deadline with all the required documents (see below). Your application by email to [item.ieis@tue.nl](mailto:item.ieis@tue.nl) should contain the following documents (as attachments to your email message):

- Motivation letter
- Curriculum vitae
- *Optional*: your PhD research proposal or a working paper you want to present and get feedback on.

Notably, the last point is not a formal requirement in applying for this PhD course. If you're a first-year PhD student seeking feedback on your (DS-based) research proposal, you can add a draft of this proposal to the application. If you're a more senior PhD student seeking feedback on work-in-progress, you can add either the full manuscript or its abstract. The program includes two sessions offering the opportunity for a number of participants to present and get feedback on work-in-progress or dissertation proposals.

Please send your application by e-mail, with your personal details (name, address, affiliation) and the required attachments to [item.ieis@tue.nl](mailto:item.ieis@tue.nl)

## ***Cancellations***

The ITEM group, as the organizer of this course, retains the right to cancel the course up to 6 weeks in advance. All registered (non-EuroTech) participants will then get their registration fee reimbursed. Registered participants can cancel their registration (with full reimbursement of the fee) until 20 December 2020. No reimbursement on cancelled registrations will be possible after that date.

## ***Organizer***

The prime organizer of this doctoral course is the [ITEM](#) group of the TU/e department of Industrial Engineering & Innovation Sciences. Course coordinator: Georges Romme (a.g.l.romme@tue.nl). Administrative support: Astrid Baltus (item.ieis@tue.nl), +31-40-2472170

## ***Key Readings & Assignments***

The course is taught via a blend of lectures, discussions and assignments based on scientific articles from top journals in the field (see below). Students are expected to study the required reading materials, make article-related assignments and come to class prepared to discuss the articles and the assignments in an interactive mode. The course manual with reading materials and assignments is made available to registered participants.