

**BERLIN / GERMANY FROM MAY 16<sup>th</sup> to 18<sup>th</sup> 2019**

Venue  
Ellington Hotel  
Nürnberger Str. 50-55  
10789 Berlin



Rechtsmedizin  
Berlin

# ISFRI | 2019

8<sup>th</sup> Annual Congress of the International Society of Forensic Radiology and Imaging  
incorporating the  
14<sup>th</sup> Anniversary Meeting of the International Association of Forensic Radiographers



ISFRI | International Society of  
Forensic Radiology and Imaging

## Scientific Program

### Thursday 16.05.2019

#### 9:00 – 9:30    **Opening**

**L. Oesterhelweg, ISFRI Chair 2019**

Deputy Director, Institute of Legal Medicine and Forensic Sciences, Charité, Berlin, Germany

**A. Bédé**

Detective Commander, Criminal Investigation Department, Crimes against Persons, Berlin Police, Berlin, Germany

**H. Wauer**

Hospital Business Director, Charité, Berlin, Germany

#### 9:30 – 11:00    **Plenary Session: DVI**

*Chair: Paul Hofmann / Guy N Rutty*

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|----------------------|-------------|--|
| <b>9:30 – 9:50</b>   | <b>O-01</b> | <b>DVI Germany in the Identification of the Victims of Terroristic Attacks – The German Tourist Group at the Sultan Ahmet Square, Istanbul and the Visitors of the Christmas Market at the Gedächtniskirche, Berlin</b><br>B Eickhoff <sup>(1)</sup> , L Oesterhelweg <sup>(1)(2)</sup><br>(1) External Experts of DVI-Germany, Bundeskriminalamt, Wiesbaden, Germany<br>(2) Institute of Legal Medicine and Forensic Sciences, Charité, Berlin, Germany |
| <b>9:50 – 10:10</b>  | <b>O-02</b> | <b>Post mortem computed tomography used for the forensic investigation of the Great Belt Bridge train accident</b><br>PM Leth<br>Department of Forensic Medicine, University of Southern Denmark, Odense, Denmark  |
| <b>10:10 – 10:30</b> | <b>O-03</b> | <b>Mountains, Vintage Machines and Virtopsy</b><br>S Eggert <sup>(1)</sup> , C Buletti <sup>(2)</sup> , MJ Thali <sup>(1)</sup> , SA Bolliger <sup>(1)</sup><br>(1) Institute of Forensic Medicine, University of Zurich, Zurich, Switzerland<br>(2) Office of the Attorney General of Switzerland, Bern, Switzerland  |

#### 10:30 – 11:15    **Coffee**

## 11:15 – 12:00 Plenary Session: DVI / Identification

*Chair: Peter M. Leth / Lars Oesterhelweg*

- 11:15 – 11:25**      **O-04**      **Rapid radiographer reporting of PMCT images in a DVI incident**  
C Robinson<sup>(1)</sup>, GN Ruddy<sup>(2)</sup>, B Morgan<sup>(3)</sup>  
(1) Imaging Department, University Hospitals of Leicester NHS Trust, Leicester, UK  
(2) East Midlands Forensic Pathology Unit, University of Leicester, Robert Kilpatrick Building, Leicester, UK  
(3) University of Leicester Imaging Department, University Hospitals of Leicester, Leicester Royal Infirmary, Leicester, UK
- 11:25 – 11:35**      **O-05**      **The value of post-mortem computer tomography of burned victims in a forensic setting**  
H de Bakker<sup>(1)</sup>, G Roelandt<sup>(2)</sup>, V Soerjbalie-Maikoe<sup>(3)</sup>, RR van Rijn<sup>(2)</sup>, B de Bakker<sup>(2)</sup>  
(1) Groene Hart Hospital, Gouda, The Netherlands  
(2) Amsterdam UMC, University of Amsterdam, The Netherlands  
(3) Netherlands Forensic institute, The Hague, The Netherlands
- 11:35 – 11:45**      **O-06**      **Approach toward “Jaw fingerprinting” using CT images**  
H Fujimoto<sup>(1)(2)(3)</sup>, K Kimura-Kataoka<sup>(4)</sup>, H Kanayama<sup>(5)</sup>, H Takeshita<sup>(4)</sup>, M Iino<sup>(2)</sup>  
(1) Kyoto Forensic Odontology Center, Kyoto, Japan  
(2) Division of Legal Medicine, Tottori University Faculty of Medicine, Tottori, Japan  
(3) Department of Legal Medicine Osaka University Graduate School of Medicine, Faculty of Medicine, Osaka, Japan  
(4) Department of Legal Medicine, Shimane University Faculty of Medicine, Izumo, Japan  
(5) Department of Radiology, Shimane University Faculty of Medicine, Izumo, Japan
- 11:45 – 11:55**      **O-07**      **Facial reconstruction of the deceased person based on skeleton (skull) features with the use of public domain software (Horos, Gimp)**  
M Barszcz<sup>(1)</sup>, K Woźniak<sup>(2)</sup>  
(1) Faculty of Biology, Jagiellonian University, Krakow, Poland  
(2) Department of Forensic Medicine, Jagiellonian University Medical College, Krakow, Poland

## 12:00 – 13:15 Uhr      **Lunch**

## **13.15 – 14:45 Plenary Session: The Heart**

*Chair: Morio lino / Guillaume Gorincour*

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|----------------------|-------------|---|
| <b>13:15 – 13:25</b> | <b>O-08</b> | <p><b>Postmortem coronary CT Calcium Scoring as a complementary tool in post-mortem CAD investigation, assessed by autopsy and histological findings.</b></p> <p>AG Gheorghe<sup>(1)</sup>, C Jacobsen<sup>(1)</sup>, CB Andersen<sup>(1)</sup>, A Fuchs<sup>(2)</sup>, N Lynnerup<sup>(1)</sup>, KF Kofoed<sup>(2)(3)</sup>, J Banner<sup>(1)</sup></p> <p>(1) Section of Forensic Pathology, Department of Forensic Medicine, University of Copenhagen, Copenhagen, Denmark<br/> (2) Department of Cardiology, The Heart Centre, Rigshospitalet, University of Copenhagen, Copenhagen, Denmark<br/> (3) Department of Radiology, Diagnostic Centre, Rigshospitalet, University of Copenhagen, Copenhagen, Denmark</p> |
| <b>13:25 – 13:35</b> | <b>O-09</b> | <p><b>Coronary artery calcium score in sudden cardiac death cases.</b></p> <p>K Michaud<sup>(1)</sup>, F. Dédouit<sup>(1)</sup>, S Draisci<sup>(2)</sup>, D Proccichiani<sup>(2)</sup>, T Fracasso<sup>(1)</sup>, S Grabherr<sup>(1)</sup></p> <p>(1) University Center of Legal Medicine Lausanne-Geneva; University Hospitals Lausanne and Geneva, Switzerland<br/> (2) Department of Radiology, AOU Policlinico di Modena, Italy</p>   |
| <b>13:45 – 13:55</b> | <b>O-10</b> | <p><b>Relationship between Coronary Artery Calcium Score (CACS), CT-angiography data and autoptoc findings in cases of sudden death.</b></p> <p>S Draisci<sup>(1)</sup>, J Camatti<sup>(2)</sup>, MG Amorico<sup>(1)</sup>, A Drago<sup>(1)</sup>, AL Santunione<sup>(2)</sup>, P Torricelli<sup>(1)</sup>, E Silingardi<sup>(2)</sup></p> <p>(1) Struttura complessa di Radiologia, AOU Policlinico di Modena, Modena, Italy<br/> (2) Struttura complessa di Medicina Legale, AOU Policlinico di Modena, Modena, Italy</p>   |
| <b>13:55 – 14:05</b> | <b>O-11</b> | <p><b>Correlation between epicardial fat volume, coronary artery calcium scoring, CT-angiography data and autoptoc findings in cases of sudden death.</b></p> <p>S Draisci<sup>(1)</sup>, J Camatti<sup>(2)</sup>, MG Amorico<sup>(1)</sup>, A Drago<sup>(1)</sup>, AL Santunione<sup>(2)</sup>, P Torricelli<sup>(1)</sup>, E Silingardi<sup>(2)</sup></p> <p>(1) Struttura Complessa di Radiologia, AOU Policlinico di Modena, Modena, Italy<br/> (2) Struttura Complessa di Medicina Legale, AOU Policlinico di Modena, Modena, Italy</p>  |
| <b>14:05 – 14:15</b> | <b>O-12</b> | <p><b>Application of post-mortem CT with targeted coronary angiography in forensic identification of two sudden death cases.</b></p> <p>Z Li, D Zou, Y Chen</p> <p>Shanghai Key Laboratory of Forensic Medicine, Academy of Forensic Science, Ministry of Justice, Shanghai, China.</p>   |

- 14:15 – 14:25**      **O-13**      **Diagnosis of fatal pulmonary embolism with post-mortem computed tomography angiography by cardiac puncture and post-mortem biopsy-Case Report.**  
L Wan<sup>(1)</sup>, Y Song<sup>(2)</sup>, Z. Li<sup>(1)</sup>, Yu-Shao<sup>(1)</sup>, Y Wang<sup>(1)</sup>, M Wang<sup>(1)</sup>, D Zou<sup>(1)</sup>, Y Chen<sup>(1)</sup>, P Huang<sup>(1)</sup>  
(1) Shanghai Key Laboratory of Forensic Medicine, Shanghai Forensic Service Platform, Academy of Forensic Science, Shanghai, China  
(2) Institute for Regenerative Medicine, Shanghai East Hospital, School of Life Sciences and Technology, Tongji University, Shanghai, China
- 14:25 – 14:35**      **O-14**      **Left myocardial wall measurements on postmortem imaging compared to autopsy.**  
V Chatzarakis, MJ Thali, G Ampanozi  
Institute of Forensic Medicine, University of Zurich, Zurich, Switzerland
- 14:35 – 14:45**      **O-15**      **Lung weight estimation before and after postmortem enhanced CT (PMeCT)**  
H Hyodoh<sup>(1)</sup>, K Matoba<sup>(1)</sup>, M Murakami<sup>(2)</sup>, T Matoba<sup>(1)</sup>, A Saito<sup>(1)</sup>, N Okuya<sup>(1)</sup>, M Shao<sup>(1)</sup>, S Jin<sup>(1)</sup>  
(1) Department of Forensic Medicine, Faculty of Medicine Hokkaido University, Sapporo, Japan  
(2) International Relations Office, Hokkaido University, Sapporo, Japan

## 14:45 – 15:15 Coffee

## 15:15 – 16:20 Plenary Session: Gunshot

*Chair: Rick R. van Rijn / Michael J. Thali*

- 15:15 – 15:40**      **O-16**      **The Wolves are Back**  
G Fritsch, T. Hildebrandt  
Leibniz Institute for Zoo and Wildlife Research, Berlin, Germany
- 15:40 – 15:50**      **O-17**      **Correlations of autopsy and postmortem CT scan in fatal ballistic injuries**  
P Gach<sup>(1)</sup>, L Tuchtan<sup>(2)</sup>, J Mancini<sup>(3)</sup>, C Delteil<sup>(2)</sup>, P Massiani<sup>(2)</sup>, C Bartoli<sup>(2)</sup>, G Leonetti<sup>(2)</sup>, MD Piercecchi<sup>(2)</sup>, G Gorincour<sup>(4)</sup>  
(1) Adult Radiology Department, Hôpital de la Timone, Marseille, France  
(2) Legal Medicine Department, Hôpital de la Timone, Marseille, France  
(3) Aix Marseille University, Department of Biostatistics, Information and Communication Technologies (BioSTIC), Hôpital de la Timone, Marseille, France  
(4) Aix Marseille University, Laboratory of Experimental Interventional Imaging (LiiE) European Center for Research in Medical Imaging (CERIMED), Faculté de Médecine Timone, Marseille, France

- 15:50 – 16:00**      **O-18**      **Forensic volumetric visualization of gunshot residue in its anatomic context in forensic post mortem computed tomography: development of transfer function preset**  
 W Schweitzer<sup>(1)</sup>, J Verster<sup>(1)(2)</sup>, E Aldomar<sup>(3)</sup>, LC Ebert<sup>(1)</sup>, SA Bolliger<sup>(1)</sup>, MJ Thali<sup>(1)</sup>, G Ampanozi<sup>(1)</sup>  
 (1) Institute of Forensic Medicine, University of Zurich, Zurich, Switzerland  
 (2) Division of Forensic Medicine, Faculty of Health Sciences, Stellenbosch University, Stellenbosch, South Africa  
 (3) Department of Knowledge Visualization, ZHdK Zurich University of the Arts, Zurich, Switzerland
- 16:00 – 16:10**      **O-19**      **Unenhanced postmortem scanner (PM CT) in single intracranial projectile: methodology and interpretation**  
 A Gallon<sup>(1)</sup>, B Boyer<sup>(2)</sup>, MA Vaz<sup>(1)</sup>, E Dumousset<sup>(1)</sup>  
 (1) Diagnostic and Interventional Radiology, University Hospital Gabriel Montpied, Clermont-Ferrand, France  
 (2) Legal Medicine, University Hospital Gabriel Montpied, Clermont-Ferrand, France
- 16:10 – 16:20**      **O-20**      **Utilizing the dual energy index formula to identify bullets on the basis of the X-ray attenuation characteristics of their metallic components**  
 D Gascho<sup>(1)</sup>, N Zoelch<sup>(1)(2)</sup>, S Schaerli<sup>(1)</sup>  
 (1) Department of Forensic Medicine and Imaging, Institute of Forensic Medicine, University of Zurich, Zurich, Switzerland  
 (2) Department of Psychiatry, Psychotherapy and Psychosomatics, Hospital of Psychiatry, University of Zurich, 8032 Zurich, Switzerland

## 16:30 – 18:00 Posters and Wine

### Anthropology

*Poster guide: Edel Doyle*

- P-01**      **Estimation of stature and sex from skull measurements by multidetector computed tomography in Chinese**  
 M Zhan, J Cui, K Zhang, Z Deng  
 Department of Forensic pathology, West China School of Basic Medical Sciences & Forensic Medicine, Sichuan University, Chengdu, Sichuan, P.R. China
- P-02**      **Automated age estimation from left hand and wrist radiographs based on deep learning**  
 M Zhan<sup>(1)</sup>, S Zhang<sup>(2)</sup>, R Li<sup>(3)</sup>, G Ning<sup>(4)</sup>, H Chen<sup>(3)</sup>, Z Deng<sup>(1)</sup>  
 (1) Department of Forensic Pathology, West China School of Basic Medical Sciences & Forensic Medicine, Sichuan University, Chengdu, Sichuan, P.R. China  
 (2) National Key Laboratory of Fundamental Science on Synthetic Vision, Sichuan University, Chengdu, Sichuan, P.R. China  
 (3) College of Computer Science, Sichuan University, Chengdu, Sichuan, P.R. China  
 (4) Department of Radiology, West China Second University Hospital, Sichuan University, Chengdu, Sichuan, P.R. China



- P-03 Automated sex estimation from CT images of the pelvis from a Chinese population: a deep learning approach**  
J Zhang, Y Zhou, P Huang  
Shanghai Key Laboratory of Forensic Medicine, Shanghai Forensic Service Platform, Academy of Forensic Science, Ministry of Justice, Shanghai, China
- P-04 Chronological age assessment of unidentified migrants: the multidisciplinary protocol of the University of Turin (Italy)**  
L Tattoli<sup>(1)</sup>, G Di Vella<sup>(2)</sup>, D Santovito<sup>(1)</sup>  
(1) Dipartimento di Qualità e Sicurezza delle Cure, SC Medicina Legale U, Hospital Città della Salute e della Scienza, Turin, Italy  
(2) Department of Public Health and Pediatrics, Section of Legal Medicine, University of Turin, Turin, Italy
- P-05 Semiautomatic Personal Identification using Shape of Sphenoid Sinus on Ante-mortem and Post-mortem CT Images**  
A Ohsawa<sup>(1)</sup>, N Takahashi<sup>(1)</sup>, M Ohkubo<sup>(1)</sup>, T Higuchi<sup>(2)</sup>  
(1) Graduate School of Health Sciences, Niigata University, Niigata, Japan  
(2) Niigata City General Hospital, Niigata, Japan
- P-06 Facial approximation: soft tissue thickness values for Caucasian males using cone beam computer tomography**  
F Mele, C Lauretti, S Sablone, M Favia, V Santoro, F Introna, A De Donno  
Section of Legal Medicine, Department of Interdisciplinary Medicine, Policlinico Hospital, Bari, Italy
- P-07 Guess my age? Multidisciplinary Evaluation for the Determination of Age**  
C Angrisani, A De Donno, C Perrone, F Introna, V Santoro  
Section of Legal Medicine Department of Interdisciplinary Medicine, Policlinico Hospital Bari, Italy
- P-08 Introducing a multivariable prediction tool for age estimation in subadults using craniometrics**  
K McIntosh<sup>(1)</sup>, M Humphries<sup>(2)</sup>, P Anderson<sup>(3)</sup>, N Lottering<sup>(4)</sup>  
(1) Adelaide Paediatric Anatomy and Anthropology Research Group, Discipline of Anatomy and Pathology, Adelaide Medical School, The University of Adelaide, Adelaide, Australia  
(2) The University of Adelaide, School of Mathematical Science, Adelaide, Australia  
(3) The Australian Craniofacial Unit, The Women's and Children's Hospital, North Adelaide, Australia  
(4) Swinburne University of Technology, Department of Health and Medical Sciences, Melbourne, Australia
- P-09 Fully automatic third molar staging from panoramic radiographs**  
J Bertels<sup>(1)</sup>, N Banar<sup>(2)</sup>, F Laurent, R Merdietio Boedi<sup>(3)</sup>, J De Tobel<sup>(3)</sup>, P Thevissen<sup>(3)</sup>, D Vandermeulen<sup>(1)</sup>  
(1) Department of Electrical Engineering (ESAT/PSI), KU Leuven, Leuven, Belgium  
(2) Computational Linguistics Group (CLiPS), University of Antwerp, Antwerp, Belgium  
(3) Department of Imaging and Pathology, Forensic Odontology, KU Leuven, Leuven, Belgium
- P-10 Quantifying the sexual dimorphism of the superciliary arch**  
P Misnyovszki<sup>(1)</sup>, E Keller<sup>(1)</sup>, E Felszeghy<sup>(1)</sup>, A Grimm<sup>(2)(3)</sup>, B Fejér<sup>(4)</sup>, L Magyar<sup>(1)</sup>  
(1) Department of Forensic Medicine, Semmelweis University, Budapest, Hungary  
(2) Department of Anatomy, Histology and Embryology, Semmelweis University, Budapest, Hungary  
(3) Department of Otorhinolaryngology, Head and Neck Surgery, Semmelweis University, Budapest, Hungary  
(4) Department of Radiology, Semmelweis University, Budapest, Hungary

## Trauma

*Poster guide: Claas T. Buschmann*

- P-11 Dissection of the V3-V4 from distortion of the cervical spine: description of a case, not fatal.**  
G Bottari, S Corradi, S Trotta, B Solarino  
University of Bari, Department of Interdisciplinary Medicine (DIM), Institute of Legal Medicine, Bari, Italy
- P-12 Unenhanced post mortem CT scan (PM CT) in high kinetic energy traumas: methodology and interpretation**  
C Boudinaud<sup>(1)</sup>, M Lossois<sup>(2)</sup>, B Boyer<sup>(3)</sup>, MA Vaz<sup>(1)</sup>, E Dumousset<sup>(1)</sup>  
(1) Radiology, University Hospital Gabriel Montpied, Clermont-Ferrand, France  
(2) Forensic pathology, University Hospital Lapeyronie, Montpellier, France  
(3) Forensic pathology, University Hospital Gabriel Montpied, Clermont-Ferrand, France
- P-13 Evaluation of the brain after traumatic brain injury (TBI) with advanced magnetic resonance imaging: the LSU approach**  
E Gonzalez-Toledo<sup>(1)</sup>, C Ledbetter<sup>(2)</sup>, O Ojemakinde<sup>(1)</sup>, N Luraguiz<sup>(1)</sup>, H D'Agostino<sup>(1)</sup>  
(1) LSU School of Medicine. Department of Radiology. Shreveport, USA  
(2) LSU School of Medicine. Department of Neurosurgery Shreveport, USA
- P-14 Traumatic axonal injuries detected by post-mortem MRI**  
Y Makino<sup>(1)(2)</sup>, N Arai<sup>(3)</sup>, Y Hoshioka<sup>(2)</sup>, M Yoshida<sup>(2)</sup>, M Kojima<sup>(2)</sup>, T Horikoshi<sup>(4)</sup>, H Mukai<sup>(4)</sup>, H Iwase<sup>(1)(2)</sup>  
(1) Department of Forensic Medicine, Graduate School of Medicine, The University of Tokyo, Tokyo, Japan  
(2) Department of Legal Medicine, Graduate School of Medicine, Chiba University, Chiba, Japan  
(3) Department of Laboratory Neuropathology, Tokyo Metropolitan Institute of Medical Science, Tokyo, Japan  
(4) Department of Radiology, Chiba University Hospital, Chiba, Japan
- P-15 Surfing-caused cervical spinal cord injury**  
Y Usumoto, S Nakazato, H Kera, A Nasu, M Mukai, W Sato, C Fuke, Y Ihama  
Department of Legal Medicine, Yokohama City University Graduate School of Medicine, Yokohama, Japan
- P-16 Abusive head trauma at a Tertiary Care Children's Hospital in Bari. A retrospective study.**  
I Rossiello<sup>(1)</sup>, A Gaeta<sup>(2)</sup>, A Dell'Erba<sup>(3)</sup>, B Solarino<sup>(3)</sup>  
(1) Radiology Unit, Hospital "San Giacomo", Monopoli, Italy  
(2) Radiology Unit, Pediatric Hospital Giovanni XXIII, Bari, Italy  
(3) Institute of Legal Medicine, University of Bari, Italy
- P-17 A Garganic Mafia Gunshot Murder: A Multidisciplinary Forensic Approach**  
M Palermo<sup>(1)</sup>, D Albano<sup>(2)</sup>, M Esposito<sup>(2)</sup>, AG Musumeci<sup>(1)</sup>, G Privitera<sup>(3)</sup>, G Grilli<sup>(4)</sup>, M Salerno<sup>(2)</sup>, A Basile<sup>(1)</sup>  
(1) Radiology I, Department of Medical - Surgical Sciences and Advanced Technologies; University of Catania, Italy  
(2) Forensic Sciences, Department of Medical - Surgical Sciences and Advanced Technologies; University of Catania, Italy  
(3) Radiology II, Azienda Ospedaliero - Universitaria "Policlinico - Vittorio Emanuele" of Catania, Italy  
(4) Radiology Department, University of Foggia, Italy



- P-18 Diagnostics for Images and Identification of the Ballistic Agent: Latest News, Outlook and Medical-Legal Challenges.**  
C Perrone<sup>(1)</sup>, C Angrisani<sup>(1)</sup>, F Vinci<sup>(2)</sup>  
(1) Sect. of Legal Medicine, University of Bari, Italy  
(2) Sect. of Legal Medicine, Forensic Ballistics Center, University of Bari, Italy
- P-19 “Human shield” or accidental event? The importance of Forensic Radiology in solving a ballistic case.**  
I Santoiemma, G. D’Anna, M Favia, F Introna, A De Donno  
Institute of Legal Medicine, Bari, Italy

## Techniques

*Poster guide: Lars C. Ebert*

- P-20 Forensic biomechanical model using 3D-printing: feasibility study**  
W Schweitzer, MJ Thali, SA Bolliger  
Institute of Forensic Medicine, University of Zurich, Switzerland
- P-21 Validating micro-CT findings in cases of strangulation using histology**  
W Baier<sup>(1)</sup>, C Mangham<sup>(2)</sup>, M Payne<sup>(3)</sup>, JM Warnett<sup>(1)</sup>, MA Williams<sup>(1)</sup>  
(1) University of Warwick, UK  
(2) University of Manchester, UK  
(3) West Midlands Police, UK
- P-22 VIRTOPSY: Our Proposal on our Experience**  
C Lauretti<sup>(1)</sup>, F Mele<sup>(1)</sup>, C Angrisani<sup>(1)</sup>, AA Stabile Ianora<sup>(2)</sup>, F Introna<sup>(1)</sup>, A De Donno<sup>(1)</sup>  
(1) Institute of Legal Medicine, University of Bari, Italy  
(2) Institute of Radiology, University of Bari, Italy
- P-23 Automated rib fracture detection of post-mortem computed tomography images using machine learning techniques**  
S Gunz<sup>(1)</sup>, S Erne<sup>(1)</sup>, EJ Rawdon<sup>(2)</sup>, T Sieberth<sup>(1)</sup>, R Affolter<sup>(1)</sup>, LC Ebert<sup>(1)</sup>, A Dobay<sup>(1)</sup>  
(1) Institute of Forensic Medicine, University of Zurich, Zurich, Switzerland  
(2) Department of Mathematics, University of St. Thomas, St. Paul, USA
- P-24 Metric Toolmark Analysis Using Micro-CT**  
K Alsop, DG Norman, MA Williams  
WMG, International Manufacturing Centre, University of Warwick, Coventry, UK
- P-25 Photogrammetric 3D documentation of skin injuries: video recording vs photographs**  
C Villa, MJ Flies, PK Larsen, N Lynnerup  
Department of Forensic Medicine, University of Copenhagen, Copenhagen, Denmark

- P-26 Current situation and issues of postmortem CT use in Ibaraki Prefecture, Japan**  
 K Tashiro<sup>(1)</sup>, T Kobayashi<sup>(1)</sup>, Y Adachi<sup>(2)</sup>, H Iizumi<sup>(3)</sup>, T Onuma<sup>(4)</sup>, T Sakurai<sup>(5)</sup>, F Shiina<sup>(6)</sup>, S Someya<sup>(1)</sup>, H Takano<sup>(7)</sup>, S Tadokoro<sup>(8)</sup>, N Fujita<sup>(9)</sup>, K Kaga<sup>(1)</sup>, H Saitou<sup>(1)</sup>, M Yoshida<sup>(1)</sup>, M Yamamori<sup>(1)</sup>, Y Kamimura<sup>(1)</sup>, R Kuramochi<sup>(1)</sup>, K Miyamoto<sup>(1)</sup>, S Shiotani<sup>(10)</sup>  
 (1) Department of Radiological Technology, Tsukuba Medical Center Hospital  
 (2) Department of Radiological Technology, Ibaraki Western Medical Center  
 (3) Department of Radiological Technology, Tokyo Medical University Ibaraki Medical Center  
 (4) Department of Radiological Technology, Koyama Memorial Hospital  
 (5) Department of Radiological Technology, Tsuchiura Kyodo General Hospital  
 (6) Department of Radiological Technology, Hitachinaka General Hospital  
 (7) Department of Radiological Technology, Mito Saiseikai Hospital  
 (8) Department of Radiological Technology, Hitachi General Hospital  
 (9) Department of Radiological Technology, Ryugasaki Saiseikai Hospital  
 (10) Department of Radiology, Seirei Fuji Hospital
- P-27 Improvement of ring artifacts on postmortem CT of the head with advanced putrefaction**  
 T Kobayashi, K Kaga, H Saitou, S Someya, K Tashiro, M Yoshida, M Yamamori, R Kuramochi, K Miyamoto  
 Department of Radiological Technology, Tsukuba Medical Center Hospital, Tsukubashi, Japan
- P-28 Optimization of Whole Body Post-Mortem Computed Tomography (PMCT) Protocol and Workflow for a High-Volume U.S. Medical Examiner's Office**  
 K Haber, NL Adolphi  
 Office of the Medical Investigator, Albuquerque, New Mexico, USA
- P-29 Gray/White matter contrast inversion phenomenon due to differences of T1WI sequences in brain post-mortem MR of low-body-temperature cadavers.**  
 M Kojima<sup>(1)(2)</sup>, M Yohsuke<sup>(1)(3)</sup>, M Yoshida<sup>(1)</sup>, D Yajima<sup>(4)</sup>, G Inokuchi<sup>(1)</sup>, A Motomura<sup>(4)</sup>, F Chiba<sup>(1)(3)</sup>, S Torimitsu<sup>(1)(3)</sup>, Y Hoshioka<sup>(1)</sup>, T Yamaguchi<sup>(1)</sup>, S Urabe<sup>(1)</sup>, Y Oya<sup>(1)</sup>, N Saito<sup>(1)</sup>, H Iwase<sup>(1)(3)</sup>  
 (1) Department of Legal Medicine, Graduate School of Medicine, Chiba University, Chiba, Japan  
 (2) Department of Radiology, Chiba Medical Center, Chiba, Japan  
 (3) Department of Forensic Medicine, Graduate School of Medicine, The University of Tokyo, Tokyo, Japan  
 (4) Department of Forensic Medicine, School of Medicine, International University of Health and Welfare, Chiba, Japan

## Natural death / Death after Medical Procedures

*Poster guide: Axel Heinemann*

- P-30 PMCT findings of pneumopericardium following cardiopulmonary resuscitation**  
 J Watari<sup>(1)</sup>, K Furukawa<sup>(1)</sup>, F Uchiyama<sup>(2)</sup>, Y Ono<sup>(2)</sup>, T Okumoto<sup>(2)</sup>, Y Yoshida<sup>(2)</sup>, K Nakajima<sup>(2)</sup>, F Sugihara<sup>(3)</sup>  
 (1) Japan Medical Alliance Zama General Hospital, Department of Radiology, Zama-shi, Kanagawa, Japan  
 (2) Japan Medical Alliance Ebina General Hospital, Department of Radiology, Ebina-shi, Kanagawa, Japan  
 (3) Nippon Medical School, Department of Radiology, Tokyo, Japan

- P-31 Multiphase Post-Mortem CT Angiography (MPMCTA) accuracy in identifying death's cause in sudden cardiovascular death cases: casuistry analysis**  
BG Gangi<sup>(1)</sup>, J Camatti<sup>(1)</sup>, S Draisci<sup>(2)</sup>, MG Amorico<sup>(2)</sup>, A Drago<sup>(2)</sup>, AL Santunione<sup>(1)</sup>, E Silingardi<sup>(1)</sup>, P Torricelli<sup>(2)</sup>  
(1) Department of Biomedical, Metabolic and Neurological Sciences, Section of Legal Medicine, University of Modena and Reggio Emilia, Italy  
(2) Department of Adult and Neonatal-Gynaecological Medical Surgical Sciences, Section of Diagnostic Imaging, University of Modena and Reggio Emilia, Modena, Italy
- P-32 Key findings as benefit of targeted postmortem computed tomography angiography applied in case of patient's death after tonsillectomy.**  
P. Kluza, A. Moskała, K. Woźniak, F. Bolechała  
Chair and Department of Forensic Medicine, Jagiellonian University Medical College, Krakow, Poland
- P-33 Postmortem computed tomography in rare cases of brain atrophy after delivery complications – own experience**  
A. Moskała, K. Woźniak, E. Juźwik  
Chair and Department of Forensic Medicine, Jagiellonian University Medical College, Kraków, Poland
- P-34 Loosing foreign bodies in six surgical patients. Radiological findings and medical-legal considerations.**  
F. Donno, A. Dell'Erba, G. De Giorgio, R. Vaglio.  
Section of Legal Medicine, Interdisciplinary Department of Medicine (DIM), University of Bari, Italy
- P-35 A sudden death due to coronary artery dissection: a case report of a MPMCTA false negative**  
J Camatti<sup>(1)</sup>, S. Draisci<sup>(2)</sup>, AL Santunione<sup>(1)</sup>, MG Amorico<sup>(2)</sup>, A Drago<sup>(2)</sup>, E Silingardi<sup>(1)</sup>, P Torricelli<sup>(2)</sup>  
(1) Department of Biomedical, Metabolic and Neuroscience Sciences, Section of Legal Medicine, University of Modena and Reggio Emilia, Modena, Italy  
(2) Department of Maternal-Infantile and Adult Medical and Surgical Sciences, Section of Diagnostic Imaging, University of Modena and Reggio Emilia, Modena, Italy
- P-36 Radiographic and Computed Tomography features of Lethal Skeletal Dysplasia in a Still-born Child.**  
WY Chan  
National Cancer Center Singapore, Singapore
- P-37 Type and incidence of cardiopulmonary resuscitation injuries with computed tomography in return-of-spontaneous-circulation patients**  
F Sugihara<sup>(1)</sup>, J Watari<sup>(2)</sup>, SI Kumita<sup>(1)</sup>  
(1) Department of Radiology, Nippon Medical School, Tokyo, Japan  
(2) Department of Radiology, Zama General Hospital, Kanagawa, Japan

## Forensic PMCT

*Poster guide: Naoya Takahashi*

- P-38 Double rarity: an unusual case of bromoform poisoning detected by post-mortem radiography**  
M du Plessis, I Moller, L Liebenberg  
Division of Forensic Medicine and Toxicology, Faculty of Health Sciences, University of Cape Town, South Africa

- P-39 Tattoo image composed of radiopaque deposits demonstrated by postmortem computed tomography**  
A Hayakawa<sup>(1)</sup>, R Sano<sup>(1)</sup>, Y Takahashi<sup>(1)(2)</sup>, H Akuzawa<sup>(3)</sup>, Y Kominato<sup>(1)</sup>  
(1) Department of Legal Medicine, Gunma University, Graduate School of Medicine, Maebashi, Japan  
(2) Lieber Institute for Brain Development, Johns Hopkins University School of Medicine, Baltimore, USA  
(3) Forensic Science Laboratory of Gunma Prefectural Police Headquarter, Maebashi, Japan
- P-40 Postmortem CT findings of drowning: Comparison of saltwater and freshwater drowning**  
T Murakami<sup>(1)</sup>, M Uetani<sup>(1)</sup>, Y Shibaike<sup>(2)</sup>, Y Abe<sup>(2)</sup>, T Murase<sup>(2)</sup>, H Yamashita<sup>(3)</sup>, K Ikematsu<sup>(2)</sup>  
(1) Department of Radiological Science, Unit of Translational Medicine, Nagasaki University Graduate School of Biomedical Sciences, Nagasaki, Japan  
(2) Division of Forensic Pathology and Science, Unit of Social Medicine, Course of Medical and Dental Sciences, Graduate School of Biomedical Sciences, Nagasaki University School of Medicine, Nagasaki, Japan  
(3) Department of Forensic Dental Science, Nagasaki University Graduate School of Biomedical Sciences, Nagasaki, Japan
- P-41 Patterns of disappearance of the inner ear ossicular chain as potential Post-Mortem Interval estimation indicator.**  
E Guareschi<sup>(1)</sup>, J Bekvalac<sup>(2)</sup>, R Redfern<sup>(2)</sup>, PA Magni<sup>(1)</sup>, G Chiari<sup>(3)</sup>.  
(1) Medical, Molecular & Forensic Sciences Cluster; College of Science, Health, Engineering & Education, Murdoch University, Western Australia  
(2) Centre for Human Bioarchaeology, Museum of London, London, UK  
(3) S.C. Scienze Radiologiche, Azienda Ospedaliero-Universitaria di Parma, Italy
- P-42 Additional value of computed tomography and magnetic resonance imaging in strangulation deaths**  
D Gascho, J Heimer, C Tappero, S Schærli  
Institute of Forensic Medicine, University of Zurich, Zurich, Switzerland
- P-43 Virtopsy vs. Autopsy: Different Findings in a Homicide Case**  
M Favia, C Lauretti, I Santoemma, F Introna, A De Donno  
Institute of Legal Medicine, Bari, Italy
- P-44 Nasal septum defects detected on postmortem computed tomography**  
V Chatzaraki, W Schweitzer, MJ Thali, G Ampanozi  
Institute of Forensic Medicine, University of Zurich, Zurich, Switzerland
- P-45 Forensic Medical Examination and Postmortem Computed Tomography in a Case of a Death from Mechanical Asphyxia: Diagnostic Challenges**  
V Klevno, Y Chumakova, S Dubrova  
Forensic Medical Examination Bureau, Moscow Region; Moscow Regional Research and Clinical Institute (MONIKI), Chair of Forensic Medicine, Chair of Diagnostic Radiology, Moscow, Russia
- P-46 Structural changes of human cornea behind postmortem clouding: a brief report from an optical coherence tomography study.**  
M Nioi<sup>(1)</sup>, PE Napoli<sup>(2)</sup>, M Laurenzo<sup>(1)</sup>, L Gabiati<sup>(1)</sup>, E Porru<sup>(1)</sup>, S Pittaluga<sup>(1)</sup>, F De-Giorgio<sup>(3)</sup>, R Demontis<sup>(1)</sup>, M Fossarello<sup>(2)</sup>, E d'Aloja<sup>(1)</sup>.  
(1) University of Cagliari, Department of Clinical Sciences and Public Health, Forensic Medicine Unit, Cagliari, Italy  
(2) University of Cagliari, Department of Surgical Science, Eye Clinic, Cagliari, Italy  
(3) Institute of Public Health, Section of Legal Medicine, Università Cattolica del Sacro Cuore, Italy

- P-47 10 Years survival with a Heartmate II device - sepsis, suicide or homicide? - A case report**  
A Fitzek<sup>(1)</sup>, J Konertz<sup>(2)</sup>, H Reichenspurner<sup>(2)</sup>, K Püschel<sup>(1)</sup>, A Heinemann<sup>(1)</sup>  
(1) Institute for Legal Medicine, University Medical Center Hamburg-Eppendorf, Hamburg-Germany  
(2) Department for Cardiovascular Surgery, University Medical Center Hamburg-Eppendorf, Hamburg-Germany
- P-48 Quantitative analysis of post mortem whole-body angiography (pmCTA) as a tool to understand contrast agent distribution (a work-in-progress presentation)**  
K Hansen<sup>(1)(2)(3)</sup>, MC Rohde<sup>(1)</sup>, LWT Boel<sup>(1)</sup>  
(1) Department of Forensic Medicine, Health, Aarhus University, Denmark  
(2) Section of Zoophysiology, Department of Bioscience, Aarhus University, Denmark  
(3) Comparative Medicine Lab, Department of Clinical Medicine, Aarhus University, Denmark
- P-49 Quantitative analysis of post mortem computed tomography (PMCT) in drowning cases – a novel approach to the diagnosis of drowning?**  
IB Hansen<sup>(1)</sup>, SW Harders<sup>(2)</sup>, AH Thomsen<sup>(1)</sup>, K Hansen<sup>(1)(3)(4)</sup>  
(1) Department of Forensic Medicine, Health, Aarhus University, Denmark  
(2) Department of Radiology, Horsens Regional Hospital, Denmark  
(3) Section of Zoophysiology, Department of Bioscience, Aarhus University, Denmark  
(4) Comparative Medicine Lab, Department of Clinical Medicine, Aarhus University, Denmark

## Friday 17.05.2019

### 9:00 – 10:30 Plenary Session: Traffic Accidents

*Chair: Sven Hartwig / Jeroen Kroll*

- |                      |             |   |
|----------------------|-------------|---|
| <b>9:00 – 9:25</b>   | <b>O-21</b> | <b>Possibilities of Traffic Accident Documentation in Berlin</b><br>S Schünemann, S Stoinski<br>Criminal Investigation Department, Technical Services LKA KTI 22,<br>Berlin Police, Berlin, Germany   |
| <b>9:25 – 9:50</b>   | <b>O-22</b> | <b>Fracture System in PMCT Compared to Energetic Impact</b><br>M Weyde <sup>(1)</sup> , S Hartwig <sup>(2)</sup> , A Weyde <sup>(2)</sup><br>(1) Priester & Weyde, Traffic Accident Reconstruction, Berlin,<br>Germany<br>(2) Institute of Legal Medicine and Forensic Sciences, Charité, Berlin,<br>Germany  |
| <b>9:50 – 10:00</b>  | <b>O-23</b> | <b>Forensic fractography of bone using CT scans</b><br>A Christensen <sup>(1)</sup> , G Hatch <sup>(2)</sup><br>(1) Federal Bureau of Investigation (FBI) Laboratory; Quantico, VA,<br>USA<br>(2) Departments of Radiology and Pathology; University of New<br>Mexico School of Medicine; Albuquerque, NM USA |
| <b>10:00 – 10:10</b> | <b>O-24</b> | <b>Usefulness of post-mortem computed tomography in evaluation of abdominal injuries</b><br>E Juźwik, A Moskała, K Woźniak, P Kopacz<br>Chair and Department of Forensic Medicine, Jagiellonian University<br>Medical College, Kraków, Poland   |
| <b>10:10 – 10:20</b> | <b>O-25</b> | <b>Fluid differentiation by postmortem intramuscular magnetic resonance spectroscopy</b><br>J Heimer, D Gascho, C Tappero, N Zoelch<br>Institute of Forensic Medicine, University of Zurich, Zurich,<br>Switzerland   |
| <b>10:20 – 10:30</b> | <b>O-26</b> | <b>Forensic pathological application of postmortem CT in traffic accident in China</b><br>P Huang, L Wan, N Liu, Z Li, Y Shao, D Zhou, J Zhang, Y Chen<br>Department of Forensic Pathology, Academy of Forensic Science,<br>China   |

### 10:30 – 11:00 Coffee

## 11:00 – 12:15 Gil Brogdon Honory Lecture

### **O-27 Interdisciplinary Research on Causality of Accidental Injuries of Vulnerable Road Users: A Case Study**

M Weyde<sup>(1)</sup>, J van der Goes<sup>(2)</sup>, I Haest<sup>(3)</sup>

(1) Prieser & Weyde, Traffic Accident Reconstruction, Berlin , Germany

(2) Forensic Investigation, Department of Severe Traffic Accidents, Dutch National Police, Limburg Region, Venlo, The Netherlands

(3) Division of Medical Imaging and Clinical Laboratories, Department of Radiology, Unit Forensic Radiology, Maastricht University, Maastricht, The Netherlands

## 12:15 – 13:15 Lunch

## 13:15 – 14:00 Working Groups

## 14:00 – 17:30 Parallel Sessions

### *12<sup>th</sup> Annual Meeting of the International Association of Forensic Radiographers*

## 14:00 – 15:30 IFAR Session I

*Chair: Jeroen Kroll / Mark Viner*

- |                      |             |   |
|----------------------|-------------|---|
| <b>14:00 – 14:30</b> | <b>O-28</b> | <b>Imaging modalities and casework experience in the Hamburg Forensic Institute</b><br>A Heinemann<br>Institute for Legal Medicine, University Medical Center Hamburg-Eppendorf, Hamburg, Germany |
| <b>14:30 – 15:00</b> | <b>O-29</b> | <b>A survey to establish current forensic imaging practices in Australia and New Zealand</b><br>E Doyle<br>ANZ Branch of IAFR, Glenroy, Australia   |
| <b>15:00 – 15:30</b> | <b>O-30</b> | <b>The Use of Agatston Cardiac Calcium Scoring in a Minimally-Invasive Autopsy Service</b><br>P Hunter<br>Teesside University, UK   |

## 15:30 – 16:00 Coffee



## **16:00 – 17:30 IAFR Session II**

*Chair: Edel Doyle / Mark Viner*

- |                      |             |   |
|----------------------|-------------|---|
| <b>16:00 – 16:30</b> | <b>O-31</b> | <b>PMCT in DVI in the hospital and temporary mortuary.</b><br>C Robinson<br>University Hospitals of Leicester, NHS Trust, Leicester, UK |
| <b>16:30 – 17:00</b> | <b>O-32</b> | <b>Introduction to forensic anthropology and the use of medical imaging.</b><br>C Primeau<br>NHS, Scotland, UK                          |
| <b>17:00 – 17:30</b> | <b>O-33</b> | <b>'The Pain We're In'</b><br>L. Batty-Smith<br>London, UK  |

## **14:00 – 15:30 Scientific Session I**

*Chair: Henri de Bakker / Krzysztof Wozniak*

- |                      |             |   |
|----------------------|-------------|---|
| <b>14:00 – 14:25</b> | <b>O-34</b> | <b>View over the Fence: Veterinary Pathology and Forensic Medicine</b><br>A Gruber<br>Institute of Veterinary Pathology, Freie Universität Berlin   |
| <b>14:25 – 14:35</b> | <b>O-35</b> | <b>Post Mortem CT Characterization of Osseous Trauma Due to Nonaccidental Injury in Dogs and Cats</b><br>E Watson<br>Veterinary Forensic Sciences, Department of Pathology, Immunology and Laboratory Medicine College of Medicine, University of Florida, Gainesville, Florida USA   |
| <b>14:35 – 14:45</b> | <b>O-36</b> | <b>Computed Tomographic Characterization of Vessel Strike Injuries in Sea Turtles</b><br>E Watson<br>Veterinary Forensic Sciences, Department of Pathology, Immunology and Laboratory Medicine College of Medicine, University of Florida, Gainesville, Florida USA   |
| <b>14:45 – 14:55</b> | <b>O-37</b> | <b>Fatal Intracerebral Hemorrhage Complicated with and without Methamphetamine Poisoning; Can we tell the Differences on PMCT?</b><br>M Yoshida <sup>(1)</sup> , Y Makino <sup>(1)(2)</sup> , M Kojima <sup>(1)</sup> , T Horikoshi <sup>(3)</sup> , H Mukai <sup>(3)</sup> , S Hattori <sup>(3)</sup> , H Yokota <sup>(3)</sup> , Y Hoshioka <sup>(1)</sup> , F Chiba <sup>(1)(2)</sup> , A Motomura <sup>(4)</sup> , G Inokuchi <sup>(1)</sup> , S Torimitsu <sup>(1)(2)</sup> , R Yamaguchi <sup>(1)</sup> , D Yajima <sup>(4)</sup> , H Iwase <sup>(1)(2)</sup><br>(1) Department of Legal Medicine, Graduate School of Medicine, Chiba University, Chiba, Japan<br>(2) Department of Forensic Medicine, Graduate School of Medicine, The University of Tokyo, Tokyo, Japan<br>(3) Department of Radiology, Chiba University Hospital, Chiba, Japan<br>(4) Department of Legal Medicine, Graduate School of Medicine, International University of Health and Welfare, Japan |

- 14:55 – 15:05**      **O-38**      **Hyperdense basal ganglia due to iodine: a unique PMCT finding in fatal hypoxic-ischaemic brain injury?**  
C O'Donnell, A Gilkison  
Victorian Institute of Forensic Medicine, Melbourne, Australia
- 15:05 – 15:15**      **O-39**      **Update on Imaging Findings for Contraband Smuggling**  
B Daly  
University of Maryland, Baltimore, USA
- 15:15 – 15:25**      **O-40**      **Death by Contraindicated Speaking Valve Application - A Lesson in Pathophysiology**  
J Heimer, S Eggert, B Fliss, E Meixner  
Institute of Forensic Medicine, University of Zurich, Zurich, Switzerland

### 15:30 – 16:00 Coffee

### 16:00 – 17:15 Scientific Session II

*Chair: Silke Grabherr / Chris O'Donnell*

- 16:00 – 16:10**      **O-41**      **Gustav Peter Bucky: First Attempts to Institutional Forensic Imaging in Berlin.**  
M Windgassen, L Oesterhelweg  
Institute of Legal Medicine and Forensic Sciences, Charité, Berlin, Germany
- 16:10 – 16:20**      **O-42**      **Whole – body or targeted postmortem computed tomography angiography in non – traumatic deaths of children and adults – overview of recent cases**  
K Woźniak, A Moskała, P Kluza, O Lopatin, E Rzepecka–Woźniak  
Jagiellonian University Medical College, Faculty of Medicine, Chair and Department of Forensic Medicine, Kraków, Poland
- 16:20 – 16:30**      **O-43**      **Transverse process fractures of thoracic vertebrae**  
A Borowska-Solonyko, V Prokopowicz  
Department of Forensic Medicine, Medical University of Warsaw, Warsaw, Poland
- 16:30 – 16:40**      **O-44**      **Amusement ride-related fatal injuries in Hamburg: 2 case reports**  
A Ron, K Püschel, A Heinemann  
Institute for Legal Medicine, University Medical Center Hamburg-Eppendorf, Hamburg, Germany
- 16:40 – 16:50**      **O-45**      **Thyroid Cartilage Asymmetry in Forensic Science**  
J Heimer<sup>(1)</sup>, V Chatzarakis<sup>(1)</sup>, FA Pameijer<sup>(2)</sup>, MJ Thali<sup>(1)</sup>, G Ampanozi<sup>(1)</sup>  
(1) Institute of Forensic Medicine, University of Zurich, Zurich, Switzerland  
(2) Department of Radiology, University Medical Center Utrecht, Utrecht, The Netherlands

- 16:50 – 17:00**      **O-46**      **PMCT – Development of Gas Formations in an Animal Model**  
L Schmidt<sup>(1)(2)</sup>, L Oesterhelweg<sup>(1)</sup>  
(1) Institute of Legal Medicine and Forensic Sciences, Charité, Berlin  
Germany  
(2) Department of Psychiatry, Berlin Jewish Hospital, Berlin,  
Germany
- 17:00 – 17:10**      **O-47**      **Occurrence of Putrefactive Gas in pmCT depending on the post-mortem Interval**  
L Schmidt<sup>(1)(2)</sup>, L Oesterhelweg<sup>(1)</sup>  
(1) Institute of Legal Medicine and Forensic Sciences, Charité, Berlin  
Germany  
(2) Department of Psychiatry, Berlin Jewish Hospital, Berlin,  
Germany

**17:30 – 18:30    General Assembly of the ISFRI**

## Saturday 18.05.2019

### 9:30 – 11:00 Plenary Session

*Chair: Natalie L. Adolphi / Barry Daly*

- |                      |             |  |
|----------------------|-------------|--|
| <b>9:30 – 9:55</b>   | <b>O-48</b> | <p><b>The Working Group for Forensic Imaging in Germany: A network that helps to expand forensic imaging techniques</b><br/>S Grabherr<br/>Institute of Legal Medicine Lausanne-Geneva, Lausanne, Switzerland</p>  |
| <b>9:55 – 10:05</b>  | <b>O-49</b> | <p><b>Evaluation of the Routine Use of Post-Mortem Computed Tomography (PMCT) by a High-Volume Medical Examiner's Office in the U.S.</b><br/>NL Adolphi, M Cain, K Haber, G Bodor<br/>Office of the Medical Investigator, Albuquerque, New Mexico, USA</p>   |
| <b>10:05 – 10:15</b> | <b>O-50</b> | <p><b>Postmortem imaging findings and cause of death determination compared to autopsy: a systematic review of diagnostic test accuracy and meta-analysis.</b><br/>G Ampanozi<sup>(1)</sup>, D Halbheer<sup>(1)</sup>, LC Ebert<sup>(1)</sup>, MJ Thali<sup>(1)</sup>, U Held<sup>(2)(3)</sup><br/>(1) Institute of Forensic Medicine, University of Zurich, Zurich, Switzerland<br/>(2) Horten Centre, University of Zurich, Zurich, Switzerland<br/>(3) Epidemiology, Biostatistics and Prevention Institute, Department of Biostatistics, University of Zurich, Zurich, Switzerland</p> |
| <b>10:15 – 10:25</b> | <b>O-51</b> | <p><b>Consecutive unexpected deaths in extremely premature infants in a busy hospital center – post mortem imaging the key to unraveling the mystery</b><br/>J Verster<sup>(1)</sup>, R Davids<sup>(2)</sup>, J Lotz<sup>(2)</sup>, J Dempers<sup>(1)</sup><br/>(1) Division of Forensic Medicine, Faculty of Health Sciences, Stellenbosch University, Stellenbosch, South Africa<br/>(2) Department of Radiology, Faculty of Health Sciences, Stellenbosch University, Stellenbosch, South Africa</p>  |
| <b>10:25 – 10:35</b> | <b>O-52</b> | <p><b>Unenhanced post mortem CT scan (PM CT) in high kinetic energy traumas: methodology and interpretation</b><br/>C Boudinaud<sup>(1)</sup>, M Lossois<sup>(2)</sup>, B Boyer<sup>(1)</sup>, MA Vaz<sup>(1)</sup>, E Dumousset<sup>(1)</sup><br/>(1) Diagnostic and Interventional Radiology, University Hospital Gabriel Montpied, Clermont-Ferrand, France<br/>(2) Legal Medicine, University Hospital Gabriel Montpied, Clermont-Ferrand, France</p>  |
| <b>10:35 – 10:45</b> | <b>O-53</b> | <p><b>Tissue characterisation in dual-energy computed tomography: Results of a 12-month cohort.</b><br/>D Kreul<sup>(1)</sup>, R Kubik-Huch<sup>(1)</sup>, J Froehlich<sup>(2)</sup>, MJ Thali<sup>(3)</sup>, T Niemann<sup>(1)</sup><br/>(1) Institute of Radiology, Kantonsspital Baden, Baden, Switzerland<br/>(2) Guerbet AG, Zürich, Switzerland<br/>(3) Institute of Forensic Medicine, University of Zurich, Zurich, Switzerland</p>  |

- 10:45 – 10:55**      **O-54**      **Comparing multiparametric measurements in dual-energy computed tomography to histological graduation of liver steatosis: a retrospective study.**  
 D Kreul<sup>(1)</sup>, D Gascho<sup>(2)</sup>, S Franckenberg<sup>(3)</sup>, S Eggert<sup>(2)</sup>, B Fliss<sup>(2)</sup>, R Kubik-Huch<sup>(1)</sup>, MJ Thali<sup>(2)</sup>, T Niemann<sup>(1)</sup>  
 (1) Institute of Radiology, Kantonsspital Baden, Baden, Switzerland  
 (2) Institute of Forensic Medicine, University of Zurich, Zurich, Switzerland  
 (3) Institute for Diagnostic and Interventional Radiology, University Hospital Zurich, Zurich, Switzerland

## 11:00 – 11:30 Coffee

## Parallel Session 11:30 -13:00 Uhr

### 11.30 – 13:00 Scientific Session III: Technical Developments

*Chair: Summer Decker / Wolf Schweitzer*

- 11:30 – 11:55**      **O-55**      **Dead or aLive: Supporting Forensics with Deep Learning**  
 M Livne  
 Machine Learning Team Lead, Predictive Modeling in Medicine, Charité, Berlin, Germany
- 11:55 – 12:05**      **O-56**      **Deep Learning on Volumetric Medical Imaging Datasets for Automated Organ Segmentation: First Steps Toward Automated Analysis of PMCT**  
 J Ford<sup>(1)</sup>, L Ebert<sup>(2)</sup>, S Decker<sup>(1)</sup>, A Dobay<sup>(2)</sup>, NL Adolphi<sup>(3)</sup>, M Cain<sup>(3)</sup>, K Nolte<sup>(3)</sup>  
 (1) University of South Florida, Tampa, USA;  
 (2) University of Zurich, Zurich, Switzerland;  
 (3) University of New Mexico, Albuquerque, USA
- 12:05 – 12:15**      **O-57**      **VirtoScan-on-Rails – A rapid and practical 3D imaging system for automated whole body surface documentation**  
 S Kottner<sup>(1)</sup>, S Schärli<sup>(1)</sup>, M Fürst<sup>(2)</sup>, W Ptacek<sup>(2)</sup>, MJ Thali<sup>(1)</sup>, D Gascho<sup>(1)</sup>  
 (1) Institute of Forensic Medicine, University of Zurich, Zurich, Switzerland;  
 (2) Austrian Center for Medical Innovation and Technology (ACMIT GmbH), Wiener Neustadt, Austria.
- 12:15 – 12:25**      **O-58**      **Very thin skull hairline fracture visualization in VRT: technical comparison of standard versus experimental and optimized gradients**  
 W Schweitzer<sup>(1)</sup>, MJ Thali<sup>(1)</sup>, E Aldomar<sup>(2)</sup>  
 (1) Institute of Forensic Medicine, University of Zurich, Zurich, Switzerland  
 (2) Department of Design, Subject Area Knowledge Visualization, ZHdK Zurich University of the Arts, Zurich, Switzerland

- 12:25 – 12:35**      **O-59**      **Magnetic resonance spectroscopy in muscle tissue and in bone marrow for detecting a previously frozen state in a meanwhile thawed cadaver**  
D Gascho<sup>(1)</sup>, J Heimer<sup>(1)</sup>, N Zoelch<sup>(1)(2)</sup>  
(1) Institute of Forensic Medicine, University of Zurich, Zurich, Switzerland  
(2) Hospital of Psychiatry, University of Zurich, Zurich, Switzerland
- 12:35 – 12:45**      **O-60**      **Postmortem Diagnosis of Ketotic and Nonketotic Hyperglycemia by Magnetic Resonance Spectroscopy**  
J Heimer<sup>(1)</sup>, D Gascho<sup>(1)</sup>, N Zoelch<sup>(1)(2)</sup>  
(1) Institute of Forensic Medicine, University of Zurich, Zurich, Switzerland  
(2) Hospital of Psychiatry, University of Zurich, Zurich, Switzerland
- 12:45 – 12:55**      **O-61**      **Additional Value of Magnetic Resonance Imaging in Nonfatal Strangulation**  
J Heimer<sup>(1)</sup>, C Tappero<sup>(1)(2)</sup>, D Gascho<sup>(1)</sup>, P Flach<sup>(1)(3)</sup>, TD Ruder<sup>(1)(2)(4)</sup>, MJ Thali<sup>(1)</sup>, S Franckenberg<sup>(5)</sup>  
(1) Institute of Forensic Medicine, University of Zurich, Zurich, Switzerland  
(2) Institute of Diagnostic, Interventional, and Paediatric Radiology, University Hospital Bern, Bern, Switzerland  
(3) Clinic for Radiology and Nuclear Medicine, Cantonal Hospital St.Gallen, St.Gallen, Switzerland  
(4) Department of Radiology, Northland District Health Board, Whangarei Hospital, Whangarei, New Zealand  
(5) Institute of Diagnostic and Interventional Radiology, University Hospital Zurich, Zurich, Switzerland

## **11:30 – 13:00 Scientific Session IV: Anthropology**

*Chair: Angi Christensen / Marcel A. Verhoff*

- 11:30 – 11:55**      **O-62**      **Identification of persons based on images: image-theoretical considerations**  
H Hoevenberg  
Criminal Investigation Department, Technical Services LKA KTI 55,  
Berlin Police, Berlin, Germany

11:55 – 12:05

O-63

**The accuracy of morphological sex estimation methods on 3D models of the pelvis**

KL Colman<sup>(1)</sup>, HH. de Boer<sup>(2)(3)</sup>, JGG Dobbe<sup>(4)</sup>, N Liberton<sup>(5)</sup>, KE Stull<sup>(6)(7)</sup>, M van Eijnatten<sup>(5)(8)</sup>, GJ Streekstra<sup>(4)(9)</sup>, RJ Oostra<sup>(1)</sup>, RR van Rijn<sup>(9)</sup>, AE van der Merwe<sup>(1)</sup>

(1) Department of Medical Biology, section Clinical Anatomy and Embryology, Amsterdam UMC, University of Amsterdam, Amsterdam, The Netherlands

(2) Department of Pathology, Amsterdam UMC, University of Amsterdam, Amsterdam, The Netherlands

(3) Department of Medical Forensic Research, Netherlands Forensic Institute, Den Haag, The Netherlands

(4) Department of Biomedical Engineering and Physics, Amsterdam UMC, University of Amsterdam, Amsterdam, The Netherlands

(5) Amsterdam UMC, University of Amsterdam, Department of Oral and Maxillofacial Surgery & 3D Innovation Lab, de Boelelaan 1117, Amsterdam, the Netherlands

(6) Department of Anthropology, University of Nevada, Reno, USA

(7) Department of Anatomy, Faculty of Health Sciences, University of Pretoria, Pretoria, South Africa

(8) Computational Imaging Group, Centrum Wiskunde & Informatica (CWI), Amsterdam, The Netherlands

(9) Department of Radiology, Amsterdam UMC, University of Amsterdam, Amsterdam, the Netherlands

12:05 – 12:15

O-64

**The osteometric accuracy of 3D virtual models of the os coxa derived from computed tomography (CT) scans for forensic anthropology**

KL Colman<sup>(1)</sup>, HH de Boer<sup>(2)(3)</sup>, JGG Dobbe<sup>(4)</sup>, N Liberton<sup>(5)</sup>, KE Stull<sup>(6)(7)</sup>, M van Eijnatten<sup>(5)(8)</sup>, GJ Streekstra<sup>(4)(9)</sup>, RJ Oostra<sup>(1)</sup>, R van Rijn<sup>(9)</sup>, AE van der Merwe<sup>(1)</sup>

(1) Department of Medical Biology, section Clinical Anatomy and Embryology, Amsterdam UMC, University of Amsterdam, Amsterdam, The Netherlands

(2) Department of Pathology, Amsterdam UMC, University of Amsterdam, Amsterdam, The Netherlands

(3) Department of Medical Forensic Research, Netherlands Forensic Institute, Den Haag, The Netherlands

(4) Department of Biomedical Engineering and Physics, Amsterdam UMC, University of Amsterdam, Amsterdam, The Netherlands

(5) Department of Oral and Maxillofacial Surgery & 3D Innovation Lab, Amsterdam UMC, University of Amsterdam, Amsterdam, The Netherlands

(6) University of Nevada, Reno, Department of Anthropology, Reno, NV, USA

(7) Department of Anatomy, Faculty of Health Sciences, University of Pretoria, Pretoria, South Africa

(8) Computational Imaging group, Centrum Wiskunde & Informatica (CWI), Amsterdam, The Netherlands

(9) Department of Radiology, Amsterdam UMC, University of Amsterdam, Amsterdam, The Netherlands



- 12:15 – 12:25**      **O-65**      **The use of mid-arm circumference for the estimation of adult body weight: a post mortem computed tomography approach**  
R Nathongchai<sup>(1)</sup>, GN Ruttu<sup>(2)</sup>, B Morgan<sup>(3)</sup>, J Ruttu<sup>(2)</sup>, A Brough<sup>(4)</sup>, N Aljanaahi<sup>(5)</sup>  
(1) Central Institute of Forensic Science, Bangkok, Thailand  
(2) East Midlands Forensic Pathology Unit, University of Leicester, Leicester, UK  
(3) Imaging Department, University Hospitals of Leicester, Leicester, UK  
(4) School of Natural Sciences and Psychology, Liverpool John Moores University, Liverpool, UK  
(5) Department of Forensic Medicine, Abu Dhabi Police, Abu Dhabi, United Arab Emirates
- 12:25 – 12:35**      **O-66**      **Sex Estimation from Sternal Measurements Using Multi-detector Computed Tomography in Indian Population.**  
JS Sravan, A Arneet, Y Jayanthi, KV Raghvendra, M Rajesh  
All India Institute of Medical Sciences Bhopal, India
- 12:35 – 12:45**      **O-67**      **Testing the feasibility of reconstructing scavenged femora for anthropological examinations using statistical shape modelling**  
LC Ebert<sup>(1)</sup>, D Rahbani<sup>(2)</sup>, M Lüthi<sup>(2)</sup>, MJ Thali<sup>(1)</sup>, B Fliss<sup>(1)</sup>  
(1) Institute of Forensic Medicine, University of Zurich, Zurich, Switzerland  
(2) Departement Mathematik und Informatik, University of Basel, Basel, Switzerland

**12:45 – 12:55****O-68****Best practice guidelines on Imaging for Age Estimation in the Living**

E Doyle<sup>(1)</sup>, N Márquez-Grant<sup>(2)</sup>, L Field<sup>(3)</sup>, T Holmes<sup>(4)</sup>, OJ Arthurs<sup>(5)</sup>, RR van Rijn<sup>(6)</sup>, L Hackman<sup>(7)</sup>, K Kasper<sup>(8)</sup>, J Lewis<sup>(9)</sup>, P Loomis<sup>(10)</sup>, D Elliott<sup>(11)</sup>, J Kroll<sup>(12)</sup>, M Viner<sup>(13)</sup>, S Blau<sup>(14)</sup>, A Brough<sup>(15)</sup>, SM de las Heras<sup>(16)</sup>, PM Garamendi<sup>(17)</sup>

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(2) Cranfield Forensic Institute, Cranfield University, Defence Academy of the United Kingdom, UK

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(10) New Mexico Office of the Medical Investigator, Albuquerque, NM, USA

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(14) Victorian Institute of Forensic Medicine, Melbourne, Australia

(15) Lecturer Liverpool John Moores University, Liverpool, UK; ISFRI Anthropology working group, Switzerland

(16) Department of Forensic Medicine and Forensic Dentistry, University of Granada, Spain

(17) Institute of Legal Medicine and Forensic Sciences, Huelva, Spain; Member of the Working Group on Age Estimation of Unaccompanied Minors, Spain; Member of Council of Forensic Medicine of Spain (Ministry of Justice), Spain

**13:00 – 13:30 Closing Ceremony**