

INSTITUTE SEMINAR

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3D PRINTING TECHNOLOGY: The Security of Mechanical Keys

May 18, 2017 at 2:00 pm

**J. Heyrovsky Institute of Physical Chemistry, v.v.i.
Czech Academy of Sciences
Prague 8, Dolejškova 3
in Rudolf Brdička Lecture Hall**



3D PRINTING TECHNOLOGY: The Security of Mechanical Keys

3D printing technology is mainstream and utilized in virtually every commercial, medical, manufacturing and research sector. It allows the rapid development and generation of almost any object that can be produced in a variety of materials from plastic to metal to rubber. The technology can also be deployed to compromise security systems involving locks and keys. Specifically, even inexpensive printers can replicate, duplicate, or create key blanks and keys for conventional and high security locks. This can place many facilities and critical infrastructure at risk from hackers, criminals, and terrorists.

The presentation will provide a survey of the technology and how it can affect security and risk management. Several videos will provide an insight into software that is now available to generate keys to open a wide array of locks that are used in different venues such as financial institutions, government facilities, schools, commercial buildings and even private residences. The speaker will discuss serious implications involving not only security but the protection of intellectual property and other legal issues.

Marc Weber Tobias

is an American investigative attorney and author. His law practice specializes in technical fraud and related investigations that require the use of special interviewing and interrogation techniques and polygraph testing. Tobias has conducted or reviewed investigations involving locks, safes, security and locking products and technologies for both public and private clients. He also consults with corporations and government agencies with regard to the analysis of locks, alarms and security hardware for bypass capabilities and defective product designs that could lead to breaches in physical security.

Tobias is recognized as one of the foremost security experts in locks and safes, their bypass techniques and covert entry methods. As a lock expert he has demonstrated the vulnerabilities of the security products of many lock companies. He is an author of the comprehensive monography "Locks, Safes and Security: An International Police Reference". He has provided expert testimony in patent infringement lawsuits and defective product litigation with regard to product design and security defects, and in criminal trials.

He was trained as both a lawyer and criminal investigator and has been a certified polygraph examiner for the past twenty years. He has conducted thousands of polygraph examinations in both criminal and civil investigations involving cases of kidnapping and murder to employee theft from commercial businesses.

His security website is www.security.org and his security blog is in.security.org