

## Contents

<b>PART I</b>	<b>General introduction</b>	<b>9</b>
<b>Chapter 1</b>	General introduction, aims & outline	11
<b>Chapter 2</b>	The application of graph theoretical analysis to complex networks in the brain	21
<b>PART II</b>	<b>EEG in the intensive care unit</b>	<b>45</b>
<b>Chapter 3</b>	Feasibility of online seizure detection with continuous EEG monitoring in the intensive care unit	47
<b>Chapter 4</b>	Inter-observer variability of the EEG diagnosis of seizures in comatose patients	63
<b>PART III</b>	<b>Network analysis in seizures and periodic discharges</b>	<b>75</b>
<b>Chapter 5</b>	Small-world networks and epilepsy: Graph theoretical analysis of intracerebrally recorded mesial temporal lobe seizures	77
<b>Chapter 6</b>	Indications for network regularization during absence seizures: weighted and unweighted graph theoretical analysis	95
<b>Chapter 7</b>	Identical network topology during periodic discharges and seizures in post-anoxic patients?	113
<b>PART IV</b>	<b>Neural mass models combined with network analysis</b>	<b>133</b>
<b>Chapter 8</b>	The relationship between structural and functional connectivity: graph theoretical analysis of an EEG neural mass model	135
<b>Chapter 9</b>	Neural network modeling of EEG patterns in encephalopathy	157
<b>PART V</b>	<b>Summary and discussion</b>	<b>173</b>
<b>Chapter 10</b>	Summary, general discussion & future directions	175
	Appendices	193
	Reference list	201
	Nederlandse samenvatting	219
	List of publications	223
	About the author	225
	Dankwoord	227