

IEEE CPMT and EMB Switzerland Chapter Technical Presentation Session

Packaging for Active Implantable Medical Devices

ETH Zurich, 28th January 2015

As part of the course of regular technical presentation sessions, CPMT Switzerland chapter is organizing a joint session together with EMBS chapter about electronic packaging for Active Implantable Medical Devices.

The goal of this seminar is to provide a platform where people can exchange information about their activities, interests and solutions.

Program

16:00 – 16:10 Welcome and introduction

Daniel Thommen, IEEE CPMT chapter chair, Development Manager Microdul AG

16:10 – 16:40 Fabrication Process for Hermetic Biocompatible Miniature Implant Enclosures

Niklaus Schneeberger, Head of Microsystems Helbling Technik Bern AG

Presentation about the micromachining process for the fabrication of biocompatible glass housings for miniature active implants. The process allows the hermetic encapsulation of active electronics while providing electrical feedthroughs to the outside. Ambient temperature processing enables encapsulation of standard CMOS circuits, batteries, and other temperature sensitive components or materials.

16:40 – 17:10 Experiences with a Non-Hermetic Active Implant

Thomas Degen, CTO Sequana Medical AG

The alfapump is a non-hermetic implantable pump with a lifetime of about two years. What are the benefits and what are the challenges of such a concept with respect to design, test, market, and regulatory requirements.

17:10 – 17:40 Wireless Brain Interfaces & Challenges for Hermetic Sealing in Chronic Use

Arto Nurmikko, Professor of Engineering and Physics Brown University, Providence RI, USA

A key challenge for the development of high data rate implantable electronic brain interfaces for chronic use is the hermetic sealing of the microelectronics to small form factor, electro-magnetically transparent enclosures. Examples of implemented solutions of 'hard' packaging (such as Ti-enclosures) and 'soft' packaging (such as polymer composites), are discussed.

17:40 – 18:30 Apéro / Networking

Location: ETH Zürich Main Building, HG F 26.5, Rämistrasse 101, 8092 Zürich

Patronage: Prof. Dr. Gerhard Troester, Institut f. Elektronik ETH Zürich

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Please register by E-mail (daniel.thommen@microdul.com) before **23th January 2015**