Record Nr.	UNINA9910484315203321
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Titolo	Development of implantable electronics as novel approaches to obstructive sleep apnea / / Jungmin Seo
Pubbl/distr/stampa	Singapore : , : Springer, , [2021] ©2021
ISBN	981-15-8327-7
Edizione	[1st ed. 2021.]
Descrizione fisica	1 online resource (XVII, 75 p. 46 illus., 34 illus. in color.)
Collana	Springer theses
Disciplina	616.209
Soggetti	Sleep apnea syndromes
	Biomedical engineering
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Note generali	"Doctoral thesis accepted by Seoul National University, Korea."
Nota di bibliografia	Includes bibliographical references.
Nota di contenuto	Introduction Methods Results Discussions Conclusion.
Sommario/riassunto	This book addresses novel methods to treat a very popular disease, obstructive sleep apnea, based on a knowledge of an electrical engineering. Two approaches are given in the book using an upper- airway stimulation based on the pathogenesis of an obstructive sleep apnea. Implantable electronics are devised to control the tongue and the soft palate considering that they are the major pharyngeal muscles contributing to the apnea. First, for tongue control, a cuff electrode was designed and fabricated to stimulate the hypoglossal nerve, which innervates to the tongue muscle. Rare-earth magnets were embedded in the cuff for easy and repeatable installation of the electrode. For soft palate control, a palatal implant system was firstly developed to contract the soft palate muscle by applying electrical stimuli. Comprised of an implant, an intra-oral device, and an external controller, the palatal implant system is fully powered and controlled by means of wireless communication. The approaches were demonstrated in both in vitro and in vivo assessments, in collaboration with department of Otorhinolaryngology, Seoul National University Bundang Hospital

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