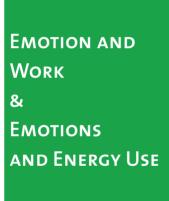
# Affect & Emotion

# **Newsletter of the NCCR Affective Sciences**













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# **EDITORIAL**





May 18 to May 20, 2017 Phasing out events of the NCCR

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**Publications** 

This academic year is of particular importance for the affective sciences in Switerland: We will celebrate the transition from the NCCR Affective Sciences to a permanent Swiss Center for Affective Sciences! This Center that already exists at the Universtiy of Geneva is located at the Campus Biotech, and will ensure the continuity of the research, education and knowledge transfer activities that were already started 11 years ago with the NCCR.

To celebrate this, unique events are being organized.

Save the dates!

First, I'm most happy to announce the organization of a scientific conference with internationally renowned researchers on *May 18th and 19 th, 2017*. This event will be reserved to scientists and experts in the affective sciences. Then, on *May 20th*, in the framework of the Campus Biotech Open Day, an important science communication public event will be organized. Through entertaining workshops, demonstrations, performances and other activities, the research conducted at the NCCR Affective Sciences will be presented to the general public. This event is designed for all audiences – families are welcome!

Our current newsletter issue focuses on the research carried out at the Center on work and emotion (Prof. Franziska Tschan, Prof. Norbert Semmer and Prof. Achim Elfering) and on emotions and energy use (Prof. Tobias Brosch). Both topics reflect a success story. The Work and Emotion project is a great illustration of a successful long-term research orientation supported by the NCCR Affective Sciences since its start in 2005. In turn, the new research on Emotions and Energy Use led by Tobias Brosch is an excellent example of a successful carrier that begun with a PhD at the Center. After a postdoctoral fellowship at New York University, Dr. Brosch was appointed in 2015 Assistant Professor at the University of Geneva, where he founded the Consumer Decision and Sustainable Behavior Lab.

Last but not least, I am pleased to inform that the last edition of the International Summer School in Affective Sciences (ISSAS) at the Château de Bossey on July 7-15, 2016 was extremely successful, bringing together 40 students and 33 leading scholars working on the interdisciplinary topic of "Emotions, fictions, and virtual worlds" (www.affective-sciences.org/issas).

David Sander

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# **RESEARCH FOCUS**



#### THE RESEARCH PROJECT 'WORK AND EMOTIONS'

Interview with Prof. em. Dr. Norbert K. Semmer from the University of Bern

Work is central to our lives, providing financial security, but also a sense of purpose and, often, a social life. We spend a large percentage of our time at work and a large percentage of our time talking about work. As such, it is hardly surprising that it should be an emotional subject.

Professors Franziska Tschan, Norbert Semmer and Achim Elfering are studying affective states at work in the framework of the NCCR Affective Sciences Research Project 'Work and Emotions'. The project has been running from the beginning of the NCCR, and the researchers are now in the fortunate position of being actively approached by organizations. "Our central philosophy is not to just contact potential partners with the aim of researching our theories," explains Professor Semmer. "We also work with the problems they have identified. If you collaborate in this way on a long term basis, you discover many issues that are of interest to both parties, including affective issues."

The teams are investigating work and emotions from several perspectives, but the overarching theory uses the 'Stress-as-Offense-to-Self' (SOS) model. SOS proposes that work is an important environment to receive information about our self-worth, and thus a frequent trigger of emotions, both positive and negative (e.g., stress).

One important concept of this theory is that of illegitimate tasks, which are tasks that employees should not be expected to perform, either because these tasks are not part of their job or because they are just unnecessary. The illegitimacy of a task can be quite subtle, for example a nurse who is asked to open a window for patients who cannot leave the bed will consider this to be part of the job. However, if patients have recovered enough to do this on their own, it can become an illegitimate task for the nurse.

The research group has now published several papers on illegitimate tasks. The results show that, the more people are asked to perform illegitimate tasks, the more they experience decreased self-esteem, increased resentment, and more burnout. There are also physiological changes such as increased level of cortisol, and decreased sleep quality. "The concept is now established in the literature," comments Professor Semmer. "Increasingly, other research groups are applying it in their work. We also present the SOS concept in workshops to managers and supervisors where we highlight that one should avoid illegitimate tasks, and if that's impossible, at least acknowledge they are above and beyond the call of duty. It's a simple communication, but can reduce feelings of unfairness and stress".

Alongside this work, the group has conducted some fascinating research on communication in operating theatres. This was the subject of a recent talk at the Annual Research Forum that the research group gave alongside collaborators from the University Hospitals of Bern and Basel.

By observing surgical teams at work, the team compared the effect of different types of communication on the risk of infections, an important complication after surgery. Results indicated that, when the communication within the surgical team was relevant to the surgery, there was less likelihood of infection. This is attributed to the fact that caserelevant communication ensures a common understanding of the situation, focuses attention on the ongoing process, and fosters smoother cooperation. The situation is more complex for conversations that are less relevant to the task, for example, talking about a recent conference. On the one hand, such communication is important for a good team climate. On the other hand, it may distract. This seems to be particularly true towards the end of the surgery. If surgical teams engage in more case-irrelevant communication during closure, the risk of infection increases.

"An important aspect is that suturing is often performed by less experienced surgeons," explains Professor Semmer. "For them this is a demanding task, plus it is at the end of surgery when they are tired – and then there is this added distraction of case-irrelevant communication. It has been shown that dealing with distractions is more difficult for inexperienced surgeons. However, simply forbidding all case-irrelevant communication is not a realistic option, as it has important affective functions for the team. So we suggested there should be a short period of relaxation before suturing and then a call to focus again. In this way the more relaxed communication is not generally forbidden, but avoided when it is likely to distract." Based on these findings, the research team has started an intervention project, which is funded by the National Science Foundation.

"One of the great aspects of the NCCR Centre for Affective Sciences is that it has a long term orientation," says Professor Semmer. "Much of our research would not have happened if the project had been only for a few years, but after building up respect and trust over many years we now have very fruitful collaborations and increasing opportunities for research and intervention."



# NTERVIEW



## **Emotions and Energy Use**

Interview with Professor Tobias Brosch

Overconsumption of resources is one of today's major global challenges. However, despite the pressing need to address this issue, we still find it difficult to connect to it at an individual level. New research led by Professor Tobias Brosch at the NCCR Affective Sciences is proposing that an emotional framework could help make this connection and encourage more sustainable behaviour.

"Over the last two decades we have seen an enormous increase in research on emotion," says Professor Brosch. "And this has highlighted the importance of emotional processes for successful decision-making. Emotions seem to play an important role when a person is torn between selfish behaviour and behaviour that benefits the social group, and so they may be a valuable lever to promote sustainable decision-making."

In line with the NCCR Affective Sciences approach, Professor Brosch has adopted the Component Process Model of emotion in his work. This considers emotions to be useful processes that help us focus on important aspects of our current environment and allow us to make informed decisions. Alongside other colleagues from the NCCR Affective Sciences and the Institute for Environmental Sciences, Professor Brosch has demonstrated that emotion theory can improve our capacity to predict intentions to reduce energy use by capturing aspects that are not taken into accounts by other popular psychological approaches.

Published in the journal Frontiers in Energy Research, the research analysed responses from over 160 students and the results confirmed that emotion theory could provide new and valuable insights into this area. With the theoretical grounding in place, Professor Brosch now intends to investigate the finer details of how emotions can help us understand sustainable behaviour. "The paper is like a research manifesto," he says. "We have shown that it makes sense to use an emotional approach and now we will investigate how this can contribute in a practical sense."

To this end, Professor Brosch is using a variety of methods to measure emotions and other affective phenomena. Not only at the level of questionnaires and self-reports, but also using neuroimaging methods and physiological measures to assess the different components of the emotional response as it occurs. By drawing on several disciplines with 'emotion' as the central theme, he hopes to provide meaningful insights into the complex area of sustainable behaviour. "When you are deciding whether to behave sustainably or not, many considerations can

influence your decision," he explains. "For example, imagine you are contemplating buying an e-bike to replace your car for your commute to work. You will ask yourself several questions, such as...How much does it cost? Do I get a bonus? Won't it be too uncomfortable? How do I feel about it? What will the others think about me? How should I weigh disadvantages for me right now against advantages for my grandchildren in 50 years? Individual disciplines tend to focus on a subset of these factors, and can come to different conclusions about how to motivate people to be sustainable. By promoting an interdisciplinary approach, we hope to obtain the bigger picture."

To get this bigger picture, the research group is also intending to use big data approaches to analyse the large amount of information that is available from interactions on the Internet. The work has only just started but is aiming to collect twitter feeds and facebook posts to research how people are communicating about energy use and investigate any regional differences within Switzerland, and later also worldwide.

Application of results is of course central to the research and Professor Brosch hopes this will be aided by links to organisations in Switzerland. Alongside working with the Swiss Office of Energy his group is also part of the Swiss Competence Centre for Energy Research (SCCER) network. As part of this, Professor Brosch's group is conducting a large study where about 5000 people will fill in a questionnaire about their emotions and values alongside their electricity bill to give an objective measure of the resources they consume. The research will be valuable at a national level but Professor Brosch is also aware that the concepts and methods he is developing may also be useful on a world stage.

"What I really like about this research is that it addresses an important and urgent issue," he explains. "The current overconsumption of resources is a big problem that needs to be tackled now. World leaders emphasized this last December, when 195 countries adopted the Paris Agreement, which aims to produce a substantial reduction of greenhouse gas emissions in order to ensure the increase in global average temperature is maintained at 2°C or less. Whether we will be able to implement these goals will not only depend on the development of new energy technologies, but also requires major changes in the patterns of individual energy-related choices and behaviors. By applying our insights into human behavior to a question of societal interest I have the impression that we are able to make a really concrete contribution."

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#### Grants received

François Jaquet (project Emotion, Attention and Value) was granted an 18-month Early Postdoc Mobility Scholarship by the SNSF.

Federico Lauria (project Emotion, Attention and Value) was awarded a 1-month fellowship for the project "Aesthetics of Emotions: Arts and Cognitive Science" at the Università degli Studi di Milano.

Patrizia Lombardo (project Affective Dynamics and Aesthetic Emotions) obtained a grant from the Leverhulme Trust Foundation on the project Landscapes of Realism with six European partners (December 2015-December 2018).



## **Completed PhDs**

Catherine Audrin successfully defended her PhD thesis on the "Neural and psychological antecedents of preferences for luxury" on March 14, 2016 under the direction of Prof. David Sander and Prof. Julien Chanal.

Mathieu Chatelain successfully defended his PhD thesis on "The effect of implicit fear on mental effort." on July 14, 2016 under the direction of Prof. Guido Gendolla.

François Jaquet successfully defended his PhD thesis "Utilitarianism for the error theorist" on February 10, 2016 under the direction of Prof. Julien Deonna.

Sandra Keller successfully defended her PhD thesis on "Distractors in the operating room" on December 7, 2015 under the direction of Prof. Franziska Tschan.

Ewa Miendlarzewska successfully defended her PhD thesis on the "Lasting effects of reward on declarative memory: Behavioral and neural mechanisms in humans", on March 22, 2016 under the direction of Prof. Sophie Schwartz (co-director Prof. Daphné Bavelier).

Valérie Milesi-Sterck successfully defended her PhD thesis "Etude de l'intégration multimodale émotionnelle: effets de dominance sensorielle et modulations corticales et sous corticales" on February 26, 2016 under the direction of Prof. Didier Grandjean.

Sonja Müller successfully defended her PhD thesis on "We're made of flesh and blood, too: New models of the consequences of client-initiated workplace violence" on March 22, 2016 under the supervision of Prof. Franziska Tschan.

Delphine Warrot successfully defended her PhD thesis on the "Neural correlates of the influence of mood states on perception and decision making" on June 20, 2016 under the direction of Prof. Sophie Schwartz (co-director Emmanuel Procyk).

Suen Fei Wong successfully defended her PhD thesis "On regulating emotion expression in social interaction: The interplay of goal attainment, regulatory effort and well-being " on January 15, 2016 under the supervision of Prof. Franziska Tschan. ■

# **Upcoming events**

#### Workshop Landscapes of Realism

(October 21-22, 2016, Nottingham) organized by Prof. Patrizia Lombardo on the battle of ideas, objects and emotions in realist art.

Save the date : NCCR Affective Sciences Phasing Out Events

Campus Biotech, Geneva, May 18th, 19th and 20th, 2017. The program will be announced at the beginning of 2017.■





#### **NEW BOOKS /SPECIAL ISSUES**

Corradi-Dell'Acqua, C., Fehr, E., Koban, L., Leiberg, S., & Vuilleumier, P. (2016). What determines social behavior? Investigating the role of emotions, self-centered motives, and social norms. Frontiers Journal in Human Neuroscience, Special Issue.



Gentaz, E., Denervaud S., & Vannetzel L. (2016). Vie secrète des enfants (La), Paris: Odile Jacob. ■



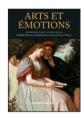


Deonna, J. (2016). Les motivations affectives, [special issue], Revue Philosophique de France et de l'étranger, 141(2). ■

Teroni, F. (2016). "Emotions et moi, et moi". Les motivations affectives, [special issue], Revue Philosophique de France et de l'Étranger, 141(2).

Lombardo, P. (2016). Imagination (pp. 207-208), Musil (pp. 259-260), Stendhal (p. 472). In M. Bernard, A. Gefen, & C. Talon-Hugon (Eds.) Arts et Emotions.

Dictionnaire. Paris: Armand Colin. ■



# On our website www.affective-sciences.org

A new website for the Center has been recently inaugurated at <a href="https://www.affective-sciences.org">www.affective-sciences.org</a>. Check out our new layout and the latest information about teams, events, and publications.

On our site you will also find:

Research materials are available at http://www.affective-sciences.org/researchmaterial. Free of charge for non commercial research projects.

Online Platform on Emotional Competence at http://www.affective-sciences.org/ec, including the major contributions and debates in the literature on emotional intelligence, potential applications, as well as results of the most recent research.

#### Other website of interest

Dynamic Emotion wheel: http://dynamicemotionwheel.ch/The aim of this website is to present and disseminate the web service developed by Mattia Fritz (Prof. Mireille Betrancourt's team), which allows users to report and share their emotions during a computer-mediated task. ■





Follow us on Twitter: @NCCRAffectiveScience





#### **Publications**

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Buzdugan, L., Kalisch, M., Navarro, A., Schunk, D., Fehr, E., & Bühlmann, P. (2016). Assessing statistical significance in multivariable genome wide association analysis. Bioinformatics, 1-11.

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# swissuniversities

#### Affect & Emotion

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