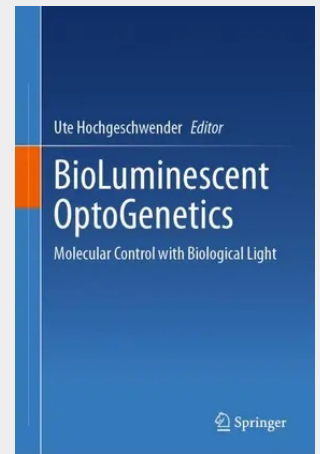


BioLuminescent OptoGenetics

Molecular Control with Biological Light

This book provides an overview of and introduction to the use of bioluminescence for controlling light-sensing molecules. Different from the standard use of bioluminescence in imaging applications in vitro and in vivo, bioluminescent optogenetics harnesses molecularly produced light to activate the wide range of light-controllable modules available, from ion channels to transcription factors. The book covers the principal biological mechanisms of light emission and light sensing and the palette of tools enabled when combining genetically encoded light production with light sensing for use within and across cells. Through examples covering the main applications, BioLuminescent Optogenetics provides a practical guide for using this powerful platform for neuroscience and beyond.

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