



# Dynamic Field Theory Summer School

June 6-17, 2016  
University of East Anglia  
Norwich, UK

Dynamic field theory is a framework for understanding how the brain gives rise to thinking in real time, and how cognitive decisions leave memory traces that are the basis for learning and development. The Summer School will provide an overview of DFT, using a new text *Dynamic Thinking—A Primer on Dynamic Field Theory*.

The school will be led by Prof. John P. Spencer. Prof. Spencer will lecture on the concepts of DFT from 9-10:30am each day. This will be followed by a second guest lecture on exemplary case studies from 11-12pm. Afternoon sessions from 2-4pm will provide hands-on training working with DF models in COSIVINA, an interactive simulation environment. Students will develop their own projects during the school to learn how to apply the concepts of DFT to their home domain of interest.

To apply, send a 2-page CV and brief cover letter describing why you want to attend the school to: [SSF.AdvancedTraining@uea.ac.uk](mailto:SSF.AdvancedTraining@uea.ac.uk). Additional details including information on fees can be found at [www.dynamicfieldtheory.org/engage](http://www.dynamicfieldtheory.org/engage).

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SCHOOL OF PSYCHOLOGY



**DEVELOPMENTAL  
DYNAMICS  
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# DFT Summer School 2016

June 6-17 University of East Anglia

[www.dynamicfieldtheory.org](http://www.dynamicfieldtheory.org)

06/06 – *DFT Primer* Ch. 1

- Neural dynamics and basic attractor states

07/06 – *DFT Primer* Ch. 2,15

- Dynamic fields; introduction to COSIVINA

08/06 – *DFT Primer* Ch. 3,4

- Links to neurophysiology and embodiment

09/06 – *DFT Primer* Ch. 5,6

- Multi-dimensional fields and multi-layer dynamics

10/06 – *DFT Primer* Ch. 7,8

- Spatial transformations and objects in a scene

11/06 *Excursion*

13/06 – Work on Projects

- *UEA Workshop on declarative memory*

14/06 – Work on Projects

- *UEA Workshop on declarative memory*

15/06 – *DFT Primer* Ch. 10,11

- Developmental dynamics and preferential looking

16/06 – *DFT Primer* Ch. 12,13

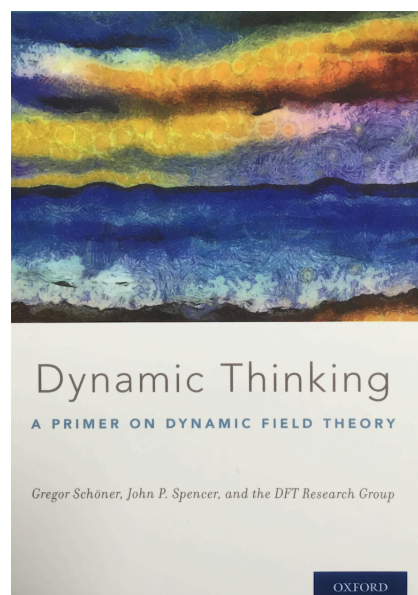
- Word learning and executive function

17/06 – *DFT Primer* Ch. 14

- Sequence learning and higher level cognition

- *Project presentations*

About the book: *Dynamic Thinking—A Primer on Dynamic Field Theory* introduces the reader to a new approach to understanding cognitive, neural, and developmental dynamics using the concepts of Dynamic Field Theory (DFT). Dynamic Fields are formalizations of how neural populations represent the continuous dimensions of perceptual features, movements, and cognitive decisions. The concepts of DFT establish links between brain and behavior, enabling models of brain function to be tested with both neural and behavioral measures. Thus, DFT bridges the gap between brain and behavior, between neuroscience and the behavioral sciences. In addition, by linking real-time neural dynamics to memory traces that form over longer time scales, DFT formalizes how neural states give rise to learning and development. The book provides tutorials on the concepts of DFT and their grounding in dynamical systems theory and neurophysiology. The concrete mathematical implementation of these concepts is laid out, supported by hands-on exercises that make use of interactive simulators in MATLAB. The book also contains exemplary case studies that illustrate how elementary forms of embodied cognition emerge and develop.



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