

From Traditional Autopsy to 3D Real Data Based Reconstruction using Optical Surface Scanning, MSCT and MRI

# 4<sup>th</sup> **virtopsy** Basic Course

- From Idea to Realisation
- From Autopsy Protocol to Virtopsy Image
- Practical Procedure



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UNIVERSITÄT  
BERN



**virtu**  
**autopsy**



## Organisers

Prof. Dr. Michael Thali  
Director Centre of Forensic Imaging Bern

Prof. Dr. Richard Dirnhofer  
President Virtopsy Foundation

For registration please contact [sandra.salzmann@irm.unibe.ch](mailto:sandra.salzmann@irm.unibe.ch)

**August 25<sup>th</sup> - 27<sup>th</sup> 2008, Bern, Switzerland**

[www.virtopsy.com](http://www.virtopsy.com)

[www.virtopsy-foundation.com](http://www.virtopsy-foundation.com)

[www.twgfim.com](http://www.twgfim.com)

## **Welcome Address - Aim of the 4<sup>th</sup> Virtopsy® Basic Course**

We cordially invite participants who are interested in the interdisciplinary conjunction of imaging techniques and forensic morphology of the human body to this academic course. Participants from various scientific disciplines (e.g. radiologists, neuroradiologists, forensic specialists, criminalists, physicists, MRS specialists, cardio-technicians, surveying technicians) will receive information about experience gained in the interdisciplinary fields of imaging techniques and forensic medicine and will benefit from the development of new protocols and imaging sequences in Computed Tomography and Magnetic Resonance Imaging.

We are looking forward to welcoming you in Bern for the fourth Virtopsy Basic Course!

### **The idea behind the term Virtopsy®**

The term "**autopsy**" ("autos" means "self", "opsomei" means "seeing with eyes"), was adopted by medical sciences and is used as a synonym for the dissection of human (and animal) bodies. As implicated by the word itself, in fact even today, the autopsy procedure is a subjective method, and in the conventional forensic investigation process the description of the autopsy results is based on descriptive linguistic techniques.

As it is a goal of the virtopsy project to **eliminate the subjectivity of "autos"** the term "**virtopsy**" was born, including the two terms "**virtual**" and "**autopsy**" but deleting "autos". Virtopsy was born from the desire to implement new techniques in radiology for the benefit of forensic science. There have been great improvements in MSCT and MRI technology, increasing both contrast and resolution and offering possibilities of 2D and 3D reconstruction. **The aim is to establish an observer independent, objective and reproducible forensic assessment method using modern imaging technology, leading to minimally invasive "virtual" forensic autopsy.**

### **Benefits of Virtopsy®:**

- Uniform Documentation of Findings:

The present-day descriptive, subjective protocolling of autopsy findings can be replaced by a uniform and observer-independent, objective radiological documentation. This will substantially increase the quality of the evidence presented in court by experts. Quality control and expert supervision become possible, as well as forensic "telemedicine" consultation.

- Increased Understandability:

The availability of 2D and 3D Reconstructions will impressively improve the clarity and, consequently, the understandability of future experts' evidence. This will play an important role in the acceptance of the evidence.

- Alternative for cultures where conventional autopsy is forbidden

Virtual autopsy will allow for medico legal examinations in cultural circles where a conventional autopsy is stigmatized or even forbidden. Last but not least, the method could be useful in the examination of highly infectious bodies.



## **VIRTOPSY – BASIC COURSE**

### **PROGRAM – OVERVIEW:**

**- From Idea to Realisation – Logistics, Cooperation, Costs**

**- From Autopsy Protocol to Virtopsy Approach**

- **Oral description versus image? – Value of evidence**
- **Advantages – Disadvantages**

**- Practical Procedure of Documentation and Reconstruction:**

- **Case work:**
  - 3D Surface Scanning
  - MSCT
  - MRI
- **Findings via Virtopsy-Tools**
  - Demonstration of the Tools ATOS / TRITOP and MSCT
  - Work at the workstation
- **Clinical radiology and forensic radiology are not the same**
- **Virtopsy and forensic medicine: A start**
- **Virtopsy and „Real 3D data reconstruction“**
- **Creation and structure of a “Virtopsy Database”**

### **Scientific Organisers**

**Prof. Dr. med. Michael Thali**

Director of the Centre of Forensic Imaging and Virtopsy®

**Prof. Dr. med. Richard Dirnhofer**

President Virtopsy Foundation



**Course Date:**

**August 25<sup>th</sup> – 27<sup>th</sup> 2008**

Monday, Tuesday, Wednesday: 8:00 am – 12:00 am, 02:00 pm – 06:00 pm

**Registration:**

For registration, please contact: [sandra.salzmann@irm.unibe.ch](mailto:sandra.salzmann@irm.unibe.ch)

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**Registration fees:**

Early (before 31 May 2008) CHF 1400,-  
Late (begins 1 June 2008) CHF 1800,-

**Announcement „Advanced Teaching Course“**

**Advanced Teaching Course (prior completion of the Basic Course necessary)**

- Postmortal Biopsy: Indication and Method
- Postmortal Angiography: Indication and Method
- Gunshot wounds: Virtoptical Morphology and Ballistic Reconstruction
- Reconstruction of Bite Wounds
- Surveying of the Crime Scene
- Traffic accidents: Real Data Reconstruction
- Reconstruction of Flight Accidents (Planes and Passengers together)
- Malpractice and Virtopsy
- Case studies (Autopsy and Forensic Medicine)