



## Optical Imaging of Neocortical Dynamics

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Condition: New. Publisher/Verlag: Springer, Berlin | The application of optical methods for investigating neocortical circuit dynamics has greatly expanded in recent years, providing novel insights into the fascinating world of brain function. Optical Imaging of Neocortical Dynamics presents a guide to these indispensable tools, which cover a broad range of spatiotemporal scales and a large variety of signaling aspects, ranging from voltage changes to metabolic states. This detailed volume specifically explores methods that are applied in experiments on living brains (in vivo) and that relate to functional properties on the spatial scale of cortical circuits. Beginning with an introductory section that focuses on physical fundamentals of optical imaging as well as molecular tools used for in vivo optical imaging and optogenetic control, the book continues with the most relevant methods and their applications to investigate changes in neuronal and glial activity states as well as optical imaging methods probing metabolic states. Written for the Neuromethods series, this volume contains the kind of detail and key implementation advice that ensures successful results in the lab. Practical and easy to use, Optical Imaging of Neocortical Dynamics serves as an ideal guide for researchers who aim to apply these highly valuable tools to their...



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