Day 1

Explaining the background theory of motor control of high intensity movement, based on self-organization principles

Morning 9-12

> constraint led approach

The currently dominant theory of motor control, unifying previous theories

> brain central and decentralized control

The theory that currently dominates practice (brain dominant models) and its shortcomings.

> degrees of freedom problem

The fundamental starting point of the (upcoming) theory of dynamic systems and how the degrees of freedom problem dominates contextual movement

> case studies

Small groups discussions of worst and best practice. Consequences for everyday practice of the theory so far.

Afternoon 13-16
intention to action model

*Overarching design principle for movement design. How we go in a non-linear way from intention to muscle action*

> emergence of attractor fluctuation landscapes.

*Contextual movement patterns are build upon principles of stability. Muscle properties and results of muscle cooperation are bottom up building blocks of these components of stability in movement design*

> local self-organization and fascias

*How can fascias contribute to decentralized control of the knee*

> local self-organization and ACL injuries

*How do properties of muscles protect the knee from ACL injuries*

> injuries and motor control

*How motor control changes due to injuries*

> case studies

Small groups discussions. Consequences for everyday practice of the theory so far

**Day 2**

Explaining the background theory of motor control of high intensity movement, based on self-organization principles and on interaction with a complex environment (open skills)

**Morning 9-12**

> Searching for attractors in contextual movement (running). Self-organization of attractors in high speed running

*Analysis of attractors (stability principles) in high speed running. Frequently occurring injuries due to poor technique*

> Attractors in agility

*Building blocks of open skill movement*

**Afternoon 13-16**

> case studies
Small groups discussions. Consequences for everyday practice of the theory so far

> rehab protocols: Calf, Groin, Hamstrings

Single stressor protocols for back to play scenarios

**Day 3**

Explaining the background theory of motor learning of high intensity movement, based on current knowledge on feedback and strategies of intrinsic learning

**Morning 9-12**

> 2 control systems

_Dual control system for motor control and how they influence each other. Structure of automated control from intention to action. Reinvestment and fear influencing motor control_

> decentralized automated control & intention to action > feedback

_Directing attentional focus, performance and result information. Theory of result information translated to dynamic systems control_

> case studies

Small groups discussions. Consequences for everyday practice of the theory so far. Focus on feedback

**Afternoon 13-16**

> toolbox of intrinsic learning

_Strategies for enhancing intrinsic learning. ± 8 tool explained that stimulate learning at a subconscious level_

> case studies

Small groups discussions. Consequences for everyday practice of the theory so far. Focus on feedback

> Q&A and wrap up of the 3 day course