

# Volume 8 Supplement 1 June 2013

## Preface S1

## CARS Clinical Day

### Interventional Radiology

Rube MA, Holbrook AB, Cox BF, Melzer L, Lenhardt M, Melzer A:

**Wireless remote control and in-room communication for MRI-guided interventions using mobile touch devices S5**

Widmann G, Wallach D, Toporek G, Schullian P, Fasser M, Weber S, Bale R:

**Image fusion and targeting accuracy of stereotactic liver interventions: a comparison of cone-beam and multidetector computed tomography guidance S6**

Robert AL, Chagnon G, Bonvilain A, Cinquin P, Moreau-Gaudry A:

**Toward a new approach of tracking of medical deformable needles S6**

Toporek G, Peterhans M, Kettenbach J, Anderegg S, Weber S, Wallach D:

**Real-time respiratory motion detection with optical patient tracking method S8**

Fernandez-Gutierrez F, Ferut J, Smink J, Houston G, Melzer A:

**Ergonomics for MRI guided procedures: case of study: postural analysis for MRI scanners S9**

Yamazaki N, Watanabe H, Isobe Y, Lu X, Kobayashi Y, Miyashita T, Fujie M:

**Measurement of electromagnetic wave frequency dependence of lung's electrical conductivity with changing a lung's internal air volumes for lung RFA S10**

## Computer Assisted Radiology-27th International Congress and Exhibition

### Computed Tomography

Caglar M, Unlu M, Karabulut E:

**Low dose CT improves diagnostic performance of planar bone scintigraphy. What is SPECT-CT necessary for? S15**

Padgett J, Biancardi AM, Yankelevitz DF, Henschke CI, Reeves AP:

**Local noise estimation in low-dose CT images S16**

Wang A, Otake Y, Stayman JW, Uneri A, Kleinszig G, Vogt S, Khanna AJ, Gokaslan Z, Siewerdsen J:

**Soft tissue visibility and dose reduction in mobile C-arm cone-beam CT using advanced 3D image reconstruction S17**

Kovalev V, Liauchuk V, Safonau I, Astrauko A, Skrahina A, Tarasau A:

**Is there any correlation between the drug resistance and structural features of radiological images of lung tuberculosis patients? S18**

### Magnetic Resonance

Lafontaine M-S, Neeb H:

**Novel MR contrasts based on quantitative parameter correlation atlases S21**

Tolouee A, Alirezaie J, Babyn P:

**Compressed sensing in MR imaging S22**

Uchiyama N, Kinoshita T, Hojo T, Asaga S, Suzuki J, Kusumoto M, Otsuka K, Yamamoto N:

**Usefulness of automated volume analysis of dynamic contrast-enhanced breast (DCEB) MRI in evaluation of response to neoadjuvant chemotherapy (NAC) S23**

Guettler F, Heinrich A, De Bucourt M, Fiebig O, Hamm B,

Teichgraeber U:

#### Wireless cardiotocography during real-time magnetic resonance imaging S24

Ben Ayed I, Punithakumar K, Hojjat S-P, Joshi R, Garvin G:

#### A user-computer interaction protocol for failure-free spine image annotations S26

Neumann M, Cuvillon L, Breton E, de Mathelin M: Kalman filter for real-time scan plane control using a passive marker S27

### **Cardiovascular and Angiographic Imaging**

Tuncay V, Van Ooijen P, Oudkerk M:

Semi-automatic, quantitative, measurement of the calcified and non-calcified aortic valve area using CTA S29

Haase C, Schäfer D, Dössel O, Grass M:

Model based 3D registration and tracking of a CS-catheter: application to single X-ray projections from a rotational angiography sequence S30

Masuda K, Takeshima S, Bossard A, Onogi S:

Full automatic calculation of ejection fraction of left ventricle from either of short-axis view or four-chamber view by processing successive ultrasound images S31

### **Medical Imaging-General**

Uchiyama N, Kinoshita T, Hojo T, Asaga S, Suzuki J, Kusumoto M, Otsuka K:

Diagnostic usefulness of digital breast tomosynthesis (DBT) for invasive lobular carcinoma (ILC) S33

Gim S, Moon H, Shin HJ, Lee D, Kang S, Kim K:

A new optical coherence tomography system guided by active cannulas S34

Ikeya A, Teramoto A, Suzuki D, Noguchi K, Fujita H: Detailed analysis of X-ray phase-contrast effects S35

Caglar M, Vargol S, Karabulut E:

Sensitivity of 99 m-Tc-MIBI parathyroid scintigraphy and USG is increased when combined with serum PTH and Ca values in patients with primary hyperparathyroidism S35

Gemmeke H, Dapp R, Hopp T, Kaiser W, Kretzek E, Zapf M, Ruiter NV:

Advanced medical imaging by the use of 3D ultrasound computer tomography S36

Liu L, Schumann S, Ecker T, Nolte L-P, Zheng G:

Statistical model-based image intensifier distortion correction: a validation study S37

### **Computer Assisted Radiation Therapy**

Ramachandran B, Flexman M, Sabczynski J, Manzke R: Camera based external surface deformation measurement and prediction of breathing patterns for motion compensation during radiation therapy S39

Manescu P, Ladjal H, Azencot J, Beuve M, Shariat B:

Biomechanical-based respiratory motion-compensation for 4D dose calculation during hadron therapy S40

Tanaka R, Sanada S, Oda M, Suzuki M, Sakuta K, Kawashima H, Iida H:

#### Improved accuracy of IGRT with bone suppression image-processing S41

Marinetto ED, García-Vázquez V, Santos-Miranda JA, Calvo F, Desco M, Pascau J:

#### Positioning wire landmarks for image-guided intraoperative radiotherapy: an evaluation study S42

Kessel KA, Jäger A, Bohn C, Habermehl D, Engelmann U, Floca RO, Bendl R, Debus J, Combs SE:

Evaluation system for electronic retrospective analyses: optimization of treatment algorithms for locally advanced pancreatic cancer S43

### **Image Processing and Display**

van Straaten D, Brachmann C, Weidner A, Kohlmann P, Dinter D, Schoenberg S, Hahn HK:

Software prototype to support follow-up analysis of multi-parametric MR images S45

Nardelli P, San José Estépar R, Cantillon-Murphy P: Semi-automated airway segmentation of lung CT using 3D slicer S46

Wang G, Zhang S, Gu L:

Robust segmentation of liver using sparse shape composition model S47

Saito A, Shimizu A, Watanabe H, Yamamoto S, Nawano S, Kobatake H:

Automated liver segmentation from a CT volume of a cadaver using a statistical shape model S48

Kronman A, Joskowicz L, Sosna J: Gradient-based correction of segmentation boundary inaccuracies in medical CT images S49

Nolden M, Zelzer S, Seitel A, Wald D, Müller M, Franz AM, Maleike D, Maier-Hein KH, Meinzer H-P, Wolf I:

The medical imaging interaction toolkit: challenges and advances S51

Zheng G:

3D volumetric intensity reconstruction from 2D X-ray images via partial least squares regression S52

Hofstad EF, Langø T, Leira H, Sorger H, Amundsen T: Automatic registration of CT images to patient during the initial phase of bronchoscopy: a clinical pilot study S53

Castillo E, Castillo R, Guerrero T:

Robust fitting of point match data using L1 optimization and B-spline parameterizations S54

Siewersden J, Zbijewski W, Stayman JW, Muhit A, Yorkston J, Carrino J:

Advanced imaging capability in dedicated cone-beam CT of musculoskeletal extremities S55

Ben Ayed I, Punithakumar K, Hojjat S-P, Garvin GJ: Automated 3D visualization and assessment of the inter-vertebral disc displacements in spine imaging S56

Onogi S, Sugano Y, Phan TH, Shigehara N, Koda R, Mochizuki T, Masuda K:

Ultrasound navigation system using an electronic scanning type 3D probe for ultrasonic microbubble delivery therapy S57

Granizo A, Vetter M:  
**Infrared head position tracking: towards markerless prospective motion correction** S58

Leßmann N, Drömann D, Schlaefer A:  
**Feasibility of respiratory motion compensated stereoscopic bronchoscopy** S59

Wu J, Li C, Huang S, Liu F, Tan BS, Ooi LL, Liu J:  
**A fast and robust method to extract respiratory motion from liver ultrasound images** S60

Rengier F, Doll S, Talanow R, Unterhinninghofen R, Giese F:  
**Integration of interactive three-dimensional image post-processing software into undergraduate radiology education effectively improves diagnostic skills and visual-spatial ability** S61

## 31st International EuroPACS Meeting

### PACS-CAD Integration

Huang HK:  
**Medical imaging informatics simulators: a tutorial** S65

Suárez-Cuenca JJ, Souto M, Quiles J, Comesaña J, Lopez R, Carreira JM, Tahoces P:  
**Integrating CAD modules in a PACS environment using a wide computing infrastructure** S66

Huang J, Summers R, Ling A, Yao J:  
**Enhancing clinical use of CAD systems in PACS with automation and open-source tools** S67

Behlen F, Costea-Barluti R, Sluis D:  
**An unexamined assumption is not worth assuming: imaging data quality exposed in data migration** S68

### Content based Retrieval from DICOM Images

Kozuka K, Takata K, Kondo K, Kiyono M, Tanaka M, Sakai T, Kimura H:  
**Development of image-retrieval technology using radiological knowledge extracted from a clinical database of lung CT images** S71

Kumar A, Kim J, Bi L, Fulham M, Feng D:  
**Designing user interfaces to enhance human interpretation of medical CBIR: application to PET-CT images** S72

Bastião Silva LA, Santos M, Costa C, Oliveira JL:  
**Dicoogle Statistics: analyzing efficiency and service quality of digital imaging laboratories** S73

### Image Distribution and Cloud Computing

Aryanto KYE, Broekema A, Oudkerk M, van Ooijen PMA:  
**RadTransceiver: an institutional DICOM data distribution system** S75

Mahmoudi S, Benjelloun M:  
**Medical images annotation and retrieval** S75

Engelmann U, Poxleitner J, Muench H, Bohn C, Schroeter A:  
**CHILI/Mobile: a zero footprint application for mobile devices in radiology** S76

Kondoh H, Teramoto K, Kawai T, Mochida M, Nishimura M:

**Development of hybrid medical record sharing system, EPR and PACS of each hospital on cloud technology plus XDS and XDS-I on cloud technology** S78

### PACS Workflow

Huang HK:  
**In memory of three pioneers: Ledley (Biomedical Imaging), Greenfield (Medical Physics) and Kangarloo (PACS and Informatics)** S79

Jorritsma W, Cnossen F, Ten Bhömer P, Van Ooijen P:  
**Definition of prototypical tasks in radiology review as a prelude to PACS usability assessment** S80

Procida V, Beltrame M, Cavalli F, Spagno C:  
**PACS-Independent and IHE-like approach method for the analysis of PACS usage in a healthcare enterprise** S81

Marras G, Conforti F, Giorgetti A, Marcheschi P, Mangione M:  
**Work-list management in medical devices** S82

Ito K, Shimada J, Kato D, Shimomura M, Nishimura M, Yanada M, Tsunezuka H, Okada S, Ishihara S:  
**Improvement of clinical workflow of thoracic surgeons in distant hospitals by interactive teleconference using open source software** S83

## 17th Annual Conference of the International Society for Computer Aided Surgery

### Cranio-Maxillofacial Surgery

Wilde F, Cornelius C-P, Schramm A:  
**Computer-assisted mandibular reconstruction with CAD/CAM-fabricated patient-specific reconstruction plates: A cadaver feasibility study** S87

Saber NR, Cachia MA, Forrest C, Drake J:  
**Prediction of cranial shape from 3D facial photogrammetry: initial experience** S88

Olsson P, Nysjö F, Hirsch J-M, Carlbom I:  
**A haptics-assisted cranio-maxillofacial surgery planning system for restoring skeletal anatomy in complex trauma cases** S89

Schmutz B, Rahmel B, McNamara Z, Coulthard A, Schuetz M, Lynham A:  
**3D reconstruction of the orbita from 3T MRI as an alternative to CT** S90

Liu Y, Bai S, Zhang G, Liao Q, Lu H:  
**FPCAD: 3D computer-aided system for facial prosthetics using VTK** S91

Sun H, Wang X, Yu H, Shen SG:  
**Combined virtual orthognathic surgery with endoscope-assisted condylectomy for severe asymmetric deformities with growth potential of condyle or condylar osteochondrom** S92

## **Computer Assisted Neurosurgery**

Trope M, Shamir RR, Medress Z, Joskowicz L, Shoshan Y:  
**Improving the safety of image-based keyhole neurosurgery by automatic trajectory planning: an experimental study** S95

Rejmstad P, Åneman O, Zsigmond P, Hillman J, Wårdell K:  
**Combined laser Doppler and reflectance spectroscopy measurements during brain surgery** S96

Kessler P, Bloebaum M, Kessels F, Ter Laak M, Lethaus B:  
**Patient specific implants versus autogenous bone grafts for patients with large calvarian defects** S97

Vivanti R, Joskowicz L, Sadowsky O, Shoham M:  
**Robust surface brain tissue deformation tracking in open craniotomies** S98

## **Computer Assisted ENT Surgery**

Balachandran R, Noble JH, Blachon G, Mitchell JE, Reda FA, Dawant BM, Fitzpatrick JM, Labadie RF:  
**Clinical implementation of minimally-invasive, image-guided cochlear implantation surgery** S101

Gollnick I, Strauss G, Lüth T:  
**Endonasal sinus surgery: can the procedure be done solely using instrument navigation?** S102

Williamson T, Brogna L, Bell B, Weber S:  
**Pre-operative identification of force-density based pose estimation accuracy** S103

Gerber N, Bell B, Weisstanner C, Caversaccio M-D, Weber S:  
**Surgical planning tool for robotically assisted cochlear implantation** S104

Anso J, Bell B, Gerber N, Williamson T, Gavaghan K, Caversaccio M, Weber S:  
**Feasibility of detection of the facial nerve using EMG during robotic direct cochlear access** S105

Yamamoto S, Mineta H:  
**Newly developed endoscopic surgical navigator demonstrating the position of the center in an endoscopic view** S106

## **Laparoscopic Surgery**

Nicolau S, Diana M, Agnus V, Soler L, Marescaux J:  
**Semi-automated augmented reality for laparoscopic surgery: first in-vivo evaluation** S109

Kolb C, Groch A, Seitel A, Kilgus T, Haase S, Bendl R, Meinzer H-P, Hornegger J, Maier-Hein L:  
**Simultaneous localization and soft-tissue shape recovery with a time of flight endoscope for computer-assisted surgery** S110

Uemura M, Tomikawa M, Miao T, Kumashiro R, Souzaki R, Jeiri S, Ohuchida K, Hashizume M:  
**New evidence from information in hand motions of laparoscopic surgery: a mathematical analysis on experts and novices** S111

Cheon B, Gezgin E, Ji D, Makoto H, Morimasa T, Hong J:  
**Design of a novel single incision laparoscopic surgery robot with increased tissue handling force** S112

## **Cardiovascular Surgery**

Ando T, Kim H, Kobayashi E, Liao H, Tsukihara H, Motomura N, Kyo S, Ono M, Sakuma I:  
**Stereoscopic fluorescence camera system for simultaneous measurement of wall motion and blood perfusion of a beating heart** S115

Hettrich P, Staiger W, Gahlen J:  
**Intraoperative 3D navigation improves the endovascular repair of complex aortic pathologies** S115

Hagihara D, Takahashi T, Sato I, Nakamura R:  
**3D heart surface motion measurement system using template matching method for myocardial cell sheet implantation** S116

Karar ME, Burgert O:  
**Dynamic overlay of an intra-operative aortic root model onto X-ray fluoroscopy sequences** S117

## **Computer Assisted Orthopaedic Surgery**

Doke T, Liang JT, Onogi S, Nakajima Y:  
**Depth guidance for surgical tool insertion using fluoroscopic-based laser guidance system** S119

Otake Y, Wang A, Stayman W, Kleinszig G, Vogt S, Khanna J, Groves M, Gokaslan Z, Siewersen J:  
**Automatic localization of vertebral levels in C-arm fluoroscopy: evaluation of the LevelCheck algorithm in a preclinical cadaver study with realistic tissue deformation** S120

Balling H, Jilav RL, Rusu VA, Blatttert TR:  
**Utilization of a combined navigation and O-arm®-scanner for posterior thoracolumbar instrumentation: implications on the intraoperative correction rate of screw positions** S121

Rudan J, Balaketheswaran S, Ellis R, Kunz M:  
**The influence of osteophytes in hip resurfacing procedures using patient-specific instrument guides** S122

Hauck W:  
**Computer assisted total hip arthroplasty: femur first and cumulated antetorsion of the stem/anteverision of the cup** S122

Casier CB, Dickinson AW, Clarke J, Rasquinha BJ, Easteal R, Sellens RW, Ellis RE, Pichora DR:  
**A novel embalming technique preserves cadaveric wrist biomechanics** S123

Schumacher R, Coigny F, Schkommodau E:  
**Modeling of Hounsfield Unit based anisotropic bone substitutes for Selective Laser Melting manufacturing processes** S124

## **Surgical Robotics and Instrumentation**

Kamei Y, Harada K, Tanaka S, Kurose Y, Baek YM, Sora S, Morita A, Sugita N, Mitsuishi M:  
**Master manipulator with high usability designed for microsurgical robotic system** S127

Niccolini M, Castelli V, Diversi C, Kang B, Mazzolai B, Sinibaldi E:  
**Accurate control of a lightweight robotic arm, towards surgical robotics applications** S128

Goto T, Hongo K, Hara Y, Okamoto J, Iseki H:  
**Robot-assisting holding system for microneurosurgery S129**

Schulze V, Hoppen P, Mintenbeck J, Raczkowsky J, Woern H:  
**Innovative flexible surgical instruments to perform minimal-traumatic intracranial surgery S130**

Nakamaru S, Suzuki T, Okamoto J, Abe N, Yoshimitsu K, Nakamoto H, Iseki H, Fukui Y, Homma A, Muragaki Y:  
**Robotic positioning system for High-intensity focused ultrasound therapeutic device S131**

Shin SH, Kim HW, Jang JS, Kim YS:  
**Robotized surface registration method using laser scanner for image-guided robotic surgery S132**

He X, Handa J, Gehlbach P, Taylor R, Iordachita I:  
**Toward a sub-millimetric triaxial force sensing instrument with integrated fiber Bragg grating for vitreoretinal surgery S133**

Chae YS, Lee SH, Kim MY:  
**On-axis tracking system for neurosurgical robot in O-Arm using stereo fluoroscopy S135**

Nicolai P, Brennecke T, Kunze M, Schreiter L, Beyl T, Zhang Y, Mintenbeck J, Raczkowsky J, Wörn H:  
**The OP:Sense surgical robotics platform: first feasibility studies and current research S136**

Bien T, Li M, Salah Z, Rose G:  
**Distortion-immune electromagnetic tracking system: a new approach using quadratic excitation S137**

Westphal R, Haas P, Neunaber C, Wahl FM, Krettek C:  
**A robotic test bench for measuring cytokine response during fracture reduction S138**

## **Image Guided Liver Surgery**

Hansen C, Zidowitz S, Preim B, Stavrou G, Oldhafer KJ, Hahn HK:  
**Impact of model-based risk analyses for liver surgery planning S141**

Kretschmer J, Tietjen C, Soza G, Stamminger M:  
**Sketch-based planning of liver resections S141**

Carbone M, Lo Presti G, Cappelli C, Ferrari V, Ferrari M, Caramella D:  
**An integrated platform for an effective liver surgical planning through segmentation of multiphase CT datasets S142**

## **Surgical Navigation**

Coigny F, Imboden G, Hemm S, Beinemann J, Jürgens P, Knobel B, Schkommodau E:  
**Miniaturized surgical navigation S145**

Suzuki N, Hattori A, Ishibashi Y:  
**Construction of new navigation surgery function for laparoscopic and robotic surgery using multi-view camera S146**

Lugez E, Pichora D, Akl S, Ellis R:  
**Accuracy of electromagnetic tracking in an operating-room setting S147**

Wille A, Winter S:  
**Locating RFID tags for surgical navigation using dynamic neural fields S148**

Kato T, Ohya T, Kanazawa N, Kobayashi E, Liao H, Tohnai I, Sakuma I:  
**New calibration method for the electromagnetic tracking device using magnetic charges S149**

Li S, Clinthorne N:  
**An approach to automatic evaluate registration performance for image guided navigation S151**

Yang L, Wang J, Kobayashi E, Liao H, Yamashita H, Sakuma I, Chiba T:  
**An intraoperative framework for mapping of untracked endoscopic vision to 3D ultrasound placenta model S152**

Zimmermann T, Hohnstein S, Diehl S, Vetter M:  
**An approach of a geometrical CT phantom for automated CT image calibration and exclusively tracking based patient registration S153**

## **Surgical Modelling, Simulation and Education**

Birr S, Mönch J, Preim U, Oldhafer K-J, Preim B:  
**The LiverAnatomyExplorer: design and evaluation of a WebGL-based surgical teaching tool S155**

Bartha L, Lasso A, Pinter C, Ungi T, Fichtinger G:  
**Open-source surface mesh-based ultrasound simulator S156**

van Alphen MJA, Hageman TAG, Smeele LE, Balm AJM, van der Heijden F:  
**Predictive model for functional consequences of oral cavity tumour resections S156**

Kapinski N, Borucki B, Nowinski KS:  
**Error assessment and minimization in 4D motion tracking for functional orthopaedics diagnostics S157**

Martínez-Martínez F, Rupérez M, Martín-Guerrero J, Monserrat C, Pareja E, López-Andújar R, Brugger S:  
**Parameter optimization of the liver tissue mechanical properties by means of FE modeling of the respiratory liver motion and similarity coefficients S159**

Auer C, Eisenmann U, Kallus S, Wolf S, Korber J, Dreher T, Dickhaus H:  
**Computer assisted modeling for the assessment of femoral derotation osteotomy: identification and estimation of possible sources of error S160**

Bartolomeo L, Zecca M, Sessa S, Lin Z, Ishii H, Takanishi A:  
**Induced Mental Stress in Peg Board Training: Performance Evaluation by Motion and Muscle Analysis S162**

## **Image Processing and Visualization**

Filipe Marreiros, Sandro Rossitti, Torbjörn Gustafsson, Per Carleberg, Örjan Smedby:  
**Multi-view 3D vessel tracking using near-infrared cameras S165**

Zhang L, Parrini S, Freschi C, Ferrari V, Condino S, Ferrari M, Caramella D:  
**3D ultrasound centerline tracking of abdominal vessels for endovascular navigation** **S166**

Carbajal G, Lasso A, Gómez Á, Fichtinger G:  
**Improving N-wire phantom-based freehand ultrasound calibration** **S167**

Perhac J, Mendes Pereira V, Schaller K, Brina O, Cabrilo I, Ratib O:  
**An open-source software tool for processing and visualization of multi-modality images in hybrid interventional suites** **S168**

Wen R, Chui CK, Ong SH, Lim KB, Chang SKY:  
**Projection-based visual guidance for robot-aided RF needle insertion** **S168**

Zhu W, Nicolau S, Soler L, Hostettler A, Marescaux J, Rémond Y:  
**A new approach for sliding effect removal in abdominal image registration** **S169**

### **Workflow, Ergonomics and New Concepts in Surgery**

Daw Z, Cleaveland R, Vetter M:  
**Formal verification of software-based medical devices considering medical guidelines** **S171**

Kocev B, Ritter F, Linsen L:  
**Projector-based surgeon-computer interaction on deformable surfaces** **S172**

Bialecki P, Vetter M:  
**Combining categorical gesture recognition using Hidden Markov Models and spatio-temporal pattern recognition for user interfaces in medical interventions** **S173**

Fink E, Hlavac M, Wirtz CR, Burgert O:  
**Conceptual design of an intraoperative user interface for a workflow management system for surgical planning and intraoperative support** **S175**

Sugino T, Kawahira H, Nakamura R:  
**Surgical workflow analysis during laparoscopic cholecystectomy using surgical navigation system as a record medium** **S176**

Hara Y, Goto T, Okamoto J, Okuda H, Iseki H, Hongo K:  
**Efficacy of armrest to reduce hand tremble of neurosurgeons during microscopic maneuver** **S177**

Park M-W, Kwon G-H, Sohn Y-T, Kim J-K, Lim C-H:  
**PAWS (prophylactic antibiotics warning system): conceptual design of a context-based warning system for prophylactic antibiotics** **S178**

### **14th IFCARS/SPIE/EuroPACS/ISCAS Joint Workshop on Surgical PACS and the Digital Operating Room**

#### **Intraoperative Imaging**

Wolff T, Lasso A, Eblenkamp M, Wintermantel E, Fichtinger G:  
**C-arm angle measurement with accelerometer for brachytherapy—an accuracy study** **S183**

Guettler F, Winterwerber K, Seebauer C, Rump J, Heinrich A, De Bucourt M, Teichgraeber U:  
**Development of MRI-compatible devices for real-time MR-guided orthopaedic surgery** **S184**

Otake Y, Wang A, Stayman W, Kleinszig G, Vogt S, Khanna J, Wolinsky J-P, Gokaslan Z, Siewerdse J:  
**Verification of surgical product and detection of retained foreign bodies using 3D-2D registration in intraoperative mobile radiographs** **S185**

Zhang L, Narayanan G, Lopez J:  
**Intraoperative assessment of tumor margin during CT-guided ablation** **S186**

### **Systems Design and Applications**

Ratib O, Amato C:  
**Intelligent infrastructure in the OR** **S189**

Rockstroh M, Franke S, Neumuth T:  
**A workflow-driven surgical information source management** **S189**

Huang HK, Documet J, Wu B, Chiu JC:  
**Architecture of an integrated image-assisted surgery system (IAS)** **S191**

Tauscher S, Neff T, Ortmaier T:  
**Interface concept for the integration of a robot into an image-guided therapy system** **S192**

Sweertvaegher M, Bellon E, Schoonjans K, Noppe T, Koninckx TP, Van den Bosch B:  
**Experiences with an IP based system for the digital operating room** **S193**

Berliner L, Lemke HU:  
**With advanced modelling methods, tools and knowledge management towards an intelligent infrastructure of an OR** **S194**

Kirby Vosburgh G, Ferenc Jolesz A:  
**Imaging in the digital operating room: progress and opportunities** **S196**

### **5th EuroNOTES/IFCARS/ISCAS Workshop on NOTES: An Interdisciplinary Challenge**

#### **Do We Really Need Robots for Notes**

Azizi Koutenaei B, Kojcev R, Wilson E, Gary KA, Navab N, Cleary K:  
**Integrated and teleoperated system for wireless Robotic Natural Orifice Transluminal Endoscopic Surgery (R-NOTES)** **S201**

Ohdaira T:  
**Utility of needle-type robot with both high-sensitive micro touch censors and multi-motion memory sequence buttons in regenerative stem cell therapy of pancreas by using Multi Piercing Surgery** **S202**

Righetto F, Petrucci M, Patete P, Cerveri P:  
**Development of the optical unit control of a miniaturized robotic platform for natural orifice transluminal endoscopic surgery** **S202**

van der Stap N, van der Heijden F, Broeders IAM:  
**Challenges in navigational strategies for flexible endoscopy** **S204**

## CARS - Computer Assisted Radiology and Surgery

### Special Session on Validating New Procedures

Galloway R, DeLisi M, Mawn L:

**Validation of targeting accuracy in a non-rigid milieu S209**

Zhao B, Lee S, Lee H-J, Qi J, Persigehl T, Tan Y, Mozley D, Buckler A, Sullivan D, Schwartz L:  
**Inter-reader and intra-reader variability in assessing change of total tumor volume S210**

Xu H, Lasso A, Guion P, Krieger A, Kaushal A, Singh AK, Pinto PA, Coleman J, Grubb III RL, Lattouf JB, Menard C, Whitcomb LL, Fichtinger G:

**Accuracy analysis in MRI-guided robotic prostate biopsy S211**

### Stimulation Methods

Shah A, Coste J, Lemaire J-J, Schkommodau E, Hemm-Ode S:

**A method to quantitatively evaluate tremor during deep brain stimulation surgery S213**

Tass PA:

**Unlearning pathological neuronal synchrony by coordinated reset neuromodulation S214**

Okamoto J, Muragaki Y, Iseki H, Hara Y, Goto T, Hongo K:  
**Position detection method for ocular movement sensor using Hall effect IC array S214**

Andrews R, Bennet K, Koehne J, Lee K, Marsh M, Meyyappan M, Periyakaruppan A, Rand E, Zhang D, Tanaka Z, Chen B:

**Future neuromodulation/deep brain stimulation: advantages of nanoarrays for brain neurotransmitter monitoring S215**

### 5th EPMA/IFCARS Workshop on Personalized Medicine and ICT

#### Personalized Medicine and Patient Modelling

Golubnitschaja O:

**Ignoring ‘anecdotes’ of case reports or recognising individual risks and innovation by predictive diagnostics, targeted prevention and personalised treatment approaches in diabetes care? S219**

Trovato K, Noonan D, Kung C, Dreyer M, Yung R:  
**In vivo experiment of personalized nested cannulas to reach small airways S220**

Gledson A, Mileva R, Crow Y, Livingston JH, Nenadic G, Zeng X, Keane J, Stivaros S:

**A decision support system for clinical radiological practice S221**

Meier J, Boehm A, Neumuth T, Bohn S:

**Towards a digital patient model for head and neck tumor treatment: information integration from distributed information systems S222**

## 15th International Workshop on Computer-Aided Diagnosis

### Special Session on Thoracic and Breast CAD

Nomura Y, Masutani Y, Miki S, Hanaoka S, Nemoto M, Yoshikawa T, Hayashi N, Ohtomo K:

**Probability map of radiologists’ detection failures of lung nodules and its application for adaptive presentation of lesion candidates for each radiologist S227**

Qureshi H, Nizami I, Iqbal Z, Din N:

**Lung cancer and tuberculosis nodule detection using wavelet packet frame based segmentation and region growing S228**

Rucco M, Merelli E, Falsetti L, Nitti C, Salvi A:  
**A data-driven clinical predictive rule (CPR) for pulmonary embolism S229**

Yoshikawa R, Teramoto A, Matsubara T, Fujita H:  
**Approach for improving the automated detection of architectural distortion using the adaptive Gabor filter S230**

Chang R-F, Shen Y-W, Moon WK, Huang C-S, Bae MS, Shih T-C, Chen J-H:

**Computer-aided tumor detection for automated breast ultrasound S231**

Teramoto A, Fujita H, Takahashi K, Yamamuro O, Tamaki T, Nishio M, Kobayashi T:  
**Hybrid method for the detection of pulmonary nodules using positron emission tomography/computed tomography: a preliminary study S232**

### Special Session on Colon and Stroke CAD

Nowinski WL:

**Stroke CAD systems: from research to a startup S233**

Silva J, Histace A, Romain O, Dray X, Granado B, Marteau P:

**Towards embedded detection of polyps in videocolonoscopy and WCE images for early diagnosis of colorectal cancer S234**

Khomutova E, Filippova J, Ignatiev Y,

Parmegiani D:  
**Artificial neural network: computer aided detection during virtual colonoscopy S234**

### CAR/CAD Joint Session on Image Segmentation

Huang C, Jia F, Fang C, Fan Y, Hu Q:

**Automatic liver detection and segmentation from 3D CT images: a hybrid method using statistical pose model and probabilistic atlas S237**

Oda M, Suito T, Hayashi Y, Iinuma G, Furukawa K, Misawa K, Nawano S, Kitasaka T, Mori K:

**Evaluation of automated incision line determination process for unfolded view generation from CT volumes S238**

# **19th Computed Maxillofacial Imaging Congress**

## **3D Imaging in Dental Research and Practice**

Hsu C-Y, Wong Y-K, Chen G, Hsu J-W, Deng W-K:  
Automatically building three dimensional visualization and pattern recognition of root canal by using micro computed tomography images S243

Faluhelyi P, Benyo B, Szilagyi L, Dobo-Nagy C:  
Automated detection of root canals from CBCT images S244

Kober C, Hohmann A, Radtke T, Geiger M, Young P, Sander F-M, Sander C, Sander FG:  
Enabled by CBCT: 3D modelling and finite element simulation of the human periodontal ligament in vivo S244

Di Giacomo GAP, Silva JV, Silva A, Ajzen S:  
New technique: rapid prototyping model for manufacturing immediate fixed prosthesis in flapless surgery S245

Rösch P, Zweifler R, Kunzelmann K-H:  
3D image processing for the characterisation of glass ionomer cement porosity from micro CT images S246

## **Influences on and from CMI**

Voigt JM, Güldner C, Schmidt R, Diogo I, Werner JA, Fiebich M:  
Monte Carlo based dose calculation in maxillofacial imaging S249

Hayakawa Y, Dong J, Zhang X, Miyanaka D, Anwar K:  
Cone beam CT image processing for metal-induced streak artifact reduction by iterative reconstruction S249

Lambrecht JT, Dagassan-Berndt, Häussler J:  
Facilities of dentomaxillofacial imaging among swiss dentists S250

Farman AG, Wolfgang L:  
Procedure codes for computed maxillofacial imaging: CDT 2013 and beyond S251

Molteni R, Trevisiol L, Cavalli D, Pozzi Mucelli R:  
Dosimetry of NewTom VGi maxillo-facial CBCT scanner: comparison of Effective Dose evaluated by TLDs and DAP S251

## **3D Imaging Maxillofacial Research and Practice**

Issa N, Salah N, Omar H:  
Evaluation of the accuracy of three dimensional printed mandibular models generated from cone beam computed tomography data S253

Van Leemput P, Vandermeulen D, Swennen G, Mollemans W, Schutyser F:  
Validation of a surface to image registration method for orthognathic surgery S254

Dobai A, Vízkelety T, Markella Z, Lukats O, Maka E, Kiss M, Bujtár P, Szűcs A, Pataky L, Barabás J:  
Facilities of measurement of orbital volume using cone beam computed tomography S255

Kober C, Berg B-I, Hayakawa Y, Gurin A, Hellmich C, Komlev V, Sader R:

**Role of the temporomandibular joint for macroscopic biomechanics of the human mandible: a finite element study S256**

## **Image Guided and Computed Maxillofacial Imaging**

Hayakawa Y, Miyanaka D, Goto Y, Chiba Y, Zhang X, Dong J:  
Chewing cycle counter and eye blink counter as the advanced application of face recognition technique S259

## **Poster Sessions**

### **Computer Assisted Radiology - 27th International Congress and Exhibition**

Chu C, Hayashi Y, Nimura Y, Oda M, Misawa K, Kitasaka T, Rueckert D, Mori K:  
Construction of local probabilistic atlas based on relationship between organ location and its application to pancreas segmentation S263

Kolokythas O, Osman S, Zaidi S, Peguero Alemany L, Bastawrous S, Tornow A, Mitsumori L, Cuevas C, Bhargava P, Phillips G, Dighe M, Sadro C, Lalwani N, Coy D:  
The liver imaging atlas: an interactive E-learning tool for liver imaging S264

Hoevels M, Treuer H, Hunsche S, Luyken K, Ruge M, El Majdoub F, Maarouf M:  
Comparison of overall accuracy in Linac- and cyberknife-radiosurgery S265

Zhou C, Bauer J, Brons S, Moustafa M, Dai Y, Debus J, Abdollahi A, Cao L:  
Development of non-invasive CT scan based monitoring in studying pulmonary toxicity induced by whole thoracic irradiation S265

Wiessalla S, Kulkarni HR, Schuchardt C, Baum RP, Blackner M:  
The usage of deformable phantoms for personalized dosimetry in radionuclide therapy S266

Dürichen R, Wissel T, Schweikard A:  
Optimized order estimation for autoregressive models to predict respiratory motion S267

Ohya T, Iwai T, Mitsudo K, Kato T, Kanazawa N, Wang J, Liao H, Kobayashi E, Sakuma I, Tohnai I:  
Comparative evaluation study for centerline and straight-line length of the external carotid artery based on 3D-CT angiography S268

Nie Y, Luo Z, Cai J, Gu L:  
Segmentation of aortic valve from ultrasound image based on probability estimation S269

Lupi G, Chiellini F, Puppi D, Lo Presti G, Ferrari V, Ferrari M, Caramella D, Vannozzi R:  
Rapid prototyping of cerebral arteries: a perfect scenario to develop innovative endovascular devices S270

Fetnaci N, Łubniewski P, Miguel B, Lohou C:  
Indicators for lumens distinction on 3D CT aortic dissection images S271

Pietsch M, Mollus S, Saalbach A, Wächter I, Böring Y-C, Grünig S, Neizel M, Sievers B, Balzer J, Kelm M, Weese J:

**Multiple parameter optimization of coronary artery ostia finder in cardiac MRI S273**

Chiarini A, Crimi G, Ribatto L, Di Cosmo G, Testi D: **Reconstruction of vessels physiological shape for quantification of stenosis in peripheral vascular diseases S274**

Machtoub G: **Innovative 3D model for early diagnostics of cerebrovascular disorders S275**

Wilhelm D, Reiser S, Kohn N, Witte M, Leiner U, Mühlbach L, Ruschin D, Reiner W, Feussner H: **Comprehensive evaluation of latest HD 2D/3D laparoscopic monitors and comparison to a custom built 3D mirror based display and a prototype autosteoreoscopic 3D monitor S276**

Nimura Y, Nakamura Y, Hayashi Y, Kitasaka T, Furukawa K, Misawa K, Mori K: **Automatic abdominal lymph node segmentation based on radial structure tensor analysis S276**

Lübke D, Gerhardt J, Grozea C: **Low-latency deformable registration for focused ultrasound treatment S278**

Zarychta P: **Computer visualization of the posterior cruciate ligament S279**

Holtzhausen S, Schöne Ch, Aschoff R, Schild M, Meissner H, Sembdner P, Stelzer R: **3D scanning of chronic wounds and scars for documentation and archiving of the therapy process S280**

Qian K, Ando T, Nakamura K, Liao H, Kobayashi E, Sakuma I: **Evaluation of circulating blood volume using ultrasound imaging of the internal jugular vein S281**

Lebret A, Kenmochi Y, Hodel J, Rahmouni A, Decq P, Petit E: **Relief Map of the upper cortical subarachnoid space S282**

Yen P-L, Fan R-H, Chen D, Chu Y-J, Hsu H-C: **Design and construction of 3D breast tumor phantoms for studying morphological effects on biomechanical properties S284**

Mercea P, Fedorov A, Pieper S, Beichel R, Park M-A, Hainer J, Foley Kijewski M, Horky L, Kikinis R, Dickhaus H: **Quantification of longitudinal tumor changes using PET imaging in 3D slicer S285**

Zhang L, Wu M, Luo S: **High resolution 3D imaging of lung cancer mice in vivo and in situ using phase contrast imaging S286**

Wang J, Sakuma I, Liao H: **A hybrid flexible rendering pipeline for real-time 3D medical imaging using GPU-accelerated integral videography S287**

Hanaoka S, Masutani Y, Nemoto M, Nomura Y, Miki S, Yoshikawa T, Hayashi N, Ohtomo K: **Sparse Gaussian graphical model estimation for spatial distribution of multiple anatomical landmarks in the human body—application to an automatic landmark detection system S288**

Rusinek H, Glodzik L, Mikheev A, Zanotti A, Li Y, de Leon M:

**Fully automatic segmentation of white matter lesions: error analysis and validation of a new tool S289**

Larhammar MA, Benjelloun M, Mahmoudi S: **A model-based approach for cervical spine mobility analysis S291**

Hajiesmaeli M, Dehmeshki J, Ellis T: **Modification of level set hippocampus segmentation results using partial volume effects correction S292**

He L, Vannier MW: **Evaluation of non-contrast head CT images obtained with different reconstruction methods using texture analysis S292**

Jeong J-W, Yu D, Lee S: **Mass detection and classification algorithm on three-dimensional breast ultrasound images using the hough transform S293**

Xie Y, Padgett J, Biancardi AM, Reeves AP: **Automated aorta segmentation in low-dose CT images S294**

Santhanam A, Min Y, Neylon J, Dou H, Shah A, Meeks S, Patrick Kupelian: **A GPU-based framework for 4D-CT lung registration S296**

Xie W, Franke J, Chen C, Grützner PA, Nolte L-P, Zheng G: **Statistical model-based femur segmentation in digital anteroposterior (AP) pelvic radiographs S297**

Melnik S, Kaeseberg M, Keeve E: **Accelerating medical algorithms on heterogeneous systems S297**

Stender B, Blanck O, Wang B, Schlaefer A: **An active shape model for porcine whole heart segmentation from multi-slice computed tomography S299**

Demirović D, Šerifović-Trbalić A, Cattin Ph: **Bilateral filter regularized accelerated demons for better discontinuities registration S299**

Šerifović-Trbalić A, Demirović D, Cattin PC: **Intensity-based hierarchical elastic registration using approximating splines S300**

Huang Y-L, Chen D-R, Chen P-N: **Tumor grade estimation for breast cancer in 3D ultrasound imaging S301**

Ma H, Coradi T, Szekely G, Haas B, Goksel O: **Supervised learning with global features for image retrieval in atlas-based segmentation of thoracic CT S302**

Juszczak J, Piętka E: **Automatic generation of initial points for CT abdominal organ segmentation S303**

Zhang Y, Chen M, Huang W, Hu Q: **Detection and quantification of intracerebral hemorrhage from computed tomography images with adaptive thresholding and case-based reasoning S304**

Schenk J-P, Giebel SM: **Statistical shape analysis of retroperitoneal tumors in childhood S305**

Wang B, Wang Q, Fan X, Dong B, Yang Y, Wang M, Ming J, Gu L:  
**Segmentation and visualization of pulmonary nodules in CT images based on 3D fast marching and template matching S306**

Liauchuk V, Kovalev V, Safonau I, Stsepankou D, Hesser J:  
**CT Image reconstruction with the Co-occurrence matrix similarity as regularization term S307**

Yoshikawa R, Miyajyo S, Teramoto A, Fujita H, Ozaki K, Yamamoto O, Ohmi K, Nishio M:  
**Automated scheme for the analysis of invasive regions of breast tumour using breast MR images S308**

Yamazaki T, Tomita T, Sato Y, Yoshikawa H, Sugamoto K:  
**Accurate 3D measurement of normal knee kinematics using dynamic flat-panel detector images S309**

Shinaji T, Toporek G, Wallach D, Kettenbach J, Weber S, Haneishi H:  
**Navigated needle insertion using a robotic aiming device: preliminary phantom evaluation S310**

Cazzato RL, Grasso RF, Faiella E, Luppi G, Schena E, Giurazza F, Del Vescovo R, D'Agostino F, Beomonte Zobel B:  
**Percutaneous lung biopsy: comparison between an augmented reality CT navigation system and standard CT-guided technique S312**

Giurazza F, Schena E, Saccoccanti P, Del Vescovo R, Cazzato RL, Panzera F, Martino M, Di Matteo FM, Grasso FR, Zobel BB:  
**Theoretical and experimental assessment of temperature distribution on pancreas during Laser Interstitial Thermotherapy (LITT) S313**

Giurazza F, Del Vescovo R, Schena E, Saccoccanti P, Mortato L, Cazzato RL, Di Matteo FM, Grasso FR, Zobel BB:  
**Assessment of laser power influence on ablation volume during laser-induced thermotherapy in ex vivo swine livers: a preliminary study S314**

Henken K, Dankelman J, van den Dobbelaer JJ:  
**Steerable needle with an actuated tip S315**

Frosio I, Bianconi D, Borghese NA:  
**Comparison of data acquisition strategies for tomographic reconstruction with an ortho-panoramic system S315**

Stopp F, Wieckowski AJ, Engel S, Fehlhaber F, Käseberg M, Keeve E:  
**The geometric calibration of an open cone-beam CT system for arbitrary scanning trajectories S317**

Hyodo T, Kudo M, Lamb P, Mendonça PRS, Okada M, Yada N, Maenishi O, Ishii K, Murakami T:  
**Quantitative Assessment of Liver Fat with Dual Energy CT: Comparison with MR Spectroscopy S318**

Gomi T, Nakajima M, Umeda T, Takeda T, Okawa A:  
**Comparison of digital tomosynthesis and computed tomography to evaluate prosthesis: a study on the phantom S319**

Abe K, Takeo H, Donomae Y, Kuroki Y, Nagai Y:  
**Measuring pleural fluid volume from CT image S320**

Tanaka J, Nagashima M, Kido K, Nagatsuka S, Momose A:

**Cadaveric and in vivo human joint imaging based on differential phase contrast by X-ray Talbot-Lau interferometry S321**

Tanaka R, Sanada S, Oda M, Suzuki M, Sakuta K, Kawashima H, Iida H:  
**Functional chest radiography with a portable dynamic FPD: Detection of blood flow impairment based on "Circulation map" during cardiac pumping S322**

Fatahi M, Immel E, Cox B, Boyd R, Melzer A:  
**MR-enhancement imaging of stent-less aortic valve conduit S323**

Summers R, Munoz H, Yao J, Burns J, Choyke P, Kurdziel K:  
**Automated detection of vertebral osteophytosis on [18F]-NaF PET/CT S324**

Thiering B, Nagarajah J, Lipinski H-G:  
**Virtual scintigraphy: a computerized method to assist the interpretation of thyroid scintigrams S325**

Ishii K, Ito K, Nakanishi A, Kitamura S, Kageyama H, Terashima A:  
**Computer-assisted system for diagnosing degenerative dementia using cerebral blood flow SPECT and 3D-SSP: a Multicenter Study S327**

Hall N, Byrum E, Zhang J, Agrawal A, Povoski S, Knopp M:  
**Dynamic acquisition SPECT/CT for quantitative evaluation of time activity curves in head and neck cancer lymphoscintigraphy: Potential benefits for intraoperative sentinel lymph node resection S327**

Robertson M, Hall N, Zhang J, Wright C, Khabiri H, Knopp M:  
**Multi-modality computer assisted quantification of radiopharmaceutical distribution and prediction of response to therapy in <sup>90</sup>Y microsphere radioembolization S328**

Cho JY, Lee MS, Kim SH:  
**Ultrasonographic differentiation of small angiomyolipoma from renal cell carcinoma by measurement of relative echogenicity on PACS S329**

Kastrop M, Winne C, Keeve E:  
**Real-time reconstruction and visualization of navigated 3D ultrasound images S330**

Sboarina A, Perandini S, Fenzi A:  
**An improved method for hepato-renal ratio assessment in the diagnosis of hepatosteatosis: a feasibility study S331**

Tomikawa M, Akahoshi T, Oda M, Kumashiro R, Uemura M, Ieiri S, Mori K, Hashizume M:  
**Catheterization for balloon-occluded retrograde transvenous obliteration guided by fly-through module of New Virtual Endoscopic System S332**

Ban Y, Abe K, Donomae Y, Takeo H, Takahashi Y, Nagai Y:  
**Development of an assisted diagnostic system for retinopathy that applies temporal subtraction to funduscopy images S333**

Wieclawek W, Rudzki M:  
**Detection of retina NFL and RPE layers  
in OCT images S334**

Yasser A, Miftahof R:  
**Anatomical Dependence of Stress–Strain States  
in the Human Stomach S335**

Unterhinninghofen R, Talanow R, Rengier F, Doll S,  
Giesel F:  
**Browse the Human in 3D view on tablets—Web-based  
software tool AnatomyMap serves educational purposes  
particular in pre-clinical teaching environment S336**

## **17th Annual Conference of the International Society for Computer Aided Surgery**

Novak Z, Riha I, Chrastina J, Strmiska Z, Feitova V:  
**Postoperative dynamics of cerebrospinal fluid  
expansions volume and treatment implications S337**

Stroop R, Schmieder K, Schoukens J, Oliva Uribe D:  
**Real time capable tactile sensor for brain tissue  
differentiation S337**

Schoovaerts F, Kamouni R, Leloup T, Massager N,  
De Witte O:  
**Fast and accurate digital localization of stimulation  
electrodes in a frame-based Parkinson's disease  
surgical procedure S338**

Mukae N, Cho B, Inoue D, Kikkawa Y, Nakamizo A,  
Yoshimoto K, Mizoguchi M, Hashizume M, Sasaki T:  
**A real-time guidance navigation system of the distance  
and the directions for the important neurological  
structures and the tumor margin S339**

Amarathunga J, Schuetz M, Yarlagadda P, Schmutz B:  
**Automated quantitative fit assessment of tibial  
nail designs during insertion using 3D computer  
modelling S340**

Hawi N, Liidakis E, Musolli D, Suero EM, Krettek C,  
Kleiner C, Ahlers V, Citak M:  
**Measuring range of motion by using Microsoft  
Kinect system for shoulder and elbow joint: a pilot  
study S341**

Mitsui H, Iguchi H, Yamamoto S, Arachi T, Takeichi Y,  
Motai H, Watanabe N, Nozaki M, Takikawa C, Otsuka T:  
**Introduction of collapsible elements for finite element  
analysis on hip prosthesis design S342**

Tamaki M, Yamazaki T, Tomita T, Miyamoto T,  
Sugamoto K:  
**The 3D preoperative planning and component  
alignment in total knee arthroplasty S343**

Wiggers JK, Jonges R, Goslings JC, Streekstra GJ,  
Schep NWL:  
**Surgical accuracy in identifying elbow axis  
rotation S344**

König B, Döbele S, Schäffler A, Stöckle U, Freude T:  
**Optimal three dimensional radius shaft correction  
osteotomies with patient-specific CT-based  
templates S345**

Dirhold BM, Torsten J, Reichelt A, Krettek C, Citak M,  
Meller R, Stübig T:  
**Navigated versus arthroscopic-guided drilling for  
reconstruction of acromio-clavicular joint injuries:  
Accuracy and feasibility S346**

Liu W, Holzwarth F, Adolphs N, Hoffmeister B, Keeve E:  
**A novel concept of intelligent parametric modeling  
of surgical splint based on clinic empirical assessment  
in orthognathic surgery S347**

Kunz M, Stewart J, Rudan JF, Kratky V:  
**Faster intraoperative localization of posterior  
orbital tumours using a patient-specific instrument  
guide S348**

Oda M, Acar B, Furukawa K, Kitasaka T, Suenaga Y,  
Navab N, Mori K:  
**Colonoscope tracking method based on line registration  
using CT images and electromagnetic sensors S349**

Tran H, Cavallotti C, Vatteroni M, Menciassi A:  
**Flexible electro-optical characterization system for  
endoscopic imagers S351**

Bergen T, Nowack S, Münenzmayer C, Wittenberg T:  
**A hybrid tracking approach for endoscopic real-time  
panorama imaging S352**

Inoue D, Yoshimoto K, Uemura M, Yoshida M, Ohuchida K,  
Kenmotsu H, Tomikawa M, Sasaki T, Hashizume M:  
**Three-dimensional high-definition neuroendoscopic  
surgery: a controlled comparative study with  
two-dimensional endoscopy and clinical  
application S354**

Cho B, Lee H, Oka M, Matsumoto N, Hashizume M:  
**A minimally invasive registration method using PMP  
technique for image-guided otologic surgery S354**

Oka M, Cho B, Matsumoto N, Komune S, Hashizume M:  
**Surgical navigation system for exact cochleostomy  
in cochlear implant surgery S355**

Wimmer W, Guignard J, Gerber N, Kompis M, Weber S,  
Caversaccio M:  
**A preoperative planning method for Bonebridge  
implantations using surface distance maps S356**

Yoon H-S , Yi B-J, Jeong JH, Chung Y-S:  
**A dual-arm robotic system for sinus surgery S357**

Heinrich A, Guettler F, Sonnabend M, Krauss P,  
Guentermann J, Teichgraeber U:  
**Development of an MRI-compatible tracking system:  
Interference of RFID with MRI S358**

Last C, Namueangrak T, Westphal R, Rilk M,  
Eichhorn KWG, Bootz F, Wahl FM:  
**An approach towards the automatic extraction  
of critical structures from CT-Data for endoscopic  
sinus surgeries S359**

Litvin A, Filatov A, Khokha D, Litvin V:  
**Three-dimensional reconstructions in pancreatic  
necrosis using CT data S360**

Erol Barkana D, Ozkan M, Goksel Duru D, Duru AD:  
**Applying human factors for design of a kidney tumor  
cryoablation surgical interface S361**

Nishio K, Ishii T, Kawamura K, Igarashi T:  
**An automatic target tracking system in laparoscopic  
surgery by direct extraction of forceps motion S362**

Ohuchida K, Ieiri S, Nagai E, Kumashiro R, Tomikawa M,  
Tanaka M, Hashizume M:  
**Basic evaluation and clinical significance of 3-dimensional  
system in laparoscopic surgery S363**

Reghelin C, Dall'Alba D, Fiorini P:  
**Real-time markerless trocar pose acquisition with RGB-D sensor S364**

Marcinczak JM, Kumar S, Grigat R-R:  
**Detection of lymphangiectasia in laparoscopic images: a semi-interactive approach S365**

Shahin O, Kleemann M, Schlaefer A:  
**Monitoring tumor location in navigated laparoscopic liver surgery S366**

Schullian P, Widmann G, Haidu M, Weiss H, Bale R:  
**Liver packing as a viable option in CT-guided stereotactic radiofrequency ablation of anatomical difficult liver tumors S367**

Romanov D:  
**Comparative characteristics of application of rapid prototyping in pediatric maxillofacial surgery S368**

Takeichi Y, Motai H, Iguchi H, Tada H, Takikawa C, Yokoo K:  
**Hydroxyapatite block custom made by CNC machine with 3-D CAD can achieve accurate reconstruction of facial deformity with very small bone defect S368**

Arata J, Kogiso S:  
**Monolithically designed minimally invasive surgical tool using compliant mechanism S369**

Horst G, Roppeneccker DB, Lueth TC, Ulbrich H:  
**Design of a disposable solid-state bending section for minimally invasive surgery S371**

Kim KG, Sohn DK, Kim SK  
**A semi-automatic operatin Robotic NOTES System using snake Algorithm S372**

Cho JY, Yoo DH, Kim SY, Kim SH:  
**Transabdominal high intensity focused ultrasound therapy of the prostate and determination of the protective effect of rectal cooling: an experimental study using canine prostate S373**

Monserrat C, Lucas A, Hernández-Orallo J, Rupérez MJ, Alcañiz M:  
**Interactive evaluation of surgery skills in surgery simulators: A new method based on string matching algorithms S373**

Zakani S, Rudan J, Ellis R:  
**Intra-articular soft tissues affect hip kinematics S374**

Hui Y, Safir O, Dubrowski A, Carnahan H:  
**What skills should simulation training in arthroscopy teach residents? A focus on resident input S375**

Wu F, Chen X, Wang C, Qin J, Heng P-A:  
**Simulation of tissue deformation for maxillofacial surgery training based on virtual reality S376**

Rasquinha B, Rudan J, Wood G, Ellis R:  
**Aspherical morphology of the osteoarthritic hip: two arthritic pathologies S377**

Gasperotti L, Grespan L, Scandola M, Vezzaro L, Zerbato D, Fiorini P:  
**Toward a new approach to surgical planning S378**

Singapogu R, Long L, Burg T, Pagano C, Smith D, Kwartowitz D, Burg K:  
**Examining the learning curve on a novel haptic simulator for laparoscopic surgical skills S379**

Chen E, Bainbridge D, Peters T:  
**A magnetically tracked needle navigation platform S380**

Maris B, Dall'Alba D, Fiorini P, Ristolainen A, Li L, Gavshin Y, Barsi A, Adhikarla VK:  
**A phantom study for the validation of a surgical navigation system based on real-time segmentation and registration methods S381**

Sato I, Suzuki T, Masamune K, Fujino Y:  
**Wi-Fi 3D optical tracking system for surgical navigation system S382**

Jang SH, Lee H-Y, Cho JY, Lee SH:  
**Novel method for setting up a 3D navigation system with skin-fixed dynamic reference frame in anterior cervical surgery S383**

Kawai T, Shin M, Horise Y, Nishikawa A, Nishizawa Y, Nakamura T:  
**Mobile-type locally operated detachable end-effector manipulator for laparoscopic surgery S384**

Gavaghan KA, Gerber N, Williamson TM, Caversacio M, Bell B, Weber S:  
**Case specific error prediction and feedback for the improved safety of image guided autonomous robots for microsurgery S386**

Jang J, Ko SY, Park S, Park J-O, Shin S, Kim HW, Kim YS:  
**Development of an endoscopic tele-surgical robotic system (ETRS) for brain tumor removal with a safety monitoring method S387**

Yoshimitsu K, Jayender J, Song S, Hata N:  
**Design optimization for MRI-compatible robotic catheter using novel four-wire driven approach S388**

Hwang M-H, Kwon D-S, Kim J-H:  
**Miniaturized force transducer for minimally invasive surgical instrument S389**

Sadjadi H, Hashtrudi-Zaad K, Xu H, Fichtinger G:  
**Experimental evaluation of needle deflection estimation for brachytherapy S391**

Korb W, Geissler N, Strauss G:  
**A concept for a new working training culture for CAS research teams S392**

Schneider A, Schwan E, Kranzfelder M, Wilhelm D, Vogel T, Feussner H:  
**A RFID system for automated instrument recognition for a precise identification of the intraoperative workflow S392**

Kim J, Choi J, Woo D, Son S, Lee C, Jung S:  
**Development of a slim robotic surgery manipulator for arthroplasty S393**

Kwon Y-S, Tae K, Yi B-J:  
**A new surgical procedure using a curved-frame based trans-oral robotic system S394**

### **31st International EuroPACS Meeting**

Rezaei M, Tajeripour F:  
**Automatic retrieval of medical images S397**

Calabrez L, Ponciano-Silva M,  
Mazzoncini de Azevedo-Marques P:  
**Pattern recognition of diffuse lung disease in HRCT  
for content-based image retrieval and computer-aided  
diagnosis S398**

Verhelle F, Goossens P, Van den Broeck R, Willekens I,  
Ernst C, Kellen J, de Mey J:  
**Delivering radiology applications to privately  
own devices (BYOD) as a strategic approach S399**

Umeda T, Yashima T, Okawa A, Gomi T, Miwa K,  
Yamamoto S:

**Development of an information hiding system  
for CT images using digital watermarking  
technologies: insurance of copyright, privacy,  
and safety of patient information S400**

Verhelle F, Goossens P, Van den Broeck R,  
Decoster R, Willekens I, Ernst C, Kellen J,  
de Mey J:  
**The impact on workflow by the deployment  
of a hybrid radiology environment in a collaborative  
network, an evaluation S401**

Ghosh-Ray S, Johnson P:  
**Assessing productivity at a time of change S402**

### **15th International Workshop on Computer-Aided Diagnosis**

Roberts H:  
**Assessing the reproducibility of computer assisted  
lung nodule volume measurements on serial  
CT scans S403**

Kawagishi M, Aoyama G, Yakami M, Fujimoto K,  
Kubo T, Sakamoto R, Emoto Y, Iizuka Y, Yamamoto H,  
Togashi K:

**A study of automatic inference-model construction  
with the reasoning disclosure function S403**

Schiabel H, Menechelli R:  
**Automated characterization of secondary signals  
of breast cancer to compose a module from a CADx  
scheme S404**

Kage A, Mühlendorfer S, Bergen T, Münzenmayer C,  
Wittenberg T:  
**The importance of image quality assessment  
for the creation of reference image collection for  
computer-assisted diagnosis in colonoscopy S405**

Wu C-C, Lai H-Z, Lin M-H, Su J-L:  
**The development of computer-aided diagnosis system  
for pancreatic tumor in CT images and ultrasound  
images S407**

Di Giovanni P, Zamboni G, De Piccoli M, Fiorini P:  
**A semi-automatic localization method for the detection  
of hyper-vascular pancreatic tumors S408**

Jayender J, Gombos E, Chikarmane S, Jolesz F:  
**Segmenting breast carcinomas from DCE-MRI using  
time series analysis S410**

### **19th Computed Maxillofacial Imaging Congress**

Park H-K, Kim M-K, Kang S-H:  
**The impact of the small bite impression material  
without tray in the replacement of computed  
tomography with 3D light-scanned dental images  
using impression material S411**

Peltonen E, Suilamo S, Saunavaara J, Peltomaki T,  
Svedstrom E:  
**Visualization of temporomandibular joint based on the  
cone beam computed tomography—magnetic resonance  
imaging (CBCT-MRI) image fusion S411**