



**PhD-course (16 hours)**

# **Biological and cognitive methods in clinical and individual psychology**

**(CDP)**

Course coordinator: Ståle Pallesen

In this course, the candidates will learn about central biological and cognitive methods that are used in clinical and individual psychology. The course will give the candidates an introduction to how the methods work and their theoretical foundation. In addition, the candidates will gain insight into how these methods can be applied in clinical and individual-oriented research. Where possible, some brief and practical illustrations and demonstrations of the use of the methods will be given. Clinical and individual research areas where the methods are particularly relevant will be highlighted.

**Form of teaching: Alternation between lectures and practical illustrations**

*Neuropsychological tests (3 hours).* The candidates will be given an introduction to neuropsychological tests and their theoretical background. Central examples and illustrations of such tests will be emphasised and particular research areas where these methods are highly relevant will be highlighted.

*E-prime (1 hour).* Candidates will be given a brief introduction to the “E-prime” software. They will also be given an overview of the possibilities this software package contains for experimental and other types of studies that are relevant to clinical and individual psychology.

*Functional magnetic resonance imaging (fMRI) (3 hours).* In this part of the course, a basic introduction will be given to the fMRI method and the rationale behind it. A short overview will be presented of how this method is applied in research in clinical and individual psychology. The candidates will also be given a short summary of research projects of current interest where the method has been applied.

*Electrodermal activity (1 hour).* The candidates will be given a short introduction to the theoretical background to this method. Practical use of this method will be illustrated. In addition, the candidates will be given a presentation of research areas in clinical and individual psychology where this method has been used and where it is currently being applied.

*Heart rate and heart rate variability (2 hours).* The candidates will be given an overview of the measurement of heart rate and heart rate variability and the rationale for the use of these methods. The practical use of equipment for the assessment of heart rate and heart rate

variability will be demonstrated. The candidates will be given a presentation of research areas in clinical and individual psychology to which these methods are particularly relevant.

*Polysomnography (2 hours).* The candidates will be given an introduction to basic and clinical polysomnography. A short practical illustration of the use of polysomnography will be given. Candidates will also be given an introduction to important research issues in clinical and individual psychology to which this method is central.

*Actigraphy (1 hour).* The candidates will be given a short introduction to actigraphy and the background to this method. Practical use of the method will be illustrated. References will be given to examples of topics in clinical and individual psychology where the method may be warranted.

*Hormone assessment and analysis. Animal models (3 hours).* The candidates will be presented with a brief overview of different hormones which it is important to assess in clinical and individual psychology, as well as of the background to measuring these hormones. A short and basic presentation will be given of methods for the analysis of hormones. An overview will also be presented of central issues in clinical and individual psychology where the use of hormone measures is important. The principles for the use of animal models in research in clinical and individual psychology will be presented, and examples of the application of such models will be given.

**PhD course in “Biological and cognitive methods in clinical and individual psychology”  
offered by CDP, April 19-20, 2012.**

**April 19, 2012**

**08.15-11.00: Astri Lundervold:** *Neuropsychological tests*

**11.15-12.00: Bjørn Sætrevik:** *The “E-prime” software*

**12.00-12.30: Lunch**

**12.30-15.15: Karsten Specht:** *Functional magnetic resonance imaging*

**15.30-16.15: Bjørn Helge Johnsen:** *Electrodermal activity*

**April 20, 2012**

**08.15-10.00: Anita Hansen:** *Heart rate and heart rate variability.*

**10.15-12.00: Janne Grønli:** *Polysomnography*

**12.00-12.30: Lunch**

**12.30-13.15: Ståle Pallesen:** *Actigraphy*

**13.30-16.15: Robert Murison/Anne Marita Milde:** *Hormone measurements and analysis.  
Animal models.*