



## University Research Priority Program “Dynamics of Healthy Aging”

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# Newsletter

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# Editorial



## URPP “Dynamics of Healthy Aging” Becomes Part of the WHO Initiative “Decade of Healthy Aging 2020-2030”

At present, the World Health Organization (WHO) is gearing up for the launch of the “Decade of Healthy Aging 2020-2030”. This initiative will bring together stakeholders from around the world, including research institutions, health care providers, funding agencies, publishers, the private sector, and decision-makers to coordinate national and global efforts to improve the level of healthy aging in each country. The URPP DynAge together with the Gerontology Center and its partners are taking important roles in the initiative. As a designated WHO Collaborating Center on Healthy Aging, taking responsibility of national coordination, global coordination, and innovation in research on mobile health assessments are among the most prominent. Thus, it is only logical that the URPP DynAge supports the Swiss Academies of Arts and Sciences’ platform *a+ Swiss Platform Ageing Society* with project development capacities to build critical mass for the national coordination of stakeholders. Moreover, the URPP DynAge has been instrumental in establishing a national network for research on well-being and aging to promote innovative healthy aging research that is supported by the Academies.

More recently, the URPP DynAge has been actively pursuing partnerships and personnel exchanges with healthy aging research centers covering all geographical regions of the world. By now, these include, among others, partner organizations in Australia, Mexico, Costa Rica, Hong Kong, the United States, Canada, Kenya, South Africa, and European partners in Germany, Italy, the Netherlands, Spain, Turkey, Norway, and Denmark. Regular meetings and exchanges with partners invited by the WHO, and supported by the URPP DynAge funds and grant support from the Velux Stiftung, inform the global healthy aging research agenda. But the URPP DynAge is already looking beyond: Designated URPP DynAge director Prof. Alexandra Freund and new URPP DynAge member Prof. Veronika Brandstätter, in a coordinated effort with the Velux Stiftung, have taken the lead to scope fu-

ture research opportunities in the field of motivation and healthy aging with an international group of colleagues, some belonging to the LIFE faculty, the International Max Planck Research School on the Life Course, for which Prof. Freund is the speaker in Zurich.

The URPP DynAge has taken the lead in coordinating research activities on the next generation of real-time and real-life healthy aging measurement for the 2020 WHO World Report on Ageing and Health. Based on the conceptual and empirical work of URPP DynAge research groups, the International Healthy Aging Profile Study (IHAPS), born out of a combination of the Longitudinal Healthy Aging Brain (LHAB) database and the Mobility, Activity, and Social Interaction Study (MOASIS), is now collecting data in various sites around the world. The URPP DynAge also is the driving force behind the novel domain of “Semantic Activity Analytics for Healthy Aging”. This field provides the analytical tools to automatize the extraction of health-related information from high-density real-life sensor data to allow the situation- and context-sensitive interpretation of health activity information on a population scale. Ultimately, this should help establish context-aware real-time health measurements, which are the gold standard for health monitoring.

As we think about the future of healthy aging research, we also think about the future of healthy aging research in Zurich. To maintain the innovation lead in the field, we are developing the tools for a technology platform that allows individuals to store and maintain their individual data from all the studies they participate in, combine them with data collected by themselves, and support their management and sharing with researchers interested in testing situation models of healthy aging. This only works with research participants as informed partners, and creative researchers with innovative ideas to make optimal use of available data.



Thus, we continue our partnerships with the Senior Universities of Switzerland to create a national pool of 50'000+ research-interested seniors and develop a national platform for education 60+ in the digital age. So overall, the URPP DynAge continu-

ally renews its ambition to improve our knowledge about healthy aging, but also to have an impact on the lives of aging individuals and aging researchers alike.

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## Reports

### MOASIS Goes Global: Identifying Real-Life Activity Indicators of Healthy Aging in a Large International Collaborative Research Initiative

The MOASIS (Mobility, Activity, and Social Interaction Study) project, conducted at the URPP DynAge between 2016-2018, involved at its core a 30-day intensive assessment of various aspects of activities in daily life (physical, spatial, and social activities). This project is part of a global initiative together with the World Health Organization (WHO) as a central activity within a newly founded *WHO Collaboration Center+ Network for Healthy Ageing*. The project will indeed go global this fall: The Swiss part of the study will be complemented in a first step by a comparable study protocol in Hong Kong (China) and Mexico City (Mexico). Further extensions are planned to be carried out in Africa, Australia, and the US in 2020. This global multi-country study will:

1. Introduce new metrics to describe healthy aging along the three key indicators put forth by the WHO: Intrinsic capacity (i.e., the mental and physical abilities of a person), functional ability (i.e., a person's capability to pursue her personal goals in meeting basic needs, being mobile, build and maintain social relations, learn, etc.), and the environmental context.

2. Compare the new metrics obtained through a portable measure of intrinsic capacity and functional ability in a person's environmental context (and of the interaction among those key variables) with standard measures of persons that often involve retrospective questionnaire and other non-longitudinal data with little direct mapping to the everyday life of older people.

Each country-specific study arm will center around this real-life sensor-based assessment of multi-domain activities as core features of functional ability, adjusted to the cultural context in each country and extended by country-specific assessments, as well as key indicators of intrinsic capacity and environments. The result will be a unique global dataset of key healthy aging constructs assessed in an ecologically valid way that zooms into the daily life functioning and experiences of older adults worldwide. The information thus obtained will contribute to the Second World Report on Ageing and Health that the WHO will publish in Fall 2020 to kickstart the "Decade of Healthy Aging 2020-2030".

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## Semantic Activity Analytics: A Strategic Project of the Digital Society Initiative

The Digital Society Initiative (DSI) is a bottom-up initiative developed within the University of Zurich by researchers from all seven faculties of the university. The DSI aims to understand and shape the digitalization of our society with a focus on five challenge areas: Health, democracy, work, communication, and mobility. Two DSI researchers Prof. Mike Martin (URPP DynAge and Department of Psychology) and Prof. Abraham Bernstein (Department of Informatics), have teamed up to launch and lead a novel strategic project on “Semantic Activity Analytics”.

Advances in technology now make it feasible to combine the acquisition and analysis of high-density data on real-life activities with individual data on multiple psychological and biological functions, skills, impairments, and contexts for large numbers of individuals. The key to leveraging such high-density multiscale health activity data is the emerging field of “semantic activity analytics”. This includes

the automatic interpretation of real-life data with respect to their health value in given contexts.

This strategic project is based on the interdisciplinary collaboration between data science experts and domain experts (e.g., social sciences, medicine). We work with computer scientists and psychologists on the development and implementation of novel and rapid data analytical approaches (e.g., using machine learning) for the quantitative extraction of cognitive-activity information from real-life audio data. We develop, test, validate, apply, and optimize algorithms for interpreting real-life audio data for the long-term maintenance of health and quality of life in the aging population. This project will continue to expand with such collaborations between data scientists and domain experts and will host a diverse pool of independent, interdisciplinary research groups.

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## The Swiss Centenarian Study

Reaching the age of 100 years is becoming more likely for an increasing number of people. In fact, one in four girls and one in five boys born after 2014 will live to be a centenarian. It is, therefore, vital that we study this group of “oldest-old” individuals as an increasingly present and likely visible societal group. The upcoming Swiss Centenarian Study (SWISS100) will contribute to current knowledge about centenarians’ life situations by collecting data from participants around 100 years old. This will include information on their medical, psychiatric, sociological and psychological life characteristics to explore centenarians’ functional and health needs and resources and ultimately determine the degree of uniqueness and commonalities with other subgroups of young- and old-old adults. This SNSF-funded “Sinergia” project is a Switzerland-wide collaboration lead by Prof. Daniela Jopp

(University of Lausanne), along with co-investigators Prof. Armin von Gunten (Lausanne University Hospital), Prof. Stefano Cavalli (University of Applied Sciences and Arts of Southern Switzerland), and Prof. François Hermann (University of Geneva).

URPP DynAge members Prof. Mike Martin, Dr. Christina Röcke, and Dr. Birthe Macdonald are partners of this project and will be responsible for data collection in the German speaking region of Switzerland. The main aim of SWISS100 is to investigate the vulnerabilities and resilience of centenarians to find ways to best support their needs and abilities. Another central question is whether successful aging and a fulfilled existence are possible at this stage of life with the inevitable health issues that come with very old age. With respect to the WHO agenda on healthy aging, SWISS100 will





help close gaps in our current knowledge about older individuals in Switzerland, as persons above 80 years have often been excluded from longitudinal aging research.

The project will utilize a (both long-term and short-term) longitudinal, biopsychosocial approach, and information will be gathered both from centenarians themselves and their proxies at regular intervals. In addition, results will be compared

both between regions within Switzerland, and with centenarian studies globally, to study the roles of context and culture in the health trajectories of centenarians. Results of this study will inform public health planning and facilitate the development of policies that will help care for the needs of increasing numbers of very old individuals.

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## Survey of Swiss Senior Universities: The Zurich Example

Why do older adults attend lectures at senior universities? What are their attitudes toward digital educational settings and participation in research? These were the key questions in a survey conducted by the URPP DynAge at the Senior University of Zurich (UZH3) in 2018. From a gerontological perspective, lifelong learning can be viewed as a resource to maintain quality of life and digitalization is changing the way older adults learn and obtain information about scientific research.

A sample of 811 persons from UZH3 were asked to complete a survey about their experiences at this senior university (see the [paper in German](#)). Their ages ranged from 56 to 96 years, and 50.2% were female. On average, the participants had attended 12 lectures in the previous year. Their primary motivations for this were to extend their general knowledge and to remain mentally fit. Learning was perceived as a meaningful leisure activity, and to be informed about current research was of secondary importance. Very rarely, what can be described as more extrinsic motivations (i.e., motivations based on work-related benefits) were provided.

Overall, the participants were very technologically savvy, with 97% actively using the Internet. However, regarding the different forms of learning, the participants preferred lectures with discussions over online offerings such as webinars. Of the respondents, 24% had already been involved in a participatory research project. Additionally, 62% were interested in participatory research projects, and the majority saw potential in the active involvement of older adults in the research process. Going forward, the URPP DynAge will work with the Swiss Federation of Senior Universities (U3) to extend the survey and establish a regular monitoring system of the education needs of seniors across the country.

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## Workshop on “Text Analytics for Health: Applications and Implications”

Language is the most prominent vehicle of human communication. In the digital age, language is not only accessible via the internet, social media, or audio sensing in daily life, but also in medical records. When it comes to the domain of health, analyzing language at scale with different automated solutions of quantitative language analysis promises to lead to a better understanding of healthy aging and to improved clinical interventions. These are some of the main goals of the new “Challenge Area Health” of the Digital Society Initiative of the University of Zurich, which brings together researchers from different disciplines, such as computer linguistics, medicine, geography, ethics, and psychology.

To further our understanding of what quantitative language analysis has to offer in this domain, an inter-faculty working group consisting of Oliver Gruebner (Department of Geography), Minxia Luo and Markus Wolf (both Department of Psychology), Corine Mouton-Dorey (Institute of Biomedical Ethics and History of Medicine), Fabio Rinaldi (Institute of Computational Linguistics), and myself from the URPP DynAge, co-organized a workshop on “Text Analytics for Health: Applications and Implications” from September 12<sup>th</sup>-13<sup>th</sup>, 2019, in Zurich. This involved inviting leading experts in the fields of Natural Language Processing and Psychology to present and discuss their work along

that of local researchers. The specific aims of the workshop were to identify different data sources, related data analytics problems and their implications for research on text analytics for health.

The interdisciplinary and integrative spirit of the workshop was very tangible. The presentations of the invited experts, including Prof. Goran Nenadic (University of Manchester, UK), Prof. Larry Hunter (University of Colorado Denver, USA), Dr. Pierre Zweigenbaum (French National Centre for Scientific Research in Paris), and Dr. Ryan Boyd (Lancaster University, UK), provided broad and insightful overviews of how studying language use can address important questions in the health sector and beyond. For example, the automatic extraction of meaningful content out of medical records in order to support medical decision processes was one topic of focus. Another was relying on digital language samples from social media or diaries of individuals suffering from particular diseases to learn more about their subjective experience and how it affects their well-being. In addition to providing participants with a wealth of information regarding the novel and exciting possibilities text analytics has to offer, the workshop also served a valuable opportunity for networking and initiating transdisciplinary collaborations that will further expand this field in the years to come.

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# Spotlight

## Differential Healthy Aging Research

The importance of promoting healthy aging has never been clearer than it is currently the case. Individuals are living longer lives than ever before, placing greater importance on identifying factors that promote health maintenance and improve quality of life. Though the final endpoint may be the same for all, individuals differ greatly in the extent to which they enact healthy lifestyle behaviors across their lifespan and in their likelihood for experiencing health risks such as cognitive impairment. Efforts to identify why some individuals experience more or less positive aging trajectories than others have pointed to the value of considering individual differences in personality.

The main aim of the Differential Healthy Aging Research Lab is to examine differential pathways to healthy aging and the dynamics underlying healthy aging. We contribute to the research at the URPP DynAge by focusing on the role of individual differences in personality in four ways. First, we examine how individual differences in personality continue to develop across adulthood into old age, and how they predict healthy aging outcomes. In this line of research, we use existing longitudinal data sets and collaborate with international research groups.

Second, we examine how expressions or manifestations of individual differences in personality dynamics in everyday life matter for health maintenance and the improvement of quality of life. In other words, we investigate what older adults do in their everyday life to maintain health and well-being using micro-longitudinal studies with multiple repeated assessments. For example, in one project we have investigated how personality behaviors contribute to daily cognitive engagement. The third line of research focuses on the assessment of individual differences in personality over longer time periods and their expressions across



short time intervals using ambulatory assessment methods. We also collaborate with interdisciplinary research groups to study behavior in everyday life using smartphone-sensing methods. This approach will open the possibility to assess movement behaviors, social behaviors, and other daily activities without self-reports or observer reports.

Finally, we develop and evaluate interventions to promote healthy aging processes by targeting individual differences in personality dynamics. In a recent interdisciplinary research project funded by the Swiss National Science Foundation, we developed and tested the efficacy of a digital coaching intervention for intentional personality change. The goal for the next years, in collaboration with research groups at the URPP DynAge, is to advance development and practice in the field of mobile technology for active, healthy ageing. As an example, the lab is currently working on the development and evaluation of a digital intervention to promote self-control.

To promote research on differential healthy aging, Prof. Dr. Patrick Hill (Washington University in St. Louis, USA) and I edited the book “Personality and Healthy Aging in Adulthood: New Directions and Techniques” that will be published soon by Springer International Publishing. The book highlights international efforts to better understand the role of individual differences in healthy aging by exploring new directions, methods, and questions within the field. The book considers how to measure personality and personality change during adulthood, the associations between personality and healthy aging outcomes over time, and the role of personality in building interventions to promote healthy aging.

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## Spatio-Temporal Dynamics of Aging and Mobility: An interview with Dr. Eun-Kyeong Kim



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Interview by Dr. Marc Grosjean, Scientific Project Developer and Manager, URPP DynAge

*What led you to become a geographic information scientist and to develop a particular interest in the spatio-temporal dynamics of aging and mobility?*

I did not intend to be a geographic information scientist, not even a geographer, when I entered college. I was planning to focus on Business for financial reasons before I participated in research projects in the undergraduate peer mentoring group for Geographic Information Science (GIScience) during my freshman year. The projects impressed me and introduced me to how GIScience can help analyze and understand many practical issues in our everyday lives. I liked the fact that Geography takes social equality and sustainability into consideration when looking at real-world problems and I wanted to contribute to Geography by making tools for geographical research as a GIScientist.

When I became aware of the idea of “time geography”, established by the Swedish geographer Torsten Hägerstrand, it made me realize that geographical, time, and social constraints shape behavioral patterns in our daily lives. Without considering temporal dynamics, many geographical phenomena, including our spatial behaviors and decision making, cannot be fully understood. Since then, I have been developing analytical methods that capture the temporal dynamics of geographic phenomena, including trajectory mining and spatiotemporal event analysis methods.

Out of sympathy with socially excluded individuals, I have been interested in the exclusion of people due to low mobility, limited accessibility, and social constraints. This is because access to places in modern society is directly related to the opportunities people have in order to maintain and improve their quality of life. With an increasing proportion of older adults and single-person households, mobility can help promote healthy aging

by preventing social isolation and increasing physical access to quality food, health care services, and entertaining events.

*You are currently a post-doc in the interdisciplinary MOASIS (Mobility, Activity and Social Interaction Study) project at the URPP DynAge. What are the main goals of your research within this larger project at the intersection of geographic information science and psychology of aging?*

In the MOASIS project, I aim to explore the interplay between older adults’ human traveling behaviors (especially place visit patterns), their mental and physical status, and social interactions. Several methodological and applied studies are on-going. First, I developed a spatiotemporal trajectory model to summarize individual or aggregated traveling patterns, and am applying it to large GPS data and survey data to investigate differences between age groups. The method involves automatic detection of “places” that are semantically richer than a set of geographic coordinates. Second, my colleagues and I have studied comprehensive mobility indicators derived from both self-reports and sensor-based location data for daily mobility of older adults. I am measuring the daily mobility of the MOASIS participants and their longitudinal changes over the study period. Third, I am collaborating with psychologists to analyze transcripts of older adults’ daily conversations and detect place-related conversations. This approach utilizes machine learning algorithms to extract place-related features from the transcripts.

*You recently co-organized a Special Session on “Mobilities and Health: Advances in theoretical and quantitative methods” at the 22<sup>nd</sup> European Colloquium on Theoretical and Quantitative Geography in Luxembourg. What were the main take-home messages from the session and how do you see this field evolving from here?*

Various topics were addressed in two sessions on “Mobilities and Health”, including mobility and health for both young and older adults, food accessibility, the use of a location-based mobile app for health intervention, sentimental analysis of geo-tagged social media, walkability, and en-





vironmental exposure. Those involved in portable sensor-based (e.g., GPS) research projects shared their experience and outlined potential problems associated with using these technologies in human research. A story from an addiction researcher was particularly interesting. A group of study participants who knew they were being tracked by the device turned it off together in certain situations, revealing that they wanted to hide something from

the researcher, but could not hide the fact that they were doing something undesirable together. Such gaps in sensor-based data are commonly found and point to one of the challenges researchers still face when relying on such technologies in behavioral science. At the same time, patterns of gaps can give additional insights into participant's behaviors.

## Partnership and Health: An interview with Dr. Janina Lüscher



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Interview by Dr. Marc Grosjean, Scientific Project Developer and Manager, URPP DynAge

*What brought you to the field of applied psychology and how did you become interested in the (social) regulation of health behavior in everyday life?*

I was always interested in studying the link between the body and the mind. During my academic studies it became clear to me that I wanted to do research with an impact on people's everyday life. And that's exactly what I am doing now. What still fascinates me about applied psychology is that it not only deals with mind-body associations, but links those findings to practical challenges and makes know-how available to the public. Social regulation of health behavior is an important topic to study. Unhealthy lifestyles such as smoking or being physically inactive are a great burden and there is evidence that social exchange processes are very important factors for physical and mental health. Thus far, research on social exchange processes has focused mostly on individuals, but in everyday life most individuals are embedded in close relationships, many of which are dyadic, such as with romantic partners. Fact is, however, that little is known about the role such a partner can have on health and that is what I am trying to change.

*Among your various projects, you just published the protocol of a study on social support and couples' dyadic management of Type II diabetes. What is the main goal of this study and how do you contextualize it within the overall URPP DynAge research agenda?*

Diabetes mellitus Type II (T2DM) is a common chronic disease. For example, in the US more than 1 in 4 adults aged 65 years and older have a T2DM diagnosis, with raising prevalence rates also in Switzerland. In the Dymand (Dyadic Management of Diabetes) study, I want to find out more about the dyadic handling of T2DM regarding lifestyle factors such as healthy nutrition, and physical activity in romantic couples' everyday life. New technologies such as smartphones allow us to study life as it is lived. The study has two phases of data collection: The first phase is a naturalistic observation phase of couple's conversations in daily life. The second phase is an observational study in the lab, where couples discuss topics related to their diabetes management. For further research and practice it is crucial to identify the impact of one romantic partner on a couple's dyadic management of T2DM. The URPP DynAge provides a great surrounding to answer such research questions as one goal of the URPP DynAge is to analyze life-long health with mobile ambulatory assessment in real life.

*From a practical perspective, what general psychological advice would you give to people who have, or are at a risk of developing, health issues?*



It is always difficult to give general advice. But let us assume someone is at risk to develop a chronic disease such as T2DM and wants help from a practical health expert on how he or she can engage in a healthier lifestyle, as T2DM is strongly linked to an unhealthy lifestyle. We know from theory that it is not enough to provide only knowledge in form of a brochure or likewise. Performing a health behavior in daily life requires constant self-regulatory effort. There is evidence that it is, for example, helpful to generate concrete plans about when, where

and how to perform a health behavior or observing one's behavior in order to evaluate whether it corresponds with one's aims. This is, of course, despite the fact that regulating health often occurs in a dyadic context of partnership in everyday life. Therefore, it would be best to get a romantic partner on board and instruct him or her on how to best support a partner at risk.

## Healthy Aging in Women 40+: An interview with Laura Mernone, M.Sc.



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Interview by Dr. Marc Grosjean, Scientific Project Developer and Manager, URPP DynAge

*What inspired you to study psychology and why did you choose to pursue graduate research on healthy aging from a clinical psychology perspective?*

From early on, I was interested in clinical aspects of the human body and psyche. I wanted to know more about how people function and behave, but also what impairs them and how such disturbances can be treated. I decided not to “cut people open”, so I studied psychology instead of medicine. During my studies, I learned about behavioral medicine and was absolutely intrigued by it. I had found the perfect linkage between medicine, biology, psychology and health sciences and its underlying biopsychosocial approach to understanding health and illness has accompanied me since then. This is also the case for my graduate research on healthy aging, where the goal is to investigate the factors that contribute to health and its maintenance in later years. It is interesting to not only look at the clinical- and disorder-related side of aging, but the other, more resource-focused and positive side as well.

*You are one of the principal investigators in the Women 40+ Healthy Aging Study. What was the major impetus for investigating women that are older than 40 and could you highlight some of the most important findings you have made to date? Do women age differently than men?*

We do know that women undergo various changes around midlife and older age through the process of menopause and aging. Surprisingly, however, research investigating aging women still has not been very popular in the last decades. Many people still have prejudices when it comes to aging women, often assuming that while men become more interesting, attractive and satisfied as they age, women just grow older. Naturally, there are certain differences between men and women, however a variety of factors stereotypically assumed regarding gender differences have not been shown to be true. Moreover, the health industry increasingly offers possibilities specifically tailored to middle-aged and older women to better maintain health, shape, and youthfulness - “50 is the new 30”. Finally, yet importantly, populations are aging rapidly all over the world and there has been growing interest in healthy aging and associated factors.

One factor that has been widely ignored is sexuality in aging women, which has been my research focus. In our healthy sample of aging women, we found that sexual functioning and satisfaction were highly prevalent and dependent on psychosocial aspects that are health-promoting or related



to well-being, such as interpersonal factors and protective psychological traits. Endocrine factors such as sex hormones seemed to be of secondary importance in this regard. This is in line with other findings from the Women 40+ Healthy Aging Study, suggesting that psychosocial factors such as optimism, relationship satisfaction or resiliency seem to play the key role in health outcomes in our sample of healthy middle-aged and older women.

*In addition to being a researcher at the URPP DynAge, you are also a psychotherapist under supervision at the Ambulatory of Cognitive Behavioral Therapy and Behavioral Medicine of University of Zurich. What type of health-related issues do you deal with in that context and how do you feel your research informs, if at all, your work as a therapist (and possibly vice versa)?*

It is a great pleasure to be able to work as a researcher and clinician at the same. At the Ambulatory of Cognitive Behavioral Therapy and Behavioral Medicine of the University of Zurich we

deal with health issues of various types – mainly psychological but also psychosomatic or comorbid conditions. We treat mental disorders such as anxiety or depressive disorders, but also give advice and support people in coping with physical disorders or afflictions. Due to our behavioral medicine background, we focus on the interplay between body and psyche and place a lot of importance on proper psychoeducation for patients. For example, we are about to start an innovative psychological group program for women suffering from menopausal symptoms. Therein we educate women in functionally coping with menopausal complaints such as troublesome hot flashes or night sweats.

# News



## Successfully Defended Dissertations

We congratulate Brian Cardini, Marko Katana, Alexander Seifert, and Mirjam Stieger on their accomplishment and wish them all the best for their future endeavors!



### **Brian Cardini**

Brian Cardini defended his dissertation with the title “Am I There Yet? A Motivational Life-Span Approach to Exhaustion and Recovery” on the 21<sup>st</sup> of June (main supervisor: Prof. Dr. Alexandra M. Freund). He is currently finishing his civilian service as a researcher at the Center for Chronobiology at the University of Basel.



### **Marko Katana**

Marko Katana defended his dissertation with the title “Dynamics of Intraindividual Variability in Everyday Life Affect Across Adulthood and Old Age” on the 4<sup>th</sup> of June 2019 (main supervisor: Prof. Dr. Mathias Allemand). His position at URPP DynAge was supported by the Jacobs Foundation. Marko Katana now works as a data scientist and consultant at Ernst & Young.



### **Alexander Seifert**

Alexander Seifert successfully defended his dissertation with the title “Determinants, Directions, Outcomes, and Measurement of Socio-spatial Context in Old Age: The Example of Neighboring” on the 3<sup>rd</sup> of July (main supervisors: Prof. Dr. Jörg Rössel and Prof. Dr. Mike Martin). He will continue his work as a postdoc at the Institute of Sociology and Center for Gerontology (also as an associated researcher at the URPP DynAge), where he is investigating the digital transformation of our everyday lives.



### **Mirjam Stieger**

Mirjam Stieger defended her dissertation with the title “Short-Term Personality Change - The Role of the Environment and Digital Intervention” on the 11<sup>th</sup> of July (main supervisor: Prof. Dr. Mathias Allemand). She started working as a postdoc with Prof. Margie Lachman at Brandeis University as part of the Lifespan Developmental Lab in September.





## New URPP DynAge Staff

We wish a warm welcome to our new Postdocs Dr. Zofia Baranczuk and Dr. Christian Pfeiffer!



### **Dr. Zofia Baranczuk**

- *Postdoc* - Methods of Plasticity Research (previously Institute of Global Health, University of Geneva, Switzerland)
- Dr. Zofia Baranczuk investigates the neural mechanisms of cognitive aging. She is focusing on a machine-learning approach to identify the factors influencing cognitive decline as we age



### **Dr. Christian Pfeiffer**

- *Postdoc* - Methods of Plasticity Research (previously University Hospital Lausanne, Switzerland)
- Dr. Christian Pfeiffer investigates age-related differences in cognitive performance and electrical neural activity between young and elderly adults. He focusses on computational modelling of eye tracking and electroencephalography data.

## Prizes and Awards

We congratulate Dr. Burcu Demiray on being recognized for her innovative research!



### **Dr. Burcu Demiray**

Dr. Burcu Demiray has been awarded one of this year's Vontobel Awards for Research on Age(ing). This prestigious award, endowed by the Vontobel Foundation, supports gerontological research in Switzerland from any field of science to raise awareness of issues around aging in society among the general public.

# Events



## Upcoming Events

- Nov. 13<sup>th</sup>, 2019**      **Workshop on “Well-Being and Aging: Today and Tomorrow” in Bern**  
Organized by Dr. Marc Grosjean (URPP DynAge) as current coordinator of the Swiss Network for Well-Being and Aging
- Apr. 6<sup>th</sup> - 10<sup>th</sup>, 2020**      **AAG 2020 Sessions on “Advances in Computational Approaches for Geospatial Health Applications” in Denver (CO), USA**  
Co-organized by Dr. Eun-Kyeong Kim (URPP DynAge and Department of Geography) for the upcoming Annual Meeting of the American Association of Geographers (AAG)
- Jun. 29<sup>th</sup> - Jul. 2<sup>nd</sup>, 2021**      **8<sup>th</sup> Conference of the Society for Ambulatory Assessment (SAA) in Zurich**  
Organized by the URPP DynAge
- Sept., 2021**      **17<sup>th</sup> Conference of the Swiss Psychological Society (SPS SGP SSP) in Zurich**  
Organized by the URPP DynAge

## Impressions from Past Events

Photos from a selection (\*) of recent events that were (co-)organized by the URPP DynAge can be found online [here](#).

- May, 2019**      **MADOKO – “Masterstudierenden- und Doktorierenden-Kongress” in Zurich\***  
Organized by the URPP DynAge for the Department of Psychology at the University of Zurich
- Sept., 2019**      **Workshop on “Text Analytics for Health: Applications and Implications” in Zurich\***  
Co-organized by Dr. Andrea B. Horn (URPP DynAge) and Minxia Luo, M.Soc.Sc. (Department of Psychology) and the Digital Society Initiative of the University of Zurich
- Sept., 2019**      **Workshop on “Regulating Algorithms for Health?” in Zurich**  
Co-organized by Dr. Burcu Demiray (URPP DynAge and Department of Psychology) and the Collegium Helveticum
- Oct., 2019**      **3rd Brainhack Zurich: Open tools for reproducible neuroscience in Zurich**  
Co-organized by Sabine Dziemian, M.Sc. and Martyna Plomecka, M.Sc. (both URPP DynAge and Department of Psychology)
- Oct., 2019**      **Workshop on “Applied Machine Learning for Social & Environmental Problems” in Zurich**  
Co-organized by Dr. Eun-Kyeong Kim and Dr. Lindsey Conrow (both URPP DynAge and Department of Geography) and the Peer Mentoring Group for Applied Machine Learning for Social & Environmental Problems at the University of Zurich



## Research Exchange

**Prof. Dr. Steven Boker**, Department of Psychology, University of Virginia (USA) visited the URPP DynAge from April 23<sup>rd</sup> - June 17<sup>th</sup>, 2019.

**Prof. Dr. Lauren Hamel**, Karmanos Cancer Institute/Wayne State University (USA) visited the URPP DynAge from July 25<sup>th</sup> - August 2<sup>nd</sup>, 2019.

**Prof. Dr. Patrick Hill**, Department of Psychological and Brain Sciences, Washington University in St. Louis (USA) is visiting the URPP DynAge from October 21<sup>st</sup> - 25<sup>th</sup>, 2019.

**Prof. Dr. Matthias Mehl**, Department of Psychology, University of Arizona (USA) visited the URPP DynAge from July 1<sup>st</sup> - 26<sup>th</sup>, 2019.

**Robert G. Moulder**, B.S., Doctoral Student at the Department of Psychology, University of Virginia (USA) visited the URPP DynAge during the month of July, 2019.

**Sophie Potter**, M.Sc., LIFE Doctoral Fellow from Humboldt-University Berlin (Germany), is visiting the URPP DynAge as part of an inter-institutional LIFE exchange from October 16<sup>th</sup> - November 14<sup>th</sup>, 2019.

# Selected Recent Publications



The full list of URPP DynAge publications can be found online [here](#).

Angelini, L., del Bas, J. M., Subias, P., Orte, S., Andreoni, G., Mugellini, E., Khaled, O. A., Röcke, C., Guye, S., Porcelli, S., Mastropietro, A., Rizzo, G., & Boqué, N. (2019). The NESTORE e-coach: Accompanying older adults through a personalized pathway to wellbeing. *Proceedings of the 12th ACM International Conference on Pervasive Technologies Related to Assistive Environments* (pp. 620-628). New York, NY: ACM. DOI: [10.1145/3316782.3322763](https://doi.org/10.1145/3316782.3322763)

Aschwanden, D., Schumacher, V., Allemand, M., Werner, C., Zimmermann, K., Zimprich, D., & Martin, M. (2019). Do professors better maintain cognitive functioning in older age? *GeroPsych: The Journal of Gerontopsychology and Geriatric Psychiatry*, 32(1), 5-17. DOI: [10.1024/1662-9647/a000201](https://doi.org/10.1024/1662-9647/a000201)

Cardini, B. B., & Freund, A. M. (2019). When the fun is over: Toward a motivational account of exhaustion and recovery. *European Psychologist*. Advance online publication. DOI: [10.1027/1016-9040/a000361](https://doi.org/10.1027/1016-9040/a000361)

Fillekes, M. P., Giannouli, E., Kim, E-K., Zijlstra, W., & Weibel, R. (2019). Towards a comprehensive set of GPS-based indicators reflecting the multidimensional nature of daily mobility for applications in health and aging research. *International Journal of Health Geographics*, 18(1):17. DOI: [10.1186/s12942-019-0181-0](https://doi.org/10.1186/s12942-019-0181-0)

Guye, S., von Bastian, C. C., Röcke, C., & Martin, M. (2019). Functional ability in everyday life: Are associations with an engaged lifestyle mediated by working memory? *Journal of Gerontology: Psychological Sciences*. DOI: [10.1093/geronb/gbz056](https://doi.org/10.1093/geronb/gbz056)

Katana, M., Röcke, C., & Allemand, M. (2019). Intra- and interindividual differences in the within-person coupling between daily pain and affect of older adults. *Journal of Behavioral Medicine*. Advance online publication. DOI: [10.1007/s10865-019-00099-0](https://doi.org/10.1007/s10865-019-00099-0)

Loizeau, A. J., Theill, N., Cohen, S., Eicher, S., Mitchell, S. L., Meier, S., McDowell, M., Martin, M., & Riese, F. (2019). Fact Box decision support tools reduce decisional conflict about artificial hydration and antibiotics for pneumonia in advanced dementia: A randomized controlled trial. *Age and Ageing*, 48(1), 67-74. DOI: [10.1093/ageing/afy149](https://doi.org/10.1093/ageing/afy149)

Luo, M., Schneider, G., Martin, M., & Demiray, B. (2019). Cognitive aging effects on language use in real-life contexts: A naturalistic observation study. In A. K. Goel, C. M. Seifert, & C. Freksa (Eds.), *Proceedings of the 41st Annual Conference of the Cognitive Science Society* (pp. 714-720). Montreal, QB: Cognitive Science Society. Retrieved from <https://mindmodeling.org/cogsci2019/papers/0140/index.html>

Oberauer, K., & Lewandowsky, S. (2019). Simple measurement models for complex working-memory tasks. *Psychological Review*, 126(6), 880-932. DOI: [10.1037/rev0000159](https://doi.org/10.1037/rev0000159)

Oswald, J., Mérillat, S., Guye, S., Liem, F., Rast, P., Willis, S. L., Röcke, C., Jäncke, L., & Martin, M. (2019). Brain structure and cognitive ability in healthy aging: A review on longitudinal correlated change. *Reviews in the Neurosciences*. Advance online publication. DOI: [10.1515/revneuro-2018-0096](https://doi.org/10.1515/revneuro-2018-0096)

Oswald, J., Mérillat, S., Liem, F., Röcke, C., Martin, M., & Jäncke, L. (in press). Lagged coupled changes between white matter microstructure and processing speed in healthy aging: A longitudinal investigation. *Frontiers in Aging Neuroscience*. Advance online publication. DOI: [10.3389/fnagi.2019.00298](https://doi.org/10.3389/fnagi.2019.00298)





Pedroni, A., Bahreini, A., & Langer, N. (2019). Automagic: Standardized preprocessing of big EEG data. *Neuroimage*, 200, 460-473. DOI: [10.1016/j.neuroimage.2019.06.046](https://doi.org/10.1016/j.neuroimage.2019.06.046)

Thoma, M. V., Hölzge, J., McGee, S. L., Maercker, A., & Augsbürger, M. (2019). Psychological characteristics and stress differentiate between high from low health trajectories in later life: A machine learning analysis. *Aging & Mental Health*. Advance online publication. DOI: [10.1080/13607863.2019.1584787](https://doi.org/10.1080/13607863.2019.1584787)

Willi, J., & Ehlert, U. (2019). Assessment of perimenopausal depression: A review. *Journal of Affective Disorders*, 249, 216-222. DOI: [10.1016/j.jad.2019.02.029](https://doi.org/10.1016/j.jad.2019.02.029)

Yordanova, K., Demiray, B., Mehl, M., & Martin, M. (2019). Automatic detection of everyday social behaviours and environments from verbatim transcripts of daily conversations. *Proceedings of IEEE International Conference on Pervasive Computing and Communications* (pp. 242-251). Institute of Electrical and Electronics Engineers Inc.. DOI: [10.1109/PERCOM.2019.8767403](https://doi.org/10.1109/PERCOM.2019.8767403)



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