



## NEWS

**Next iLab meeting: Thursday 6 December 16:00 - 17:00 - UCP room 1.017**

**A Continuous-time approach to intensive longitudinal data: the way forward?**

**Oisin Ryan - a continuous-time approach to intensive longitudinal data: What, Why and How?**

The increased availability of intensive longitudinal data has opened up new opportunities for researchers to investigate the dynamics of processes. The models that are used in this context can be broadly characterized as *discrete-time* (DT) or *continuous-time* (CT) models. While DT models are more popular, CT models promise to overcome conceptual and practical problems which have long been associated with DT approaches.

This talk will provide a broad didactical treatment of the CT approach. Following the necessary background on DT and CT models, we will discuss the conceptual reasons why the CT perspective is valuable in moving our understanding of processes forward, and how these models can be interpreted once estimated from empirical data.

**Sanne Booij - Intra-individual cortisol dynamics in continuous time: An illustration**

In this presentation, a study into daily life cortisol dynamics of two different samples with healthy and depressed individuals will be presented. The first sample ( $n=523$ ) was an all-female twin sample with experience sampling 10 times a day for 5 days. The second sample ( $n=30$ ) was a mixed sample with experience sampling three times a day for 30 days. The parameters of interest were *homeostatic set point* (the point to which cortisol returns after any perturbation), *variability* around the set point, and *regulation* (the speed of return to the set point). The data were analyzed using a continuous-time process model, specifically a multilevel stochastic differential equation model (Oravecz et al. 2009; Oravecz et al. 2016). Despite the different characteristics of the samples and the very different sampling intervals, the model recovered strikingly similar parameters for the dynamics in both samples. The results will be discussed in light of the continuous time approach.

People who are particularly interested in talking to Oisin personally may contact Sanne Booij ([s.h.booij@umcg.nl](mailto:s.h.booij@umcg.nl)) or Marij Zuidersma ([m.zuidersma@umcg.nl](mailto:m.zuidersma@umcg.nl)).

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### **New test rooms**

As from now, the old iLab test rooms have been replaced by new test rooms. These new test rooms are four rooms in a row on the 6th floor of the UCP building, and a 5th room which is suitable for drawing blood (also on the 6th floor). Two of the interview rooms will be reserved for NESDA the coming years, so NESDA will have priority to those two rooms. The google agenda will stay in use to coordinate reservations made to the iLab rooms.

For each iLab room, one key comes available. The keys to the rooms can be found in a key-locker in the central hall of the UCP. Keys can be taken out of this locker by your personell-pass. Your pass needs to be authorized for this purpose by Sleutelbeheer. The system registers which key you use. After using the test room, please return it immediately to the key locker.

For more information about the possibility to use and make reservation for the test rooms, please contact Gerda Bloem; [g.m.bloem@umcg.nl](mailto:g.m.bloem@umcg.nl) or see [https://ilab-psychiatry.nl/en\\_US/employee-pages/practical-information/room-reservations/](https://ilab-psychiatry.nl/en_US/employee-pages/practical-information/room-reservations/)

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### **Evelien Snippe receives ZonMw Off Road grant**

Evelien Snippe (postdoctoral researcher UCP/ICPE of the UMCG) was awarded a ZonMw Off Road grant for the project "*The depression barometer: foreseeing a relapse before it happens*".

"*The depression barometer*" builds on the [TRANS-ID](#) Tapering study (ERC consolidator grant Prof. M. Wichers and PhD project Arnout Smit). In the TRANS-ID Tapering project, individuals with a history of depression who taper their antidepressants monitor their daily affect, activities, cognitions, and context 5 times a day for 4 months. The TRANS-ID Tapering project examines the theoretical question whether Early Warning Signals (e.g., a rise in autocorrelation) anticipate a transition to depression. The "Depression barometer" project examines the clinical question whether we can make a reliable prediction on an upcoming relapse before it happens. Instead of EWS, the moving average of someone's mental state will be investigated. The project will be conducted by Arnout Smit and Evelien Snippe.

Arnout Smit came up with the idea to apply statistical process control (SPC), a technique that is mainly used in industry, to time-series data. The innovative feature of SPC is that this method can

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prospectively monitor whether there are alarming structural changes in a time-series while the process is still running, in real-time. SPC methods allow us to distinguish someone's normal fluctuations in mental states from extreme values or small shifts in their mental state. In this project, we will use SPC to examine which (combination of) mental states and model specifications contain the most reliable and early alarm signal for a depressive relapse.

If we find that an upcoming depressive relapse can be signalled prospectively, timely, and reliably, we have a method at our disposal that forms the basis for a clinical tool that can alarm patients when they are at risk of a relapse. This can help them to make informed decisions and prevent them from spiralling into a depressive episode.

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### **iLab received a grant of the Apparatuurfonds**

The iLab received a grant of the UMCG Apparatuurfonds to buy equipment (26 Motionwatches, 5 notebooks, 4 light therapy boxes, and 8 iphones. The way how to reserve these, but also other devices like iPads and blood pressure monitors, and the associated conditions to use these devices, is described on the employee pages of the iLab website: [https://ilab-psychiatry.nl/nl\\_NL/employee-pages/reservation-of-equipment/](https://ilab-psychiatry.nl/nl_NL/employee-pages/reservation-of-equipment/)

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### **Symposium Psychological Networks & Time Series Models 14 September**

*By Marij Zuidersma*

At Friday 14 September in Het Kasteel I attended the symposium Psychological Networks & Time Series Models organized by Laura Bringmann, Casper Albers, Angélique Cramer and Pia Tao. It was a very interesting and informative day. In total, 13 experts from the Netherlands, Belgium, Germany, and the USA presented their results and thoughts on psychological networks, time-series models and the idiographic approach as applicable in psychology and psychiatry. I had the feeling this combination of speakers were a good summary of the current state of the art in this field. Due to the short duration of each presentation it was easy to grasp each presenters main message. Because of this short duration, presentations were not very detailed or mechanistic, but instead the

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audience got a good overview of many possible analysis techniques, potential problems and how to deal with them in network and time-series models.

Subjects included but were not limited to: the contrast between within-subject processes and between-subject processes, causality from the counterfactual framework, GIMME as an analysis method for pooling data of replicated single-subject studies, the interpretation of contemporaneous effects in emotion (dys)-regulation, a novel machine learning algorithms in order to predict and track personalized treatment recommendations, continuous time dynamic models, and how to handle the 'unique versus shared effects' complication when building VAR(1) based networks.

Many thanks to the organizers Laura, Casper, Angélique and Pia for organizing this interesting event and also bringing together many researchers in this field!

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### **Research master behavioural and social sciences**

At the faculty of behavioural and social sciences a research master has been set up, which includes courses that might be interesting for iLab researchers.

It is a two-year English-language research master programme with a firm methodological, research oriented basis, with a strong connection between statistics and content-related theories. The programme offers a series of advanced courses on theory building, reflecting on science, research methods and statistics. The latter includes programming and computer skills training.

If you wish to follow a specific course or part of the research master, you could contact the concerning teacher. See more: <https://www.rug.nl/masters/behavioural-and-social-sciences-research/>

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## New projects

# INNOVATIEFONDS DE FRIESLAND ZORGVERZEKERAAR

### A grant for PETRA!

PETRA is the name given to our idea, the flexible interface. It is an acronym for **PE**rsonalized **T**reatment **R**eal-time **A**ssessment and represents the aim of our project; developing a flexible interface for personalized diagnostics and treatment in mental health care. Diagnostics and treatment have been improved in other medical disciplines by monitoring of, for example, blood pressure or blood glucose levels in patients at home. In mental health care there is a urgent need for monitoring patient's daily symptoms, experiences, stressors and life style factors. This can be done easily with PETRA through which we can invite patients to fill-out questions on their smartphone and give them feedback on their scores.

At an earlier stage, Fionneke Bos systematically assessed the ideas and specific wishes on monitoring in daily life of patients, heads of the clinical departments at the University Centre Psychiatry (UCP), therapists, researchers, programmers and data managers. With this knowledge we could design PETRA and write a grant application. The development of PETRA is coordinated by Fionneke Bos but involves intense collaborations with the heads of the clinal departments (Wim Veling, Benno Haarman en Date van der Veen), but also researchers, programmers and the RoQua teams headed by Erwin Veermans. The Innovatiefonds van de Stichting De Friesland has granted E300.000 to Harriëtte Riese and Marieke Wichers to, in the next two years, build PETRA and implement it in and mental health research and care.

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## New employees



### **Olga Minaeva - the role of circadian rhythm dysregulation in the development of depression**

My name is Olga Minaeva and I just started my PhD at the ICPE department a few weeks ago. My background is Preventive Medicine with post-graduate specializatoin in Epidemiology that I did in my home country Russia. After that, I decided to focus more on psychopathology and I did a Research Master program Clinical and Psychosocial Epidemiology at the University of Groningen. During this program, I had a year and a half internship at the ICPE department where I was working on my Master thesis project under the supervision of Marieke Wichers, Harriette Riese and Sanne Booij.

Currently, I'm working on my PhD project about the understanding of the role of circadian rhythm dysregulation in the development of depression and translating that into clinical practice using a dynamic approach. We are going to examine how elements of the circadian rhythm, such as sleep, movement and mood, dynamically impact on each other over time within person and also try to find evidence for causality of this mechanism using individual models. The results of this project will add important and necessary knowledge on the role of circadian rhythm in depression. Furthermore, results from the studies with individual models may serve as a bridge between epidemiological studies and clinical practice and serve to develop more tailored approaches aimed at treating depressive disorders.

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## Upcoming symposia and conferences

**Thursday 6 December 2018. Ilab research meeting:** by Oisin Ryan about the continuous time approach, and Sanne Booij to illustrate an example of the continuous time approach. See top of this newsletter for more information

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**Tuesday 11 December 2018:** Theater de Kimme Zuidlaren. **RGoC Symposium "geen woorden maar daden"**. Presentations by Kaying Kan, Steef Konings, Lukas Roebroek, Arnout Smit, Marieke Helmich, Judith Rosmalen, Fionneke Bos, Bennard Doornbos, Rikus Knegtering. More information can be found [here](#).

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**Wednesday 12 December 2018: Wearables in Practice symposium VU Amsterdam.**

You are cordially invited to attend the 5th Wearables in Practice Symposium. This symposium bridges science and practice within the field of wearable biosensors. Presentations and interactive workshops explore the possibilities and impossibilities of the application of wearables. The symposium is intended for researchers, as well as a variety of professionals, working for example in care, forensics or the safety domain, and scientists from affective computing and health/clinical disciplines. News (program, registration) about this event will be sent around to everyone on the mailing list of the event. If you want to be added to that mailing list, you can get in touch with Mandy Tjew-A-Sin of the organizing committee ([m.m.tjew-a-sin@vu.nl](mailto:m.m.tjew-a-sin@vu.nl)). Click [here](#) for the program.

**Registration:** You may only attend by registering using the following form:

<https://goo.gl/forms/TIF5IyM2PipBjivO2> We can accommodate a maximum of 100 participants, so it is recommended to register as soon as possible.

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**Thursday 13 December 2018: Stress-NL symposium.** Rotterdam

This year's annual meeting is also the place for fundamental and conceptual discussion about stress research. Specifically, there will be symposia on how to measure stress in daily life (ranging from experience sampling and heart rate to cortisol), the use of animal models for stress research, and the emergence of new techniques and approaches of stress assessment. There will be ample time to interact and to discuss collaborations and future plans. Confirmed speakers so far are: Dr. Mirjam van Zuiden, Dr. Frank Meye, Prof. Louk Vanderschuren, Prof Eco de Geus, Dr. Angela Sarabdjitsingh, Prof. Alberto Pereira, Dr. Ahmed Mahfouz, Dr. Aniko Korosi. [Click here for more information](#)

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**19-22 June 2019: Syracuse (USA): 6th biannual conference of the Society for Ambulatory Assessment (SAA).**

<http://repeatlab.syr.edu/saa2019/>

SAA welcomes abstract submission from members and non-members alike. Abstracts may be submitted as an oral presentation, poster presentation, or symposium. Abstracts are accepted online and will be due by **January 4, 2019**. *Submission portal open soon! Registration portal open as from Nov 1*

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**20-22 June 2019: SLTBR (Chicago USA): 31st annual conference of the Society for Light Treatment and Biological Rhythms**

[www.sltbr.org](http://www.sltbr.org) (*Website is currently under construction*)

The Society for Light Treatment and Biological Rhythms (SLTBR) is an international scientific non-profit organization devoted to promoting research and (clinical) knowledge about the chronobiology of psychiatric as well as other medical disorders. The conference, to be held at the Northwestern school of medicine, will consist of clinical, applied and fundamental symposia devoted to the effects of light, sleep and its role in health, mood regulation and performance. SLTBR welcomes abstract submission from members and non-members alike. Abstracts may be submitted as an oral or poster presentation. The submission portal will open soon.

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**26-28 June 2019: ICAMPAM (Maastricht): Physical activity and monitoring: from data science to applications**

<https://ismpb.org/icampam/>

Deadline symposium submission: 13 December 2018  
Deadline pre-conference workshop submission: 20 December 2018  
Deadline abstract submission: 26 January 2019

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**16-18 Oct 2019: Tilburg, 7th International Conference on Emotions, Wellbeing and Health.**

See [www.emotions2019.nl](http://www.emotions2019.nl)

Deadline for submission of abstracts, symposia, and workshops is: **April 1, 2019.**

7th International conference on emotions, wellbeing and health. Tilburg. This three-day-conference will offer a broad variety of research on how adequate and inadequate emotion regulation impact on mental and physical functioning. As in the previous conferences in this series, Emotions 2019 will include cutting-edge fundamental research, novel research methodologies, and clinically oriented studies.

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**ILAB PUBLICATIONS**

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**16 July 2018 - 8 November 2018**

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Ciere Y, Snippe E, Padberg M, Jacobs B, Visser A, Sanderman R, Fleer, J. The role of state and trait positive affect and mindfulness in affective reactivity to pain in chronic migraine. Health Psychology 2018, in press.

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Bogers RP, Van Gils A, Clahsen SCS, Vercrujisse W, Van Kamp I, Baliatsas C, Rosmalen JGM, Bolte JFB. Individual variation in temporal relationships between exposure to radiofrequency electromagnetic fields and non-specific physical symptoms: a new approach in studying 'electrosensitivity'. Environ Int 2018, 121(Pt 1): 297-307.

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Bastiaansen JA, Meurs M, Stelwagen R, Wunderink L, Schoevers RA, Wichers M, Oldehinkel AJ. Self-monitoring and personalized feedback based on the experiencing sampling method as a tool to boost depression treatment: a protocol of a pragmatic randomized controlled trial (ZELF-i). BMC Psychiatry 2018; 18(1): 276.

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Widdershoven RLA, Wichers M, Kuppens P, Hartmann JA, Menne-Lothmann C, Simons CJP, Bastiaansen JA. Effect of self-monitoring through experience sampling on emotion differentiation in depression. J Affective Disorders 2018; 244: 71-77.

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Do you miss your publication in this list? Send it to [m.zuidersma@umcg.nl](mailto:m.zuidersma@umcg.nl) and it will be listed in the next newsletter.

**iLab website**

<https://ilab-psychiatry.nl>

**iLab staff**

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