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| [**iLab**](https://ilab-psychiatry.nl/) **Newsletter*****December 2022***<https://ilab-psychiatry.nl> |  |
| **Agenda****iLab meeting**

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| *Title:* | **Detrended Fluctuation Analysis and how we can use it to study fractal patterns in physical activity** |
| *Date*: | February 2nd 2023, 16:00 - 17:00 |
| ***Place*:** | **UCP, room to be announced** |
| ***Speaker*:** | **Olga Minaeva, PhD candidate,** o.minaeva@umcg.nl |
| ***Chair:*** | Dr. Harriette Riese, h.riese@umcg.nl, Dr. Marij Zuidersma, m.zuidersma@umcg.nl  |

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| **Note**, *Olga Minaeva*During my visit to the lab of Prof. dr. Frank Scheer and Dr. Kun Hu at the Division of Sleep and Circadian Disorders at Harvard Medical School, <https://sleep.hms.harvard.edu>, I learned a method they have expertise in, called Detrended Fluctuation Analysis (DFA), to compare fractal regulation of physical activity between depressed and non-depressed individuals and examine whether it changes within individuals before, during, or after the development of new depressive symptoms. During my presentation, I will introduce DFA and describe how we used it in our study and what the findings were.  | **Fractal regulation** indicates self-similarity of temporal patterns across various time scales ranging from seconds to hours. Many physiological processes, such as motor activity, display fractal regulation. It was previously reported that fractal regulation is a potential indicator of the functioning of circadian rhythms, and it becomes disrupted with aging and various diseases (e.g., Alzheimer’s disease, Parkinson’s disease, pathological heart conditions). Fractal patterns may serve as a promising diagnostic biomarker of depressive disorders, helping to distinguish depressed from non-depressed individuals, and might have prognostic qualities when monitoring high-risk individuals for developing new depressive symptoms. |
| **New employees**Hi! My name is Judith Tommel. On the first of October, I started working as a postdoc at the Interdisciplinary Center for Psychopathology and Emotion Regulation of the UMCG. Before I started working in Groningen, I worked as a PhD student at the Health, Medical and Neuropsychology unit of Leiden University. My research was focused on evaluating the effectiveness of a personalized e-health intervention—internet-based CBT—for patients with a kidney disease treated with dialysis. In my current position, I will continue evaluating the effectiveness, feasibility, and applicability of e-health interventions. I will be involved in the PETRA and Therap-i studies (supervised by Harriëtte Riese) and the Grip study (supervised by Judith Rosmalen). I look forward to meeting you all! | Y:\staff\umc\Psy\iLab\Gerda Bloem overdracht\iLab Nieuwsbrief\Final iLab newsletters\2022 December\foto Matej.jpgHi everyone! My name is Matej Djordjevic and I am an MD-PhD student under the supervision of Prof. Dr. Wim Veling and Dr. Hannah Jongsma at the Department of Psychosis, University Center for Psychiatry, UMCG. My research is centered around psychosocial factors in individuals with psychosis. This year, I will be using Ecological Momentary Assessment (EMA) data from the HAMLETT study ([hamlett.nl](https://eur03.safelinks.protection.outlook.com/?url=http%3A%2F%2Fhamlett.nl%2F&data=05%7C01%7Cg.m.bloem%40umcg.nl%7C067fa9330f0044cf8f1f08dab84423f7%7C335122f9d4f44d67a2fccd6dc20dde70%7C0%7C0%7C638024900055026912%7CUnknown%7CTWFpbGZsb3d8eyJWIjoiMC4wLjAwMDAiLCJQIjoiV2luMzIiLCJBTiI6Ik1haWwiLCJXVCI6Mn0%3D%7C3000%7C%7C%7C&sdata=ttxipNmF%2BfzvrpXZWtfvcR9RyCBa%2FTw9O1e5%2Bei22VU%3D&reserved=0)) to investigate relations between symptoms and social functioning in people remitted from a first episode of psychosis. I am happy to discuss my project or any other clinical and research-related topics and I am looking forward to seeing you around at the ICPE or UCP. |
| **Upcoming symposia, conferences**Y:\staff\umc\Psy\iLab\Gerda Bloem overdracht\iLab Nieuwsbrief\Small is beautiful {once more} – Symposium_ Small is beautiful {once more}_files\image.jpg**24-27 April 2023, Online.** [Small is beautiful {once more}. The third international N=1 Symposium](https://ppw.kuleuven.be/ogp/smallisbeautifuloncemore2023). The general theme of the symposium will be bringing together the two worlds of single case designs:  Single Case **Observational** Designs (SCODs) and Single Case **Experimental** Designs (SCEDs). Deadline early bird registration: January 31, 2023**10-13 May 2023, Berlin,** [2º Deutscher Psychotherapie Kongress](https://deutscher-psychotherapie-kongress.de/)**, Deadline Submission Abstracts:** January 31, 2023**25-28 May 2023, Washington, D.C.,** [Association for Psychological Science (APS) Annual Convention](https://www.psychologicalscience.org/conventions/2023-aps-annual-convention)**30 May – 1 June 2023, Lausanne, Switzerland,** [Society for Light Treatment and Biological Rhytms (SLTBR)](https://sltbr.org/)**, 34th Annual Meeting****5-7 June 2023, Amsterdam,** [Society for Ambulatory Assessment (SAA)](https://ambulatory-assessment.org/)**, Conference****21-24 June 2023, Dublin,** [Society for Psychotherapy Research (SPR)](https://www.psychotherapyresearch.org/page/spr2023)**, 54th Annual Meeting, Deadline Submission Abstracts:** January 15, 2023**Please let us know which conferences you have planned to attend so we can update each other!** |
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| **Recent publications in the spotlight***De Calheiros Velozo, J., Habets, J., George, S. V., Niemeijer, K., Minaeva, O., Hagemann, N., Herff, C., Kuppens, P., Rintala, A., Vaessen, T., Riese, H. and Delespaul, P. (2022)*[Designing daily-life research combining experience sampling method with parallel data.](https://pubmed.ncbi.nlm.nih.gov/36039768/)Psychological Medicine 2022 Aug 30:1-10. doi: 10.1017/S0033291722002367. Online ahead of print. PMID: 36039768 |
| **Note,** *Olga Minaeva*The current paper started during a hackathon at the Belgian-Dutch Network for ESM Research in Mental Health 2018 in Tilburg, where our team was discussing difficulties of combining ESM and parallel data (e.g., passive physiological and behavioral data such as actigraphy, skin conductance, GPS, smartphone use, etc.). Consequently, we focused on combining these data came together to  | formulate clear points to consider in the various stages of designing such a study. Rather than a rigid guideline, we formulated these general considerations to provide researchers with the necessary structure and support to design and conduct meaningful and reproducible research combining ESM and parallel data. Below you can see the abstract of the paper. |
| **Abstract**Ambulatory monitoring is gaining popularity in mental and somatic health care to capture an individual's wellbeing or treatment course in daily-life. Experience sampling method collects subjective time-series data of patients' experiences, behavior, and context. At the same time, digital devices allow for less intrusive collection of more objective time-series data with higher sampling frequencies and for prolonged sampling periods. We refer to these data as parallel data. Combining these two data types holds the promise to revolutionize health care. However, existing ambulatory monitoring guidelines are too specific to each data type, and lack overall directions on how to effectively combine them. Literature and expert opinions were integrated to formulate relevant guiding principles. Experience sampling and parallel data must be approached as one holistic time series right from the start, at the  | study design stage. The fluctuation pattern and volatility of the different variables of interest must be well understood to ensure that these data are compatible. Data have to be collected and operationalized in a manner that the minimal common denominator is able to answer the research question with regard to temporal and disease severity resolution. Furthermore, recommendations are provided for device selection, data management, and analysis. Open science practices are also highlighted throughout. Finally, we provide a practical checklist with the delineated considerations and an open-source example demonstrating how to apply it. The provided considerations aim to structure and support researchers as they undertake the new challenges presented by this exciting multidisciplinary research field. |
| *Burger, J., Epskamp, S., van der Veen, D. C., Dablander, F., Schoevers, R. A., Fried, E. I., & Riese, H. (2022).* [A clinical PREMISE for personalized models: Toward a formal integration of case formulations and statistical networks.](https://pubmed.ncbi.nlm.nih.gov/36326631/) Journal of Psychopathology and Clinical Science, 131(8), 906–916. <https://doi.org/10.1037/abn0000779>. PMID: 36326631 |
| **Abstract**Over the past decade, the idiographic approach has received significant attention in clinical psychology, incentivizing the development of novel approaches to estimate statistical models, such as personalized networks. Although the notion of such networks aligns well with the way clinicians think and reason, there are currently several barriers to implementation that limit their clinical utility. To address these issues, we introduce the Prior Elicitation Module for Idiographic System Estimation (PREMISE), a novel approach that formally integrates case formulations with personalized network estimation via prior elicitation and Bayesian inference. PREMISE tackles current  | implementation barriers of personalized networks; incorporating clinical information into personalized network estimation systematically allows theoretical and data-driven integration, supporting clinician and patient collaboration when building a dynamic understanding of the patient's psychopathology. To illustrate its potential, we estimate clinically informed networks for a patient suffering from obsessive-compulsive disorder. We discuss open challenges in selecting statistical models for PREMISE, as well as specific future directions for clinical implementation. (PsycInfo Database Record (c) 2022 APA, all rights reserved). |
| **Recent publications***De Calheiros Velozo, J., Habets, J., George, S. V., Niemeijer, K., Minaeva, O., Hagemann, N., Herff, C., Kuppens, P., Rintala, A., Vaessen, T., Riese, H. and Delespaul, P. (2022) (in the spotlight)*[Designing daily-life research combining experience sampling method with parallel data.](https://pubmed.ncbi.nlm.nih.gov/36039768/)Psychological Medicine 2022 Aug 30:1-10. doi: 10.1017/S0033291722002367. Online ahead of print. PMID: 36039768*Burger, J., Epskamp, S., van der Veen, D. C., Dablander, F., Schoevers, R. A., Fried, E. I., & Riese, H. (2022). (in the spotlight)* [A clinical PREMISE for personalized models: Toward a formal integration of case formulations and statistical networks.](https://pubmed.ncbi.nlm.nih.gov/36326631/) Journal of Psychopathology and Clinical Science, 2022 Nov; 131(8), 906–916. <https://doi.org/10.1037/abn0000779>. PMID: 36326631*Smit AC, Snippe E, Bringmann LF, Hoenders HJR, Wichers M.*[Transitions in depression: if, how, and when depressive symptoms return during and after discontinuing antidepressants.](https://pubmed.ncbi.nlm.nih.gov/36418524/)Qual Life Res. 2022 Nov 23. doi: 10.1007/s11136-022-03301-0. Online ahead of print.PMID: 36418524*Nijman SA, Pijnenborg GHM, Vermeer RR, Zandee CER, Zandstra DC, van der Vorm D, de Wit-de Visser AC, Meins IA, Geraets CNW, Veling W.*[Dynamic Interactive Social Cognition Training in Virtual Reality (DiSCoVR) versus Virtual Reality Relaxation (VRelax) for People With a Psychotic Disorder: A Single-Blind Multicenter Randomized Controlled Trial.](https://pubmed-ncbi-nlm-nih-gov.proxy-ub.rug.nl/36413388/)Schizophr Bull. 2022 Nov 22;sbac166. doi: 10.1093/schbul/sbac166.*Difrancesco S, Penninx BWJH, Merikangas KR, van Hemert AM, Riese H, Lamers F.*[Within-day bidirectional associations between physical activity and affect: A real-time ambulatory study in persons with and without depressive and anxiety disorders.](https://pubmed-ncbi-nlm-nih-gov.proxy-ub.rug.nl/36345264/)Depress Anxiety. 2022 Dec;39(12):922-931. doi: 10.1002/da.23298. Epub 2022 Nov 7.PMID: 36345264\*Wigman JTW, van der Tuin S, van den Berg D, Muller MK, Booij SH.*[Mental health, risk and protective factors at micro- and macro-levels across early at-risk stages for psychosis: The Mirorr study.](https://pubmed-ncbi-nlm-nih-gov.proxy-ub.rug.nl/36198658/)Early Interv Psychiatry. 2022 Oct 5. doi: 10.1111/eip.13343. Online ahead of print.PMID: 36198658*Helmich MA, Wichers M, Peeters F, Snippe E*[Daily dynamics of negative affect: indicators of rate of response to treatment and remission from depression?](https://pubmed-ncbi-nlm-nih-gov.proxy-ub.rug.nl/36175174/)Cogn Emot. 2022 Sep 29:1-11. doi: 10.1080/02699931.2022.2129593. Online ahead of print.PMID: 36175174*Jeppesen UN, Due AS, Mariegaard L, Pinkham A, Vos M, Veling W, Nordentoft M, Glenthøj LB.*[Face Your Fears: Virtual reality-based cognitive behavioral therapy (VR-CBT) versus standard CBT for paranoid ideations in patients with schizophrenia spectrum disorders: a randomized clinical trial.](https://pubmed-ncbi-nlm-nih-gov.proxy-ub.rug.nl/35971137/)Trials. 2022 Aug 15;23(1):658. doi: 10.1186/s13063-022-06614-0.PMID: 35971137*Bos FM, von Klipstein L, Emerencia AC, Veermans E, Verhage T, Snippe E, Doornbos B, Hadders-Prins G, Wichers M, Riese H.*[A Web-Based Application for Personalized Ecological Momentary Assessment in Psychiatric Care: User-Centered Development of the PETRA Application.](https://pubmed-ncbi-nlm-nih-gov.proxy-ub.rug.nl/35943762/)JMIR Ment Health. 2022 Aug 9;9(8):e36430. doi: 10.2196/36430.PMID: 35943762*Zuidersma M, Müller F, Snippe E, Zuidema SU, Oude Voshaar RC.*[Feasibility, usability and clinical value of intensive longitudinal diary assessments in older persons with cognitive impairment and depressive symptoms.](https://pubmed-ncbi-nlm-nih-gov.proxy-ub.rug.nl/35876158/)Aging Ment Health. 2022 Jul 23:1-10. doi: 10.1080/13607863.2022.2102143. Online ahead of print.PMID: 35876158*Morosan L, Wigman JTW, Groen RN, Schreuder MJ, Wichers M, Hartman CA.*[The Associations of Affection and Rejection During Adolescence with Interpersonal Functioning in Young Adulthood: A Macro- and Micro- Level Investigation Using the TRAILS TRANS-ID Study.](https://pubmed-ncbi-nlm-nih-gov.proxy-ub.rug.nl/35852668/)J Youth Adolesc. 2022 Nov;51(11):2130-2145. doi: 10.1007/s10964-022-01660-y. Epub 2022 Jul 19.PMID: 35852668*van Dijk SDM, Bouman R, Folmer EH, van Alphen SPJ, van den Brink RHS, Oude Voshaar RC.*[A Feasibility Study of Group Schema Therapy with Psychomotor Therapy for Older Adults with a Cluster B or C Personality Disorder.](https://pubmed-ncbi-nlm-nih-gov.proxy-ub.rug.nl/35848226/)Clin Gerontol. 2022 Jul 16:1-7. doi: 10.1080/07317115.2022.2099330.*Smit AC, Snippe E.*[Real-time monitoring of increases in restlessness to assess idiographic risk of recurrence of depressive symptoms.](https://pubmed-ncbi-nlm-nih-gov.proxy-ub.rug.nl/35833374/)Psychol Med. 2022 Jul 14:1-10. doi: 10.1017/S0033291722002069. Online ahead of print.PMID: 35833374*Hartman CA, Richards JS, Vrijen C, Oldehinkel AJ, Oerlemans AM, Kretschmer T.*[Cohort Profile Update: The TRacking Adolescents' Individual Lives Survey-The Next Generation (TRAILS NEXT).](https://pubmed-ncbi-nlm-nih-gov.proxy-ub.rug.nl/35462400/)Int J Epidemiol. 2022 Oct 13;51(5):e267-e275. doi: 10.1093/ije/dyac066.PMID: 35462400*Bos FM, Schreuder MJ, George SV, Doornbos B, Bruggeman R, van der Krieke L, Haarman BCM, Wichers M, Snippe E.*[Anticipating manic and depressive transitions in patients with bipolar disorder using early warning signals.](https://pubmed-ncbi-nlm-nih-gov.proxy-ub.rug.nl/35397076/)Int J Bipolar Disord. 2022 Apr 9;10(1):12. doi: 10.1186/s40345-022-00258-4. |
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| **iLab rooms at the UCP****If you want to reserve an iLab room to conduct your iLab research you can mail Gerda Bloem: g.m.bloem@umcg.nl for instructions to get access to the Google reservation calendar.** |
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