Saal:	22:30	01:00	Day: 1	Track: Hardware & Making	nA
Simulacron-3					

Title: **3D Printing High-Quality Low-Cost Free Medical Hardware**

Subtitle: Making medical devices accessible and hackable for all

Speaker: **Tarek Loubani**

Short: *Despite the dramatic falls in costs of production, medical devices have remained prohibitively expensive for all but the richest countries and physicians. Using 3D printing, rapid prototyping and Free hardware licenses, we have been developing and releasing off-patent medical devices that perform as well as the gold standard for a fraction of the cost. In this lecture, we discuss the history and scope of the problem, our progress to date and how attendees can participate and make their own medical devices.*

Long: Most commonly used medical devices and supplies are simple to manufacture and have been around for decades or centuries. Despite this, they remain expensive and therefore out of reach for health care providers and hospitals in the developing world and even poorer health centres in the developed world. Advances in rapid prototyping such as 3D printing and Free hardware licenses have recently allowed the local production of high quality medical hardware and devices for a fraction of the cost of proprietary alternatives. Through an organization we have named Glia, we are focusing on three key aspects:

- The research, development and validation of medical devices such as a stethoscope, pulse oximeter, electrocardiogram and surgical tools.
- The dissemination of plans, BOMs, and validation protocols for these devices
- The training of ministries of health and hospitals to roll out domestic programs to further develop and manufacture these devices and others In this lecture, specific examples will be highlighted of countries where medical needs can be met using this approach. Also, the devices and some details of their development will be discussed to enhance understanding of the process for others who wish to use it. Lastly, attendees will be given information on how to participate and collaborate in making their own devices or new devices.