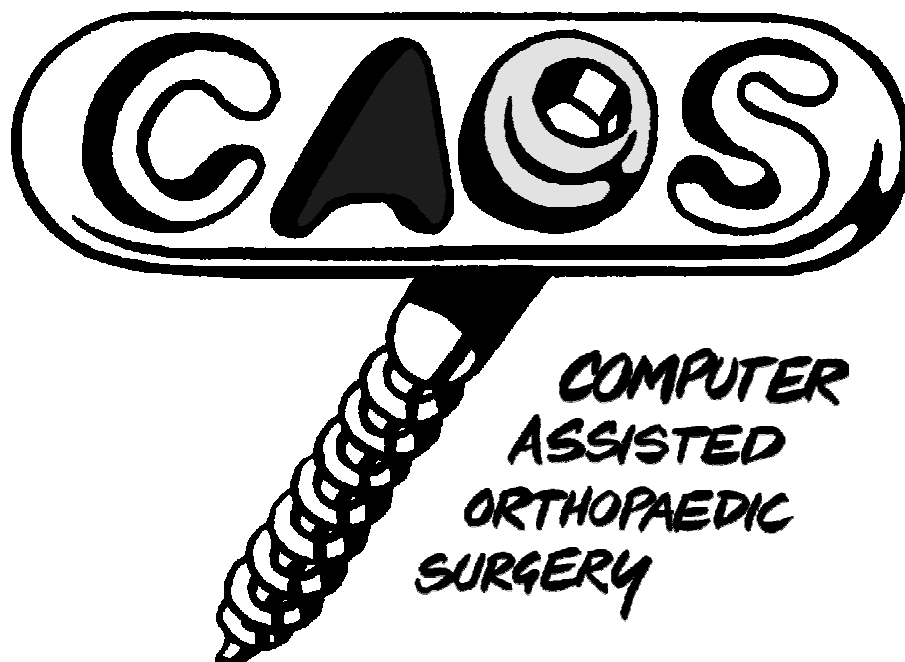


The Millennium Symposium on



February 17 – 19, 2000



Convention Center

Switzerland

Final Program

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University Hospital, Innsbruck, A

The Meeting at a Glance

THURSDAY, FEBRUARY 17:

19.00	Welcome Reception & Pre-registration	4
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FRIDAY, FEBRUARY 18:

8.00	Session I – Total Knee Replacement.....	4
9.10	Session II – Total Hip Replacement, Part 1: Free-hand Navigation	4
10.40	Session III – Reconstructive Knee Surgery.....	5
13.00	Session IV – Spinal Interventions	5
15.10	Session V – Poster Session, Part 1	6
	Special Poster Presentations, Part 1	7
16.10	Workshops.....	8
20.00	Conference Banquet	8

SATURDAY, FEBRUARY 19:

All-day event: Trip to St. Moritz for accompanying persons

7.00	Special Event: Inaugural Meeting of ISCAOS	9
8.00	Session VI – Emerging Technology.....	9
9.40	Session VII – Total Hip Replacement, Part 2: Robotics	9
12.10	Guest Lecture	10
12.30	Session VIII – Pelvic Surgery	10
13.40	Session IX – Poster Session, Part 2.....	10
	Special Poster Presentations, Part 2.....	12
14.40	Session X – Special CAOS Applications.....	12
16.10	Session XI – Treatment of Long Bones	13
17.30	Closing	13
17.45	End of the Millennium CAOS-Symposium	

Thursday, February 17, 2000

- 19.00 Welcome reception
Pre-registration

Friday, February 18, 2000

- 7.00 Continental breakfast
On-site registration
- 7.45 Welcome and introduction to the Millennium CAOS-Symposium
L.-P. Nolte

Session I – Total Knee Replacement

Chairmen: D. S. Stulberg and M. Sati

- 8.00 Total knee replacement using the CASPAR-system
R. Kober, D. Meister
- 8.10 Computer assisted total knee arthroplasty
M. Kunz, M. Sati, L.-P. Nolte, J. M. Strauss, W. Rütther, K. Bernsmann
- 8.20 DISCUSSION
- 8.30 Robot assisted registration for total knee replacement
D. Glozman, M. Shoham
- 8.40 Computer assisted knee replacement – Location of a rotational center of the knee
F. Picard, F. Leitner, O. Raoult, D. Saragaglia
- 8.50 Computer integrated navigation in knee arthroplasty – A prospective comparative study using conventional computer aided instrumentation
U. Clemens, R. K. Miehle, S. Kershally
- 9.00 DISCUSSION

Session II – Total Hip Replacement, Part 1: Free-hand Navigation

Chairmen: M. Börner and F. F. Hennig

- 9.10 Mechanical acetabular alignment guides: Inherent inaccuracy
A. M. DiGioia, B. Jaramaz, J. E. Moody, C. Nikou, R. S. LaBarca
- 9.20 Reduction in the variability of acetabular cup positioning using computer assisted surgery
D. Vandeveld, G. Mahieu, R. Nuyts
- 9.30 Accuracy of computer assisted cup placement in clinical routine use
K. Bernsmann, U. Langlotz, M. Tannast, B. Ansari
- 9.40 DISCUSSION
- 9.50 Development of femoral guidance and intraoperative range of motion simulation for the HipNav system
R. S. LaBarca, B. Jaramaz, A. M. DiGioia, C. Nikou, L. Cassenti

- 10.00 A novel system for complete THR planning and intraoperative free-hand navigation
U. Langlotz, F. Langlotz, D. Hoigné, U. Rohrer, L.-P. Nolte
- 10.10 DISCUSSION
- 10.20 COFFEE BREAK

Session III – Reconstructive Knee Surgery

Chairmen: W. Rüther and S. Lavallée

- 10.40 Computer-assisted ACL reconstruction surgery: “High tech” does not necessarily mean “high complexity”
F. Picard, J. Moody, B. Jaramaz, A. M. DiGioia
- 10.50 Clinical application of new computer assisted technology for anatomic ACL reconstruction under arthroscopic control
H.-U. Stäubli, M. Sati, S. Käsermann, Y. Bourquin, M. Kunz, L.-P. Nolte
- 11.00 The CASPAR-system (Computer Assisted Surgery Planning And Robotics) in the reconstruction of the ACL. First follow-up results
J. Petermann, M. Schierl, P. F. Heeckt, L. Gotzen
- 11.10 DISCUSSION
- 11.20 Computer-assisted placement of a double-bundle ACL through 3D fitting of a statistically-generated template into individual knee geometry
A. B. Wymenga, M. Sati, J. W. H. Luites, Y. Bourquin, L. Blankevoort, R. van der Venne, J. G. M. Kooloos, H.-U. Stäubli
- 11.30 Visualization of the effects of varying anterior cruciate ligament lengths using the total reachable workspace
J. E. Fuller, A. Omeltchenko, J. Butler, M. C. Murphy
- 11.40 Multi-center experiences with free-hand ACL replacement
K. Bernsmann, A. Rosenthal, J. Cassens
- 11.50 DISCUSSION
- 12.00 LUNCH BUFFET

Session IV – Spinal Interventions

Chairmen: K. T. Foley and F. Langlotz

- 13.00 Computer simulations of scoliotic spine instrumentation
C.-É. Aubin, F. Poulin, I. A. F. Stokes, M. Gardner-Morse, Y. Petit, F. Verniest
- 13.10 Computer planning and guided placement of pedicle screws for scoliosis surgery
G. Mahieu, J. Sys, D. Vandeveld, J. Michielsen
- 13.20 Accuracy of pedicle screw insertion with and without computer assistance – A randomized controlled clinical study in 100 consecutive patients
T. Laine, T. Lund, M. Ylikoski, J. Lohikoski, D. Schlenzka
- 13.30 DISCUSSION
- 13.40 CAS in transpedicular- and C1/2-transarticular instrumentation of the cervical spine – An in-vitro feasibility study
M. Richter, S. Neller, P. Kluger

- 13.50 Spinal navigation in cervical fractures
F. Gebhard, E. Hartwig, L. Kinzl, M. Arand
- 14.00 Virtual fluoroscopy for cervical spine surgery
K. T. Foley, Y. R. Rampersaud, D. A. Simon, T. H. Jansen
- 14.10 DISCUSSION
- 14.20 Radiation exposure during fluoroscopically-assisted pedicle screw insertion
Y. R. Rampersaud, K. T. Foley, A. C. Shen, S. Williams, M. Solomito
- 14.30 Fluoroscopy guided navigation of pedicle screws – Early clinical experiences
U. Berlemann, P. Heini, M. Sati, L.-P. Nolte
- 14.40 Spinal navigation in tumor surgery of the thoracic spine
M. Arand, E. Hartwig, L. Kinzl, F. Gebhard
- 14.50 DISCUSSION
- 15.00 COFFEE BREAK

Session V – Poster Session, Part 1

- 1) Advances in 3D surgical navigation: Virtual fiducial point registration and continuous monitoring of target registration error
G. A. Brown, K. Firoozbakhsh, B. F. Milner, M. Crawford
- 2) The UNICAL goniometer, a fundamental tool in computer aided fixation and virtual reality representation of the operatory theater
G. A. Danieli, G. Fragomeni, E. Giuzio, O. La Ferla
- 3) HipNav: A complete surgical navigation system for THR
A. M. GiGioia, B. Jaramaz
- 4) Virtual fluoroscopy improves lumbar pedicle screw placement accuracy
K. T. Foley, R. L. Sahjpaul
- 5) Investigations on knee joint kinematics with respect to computer assisted knee surgery
H. Mannel, S. Gillner, L. Dürselen, L. Claes
- 6) Minimally invasive screw insertion in the spine and pelvis using autoregistration
N. Glossop, R. Hu
- 7) Networking surgical simulation for training and evaluation
S. A. W. Grange, J. Cooper, T. D. Bunker
- 8) Simulator and distal targeting device for in-vitro experimentation and training in computer-aided closed medullary nailing
L. Joskowicz, C. Milgrom, A. Simkin, S. Kimchi, Z. Yaniv, O. Sadowsky
- 9) Computer-aided correction of bone deformities
P. Keppler, F. Gebhard, D. Moskalenkov, J. Hesser, R. Männer, L. Kinzl
- 10) Robotically assisted laparoscopic anterior lumbar interbody fusion
G. L. Lowery, S. S. Kulkarni
- 11) Design and test of a robot for orthopaedic surgery
A. Malvisi, R. Valleggi, M. Marcacci, S. Martelli, G. Bioli
- 12) Bone milling: Comparison of the temperature elevation and clinical performances during cutting
A. Malvisi, P. Vendruscolo, F. Morici, F. Iacono

- 13) Advantages of computer assisted pedicle screw insertion
U. März, J. Mehrkens
- 14) New image-guided angled rongeur for posterior discectomy in patients with lumbar disc herniation
K. Ohmori, Y. Kawaguchi, M. Kanamori, H. Ishihara, T. Kimura
- 15) Computer aided surgery software as a research tool in biomechanics
T. E. Orr, T. Beutler, U. Langlotz, B. Szilard, P. A. Cripton, L.-P. Nolte
- 16) The mesh-matching algorithm: Automatic generation of 3D meshes for patient-specific finite element models of the femoral head
Y. Payan, B. Couteau, S. Lavallée
- 17) Quality improvement in total hip arthroplasty through 3D computer assisted planning
R. Petzold, S. Meller, R. P. Pitto, J. Freund, W. A. Kalender
- 18) Computer-assisted knee surgery – Location of a rotational center of the ankle
F. Picard, Y. Tourne, F. Leitner, O. Raoult, D. Saragaglia
- 19) Computer-assisted CT-image based operation planning for repositioning osteotomies
F. Portheine, K. Radermacher, A. Zimolong, H.-W. Staudte
- 20) 3D-visualization for planning in musculo-skeletal tumor surgery
J. A. Richolt, L. Hovy, M. C. Gebhardt, R. Kikinis
- 21) Analysis of carpal indices using digitally reconstructed radiographs
C. Robertson, P. Fenton, R. E. Ellis, C. F. Small, D. R. Pichora
- 22) Cross departmental use of a CAS system: 3 years of clinical experience
D. Vandeveld, G. Mahieu, J. Verstreken
- 23) Computer-assisted compression hip screw placement
W. J. Viant, M. S. Bielby, M. N. Chawda, R. Phillips, A. M. M. A. Mohsen, K. P. Sherman
- 24) User-interface and input device for the CRIGOS surgical robot
A. Zimolong, K. Radermacher, M. Mengel, D. Friedrichs, G. Rau

15.15 **Special Posters, Part 1**

Moderated oral presentations and interactive discussions at the poster booths. The following eight posters will be presented in two parallel sessions.

Chairmen: B. Davies and R. Wetzel

- 25) Image-guided surgery: Applications to the cervical and thoracic spine. A review of the first 120 procedures
C. Bolger, W. Wigfield
- 26) Virtual fluoroscopy: Multiplanar x-ray guidance with minimal radiation exposure
K. T. Foley, Y. R. Rampersaud, D. A. Simon
- 27) Computer-assisted planning and simulation of corrective osteotomies in leg
B. Gladbach, J. Pfeil, E. Heijens
- 28) Role of bone impingement after THR
B. Jaramaz, C. Nikou, A. M. DiGioia

Chairmen: C. von Hasselbach and R. Kikinis

- 29) Clinical application of individual templates for pedicle screw placement in comparison to computer navigation
E. Schkommodau, U. Klapper, K. Birnbaum, K. Radermacher, H.-W. Staudte
- 30) Computer assisted pedicle screw placement in the thoracolumbar spine
J. Sys, D. Vandeveld, G. Mahieu, J. Michielsen
- 31) Assessment of magnetic resonance imaging for use in computer assisted spinal surgery
P. M. Tate, M. A. Chapman
- 32) Risk-analysis and safety concept of the CRIGOS surgical robot
A. Zimolong, G. Brandt, K. Radermacher, S. Kaltschmitt

Workshops

- 16.10 The CAOS '99 Workshops provide a comprehensive overview of clinical applications of computer assisted orthopaedic surgery. Seven state of the art CAOS systems are presented to groups of participants by leading experts in the field.

Workshop 1:

Robotic Total Hip Replacement
Moderators: A. Bauer & R. Taylor

Workshop 4:

Robotic Assistance in ACL Replacement
Moderators: J. Petermann & H.-U. Stäubli

Workshop 2:

Image Guided CT & C-Arm Based Spine Surgery
Moderators: K. T. Foley & U. Berlemann

Workshop 5:

Total Knee Replacement
Moderators: U. Clemens & B. Davies

Workshop 3:

Fluoroscopy Based Navigation in Trauma
Moderators: N. Suhm & D. M. Kahler

Workshop 6:

CT Based Navigation in THR
Moderators: U. Langlotz & A. M. DiGioia

Workshop 7:

Free-hand Approach to Knee Ligament Replacement
Moderators: M. Sati & F. Picard

Conference Banquet

- 20.00 The conference banquet will take place in the festively decorated theater of the Davos Congress Center. It is the social highlight of the Millennium CAOS-Symposium and features the presentation of the *Maurice E. Müller Award for Excellence in Computer Assisted Orthopaedic Surgery*.

Saturday, February 19, 2000

Special Event

- 7.00 Inaugural meeting of the International Society for Computer Assisted Orthopaedic Surgery – ISCAOS
Continental breakfast

Session VI – Emerging Technology

Chairmen: G. Székely and R. G. T. Geesink

- 8.00 Nonrigid 3D/2D registration based on statistical shape models and its application to surgical treatment of slipped capital femoral epiphysis (SCFE)
M. Fleute, S. Lavallée, L. Carrat
- 8.10 Bone extraction from ultrasound images and surface matching with CT
F. Gebhard, O. Krivonos, U. C. Liener, P. Keppler, L. Kinzl, J. Hesser
- 8.20 A-mode ultrasound as a tool for non-invasive registration
C. Amstutz, J. Kowal, M. Sati, L.-P. Nolte
- 8.30 DISCUSSION
- 8.40 Dose requirements for CT in CAOS: Are they acceptable?
W. A. Kalender
- 8.50 A microfabricated arthroscopic instrument for measuring the dynamic properties of articular cartilage
K. J. Zanca, M. C. Murphy
- 9.00 Image overlay: A unique visualization tool for minimally-invasive orthopaedic surgery
C. Nikou, A. M. DiGioia, B. Jaramaz, T. Kanade
- 9.10 DISCUSSION
- 9.20 COFFEE BREAK

Session VII – Total Hip Replacement, Part 2: Robotics

Chairmen: R. H. Taylor and R. Gradinger

- 9.40 Comparison of robot versus handbroached THR: A matched pairs study
U. Wiesel, A. Lahmer, M. Börner
- 9.50 Conventional versus computer assisted total hip replacement in clinical practice
J. Decking
- 10.00 The risk of nerve injury through ROBODOC[®]'s distal pin in the medial femoral condyle? An anatomic study of 20 cases
M. Nogler, M. Krismer, H. Maurer, C. Wimmer, K. Gegenhuber, C. Bach
- 10.10 DISCUSSION
- 10.20 Geometric accuracy in computer assisted total hip surgery
J. Schneider, D. Geus, A. Olk, W. A. Kalender

- 10.30 Temperature measurements during the cutting of cement in the ROBODOC® hip-revision procedure
M. Nogler, M. Krismer, C. Wimmer, M. Ogon, K. Khalifa, S. Shimbles
- 10.40 Bone cement removal during revision arthroplasty. Robot vs. manual procedure
M. Krismer, C. Kaufmann, N. Nogler, M. Ogon
- 10.50 Hardware and software requirements for robotically-assisted implantation of an anatomical hip stem. Clinical experiences with the ANTEGA® prosthesis
F. Gossé, K. H. Wenger, K. Knabe, M. Vahldiek, C. J. Wirth
- 11.00 DISCUSSION
- 11.10 LUNCH BUFFET

Guest Lecture

- 12.10 Historical review of computer assisted surgery
R. D. Bucholz

Session VIII – Pelvic Surgery

Chairmen: R. E. Ellis and L. Kinzl

- 12.30 Computer assisted, fluoroscopy based navigation for minimal invasive placement of iliosacral screws in operative treatment of displaced posterior ring ruptures
P. A. Grützner, B. Vock, F. Fernandez, A. Wentzensen
- 12.40 Computer guided placement of iliosacral screws compared to standard fluoroscopic technique
D. M. Kahler, R. D. Zura, K. Mallik
- 12.50 Fluoroscopy based navigation – An experimental study for pelvic screw fixations
U. Stöckle, B. König, M. Sati, L.-P. Nolte, N. P. Haas
- 13.00 DISCUSSION
- 13.10 Clinical experiences with DISOS and individual templates for periacetabular osteotomies
H.-W. Staudte, K. Radermacher, E. Schkommodau, F. Portheine
- 13.20 Navigation of acetabular and pelvis ring fractures
T. Hüfner, J. Lawrence, F. Langlotz, H. Rosenthal, L.-P. Nolte, T. Pohlemann
- 13.30 DISCUSSION

Session IX – Poster Session, Part 2

- 33) Morphological fusion of CT and MRI images for computer assisted surgery
R. Bächler, Q. Hu, M. Sati, L.-P. Nolte
- 34) Ergonomic aspects in computer assisted surgery
A. Bauer
- 35) Posterior thoracic endoscopy for degenerative thoracic disc disease
A. O. Bonati, A. R. Mork, C. R. Wolff, M. Perry
- 36) Intractable cervicogenic headaches, relieved by endoscopic laser cervical discectomy
A. O. Bonati, A. R. Mork, C. R. Wolff, M. Perry

- 37) A prospective uniradiographic method to analyze hip stem migration in THA
C. Fankhauser, M. Rekveldt, B. Gasser
- 38) The CASPAR-system (Computer Assisted Surgery Planning And Robotics) in the reconstruction of the ACL. Motivation and operative procedure
L. Gotzen, M. Schierl, P. F. Heeckt, J. Petermann
- 39) Robot assisted cruciate ligament replacement: A critique
C. O. R. Grüneis, F. F. Hennig
- 40) Preprocessing of MRI with advanced morphological operations
Q. Hu, M. Sati, C. Werner, J. Link, P. Brunner, U. Wark, W. Ruhm, L.-P. Nolte
- 41) Registration using a modified external fixateur system for the pelvis
T. Hüfner, M. Citak, A. Gänsslen, N. Bazak, H. Rosenthal, T. Pohlemann
- 42) Clinical impact of computer assisted cup positioning in total hip replacement
N. Kastner, H. Baumann, R. Windhager
- 43) Experiences with fluoroscopy based navigation for pelvic screw fixation in cadavers
B. König, D. Grohe, A. Würzburg, U. Stöckle, D. Priewe, N. P. Haas
- 44) Computer aided fracture plate fixation
J. Kowal, M. Sati, Y. Bourquin, U. Rohrer, L.-P. Nolte
- 45) The new fixators for metalloosteosynthesis
P. Y. Litvin, O. V. Surcov, M. P. Filkin, V. V. Myroshnikov
- 46) Validation of tunnel drill guide devices and free hand technique for anterior cruciate ligament reconstruction using the Computer Assisted Orthopaedic Surgery system
J. Ménétrey, D. Suva, R. Poggi, M. Sati, P. Genoud, D. Fritschy
- 47) Computer-assisted surgical navigation by using fluoroscopy
P. Merloz, C. Huberson, S. Lavallée, J. Tonetti, S. Plaweski
- 48) Computer-assisted knee replacement – Ergonomic evaluation
F. Picard, Y. Tourne, D. Saragaglia
- 49) Computer based assessment of contact faces for manual registration with individual templates
K. Radermacher, F. Portheine, E. Schkommodau
- 50) Robust surface-based registration for computer-assisted surgery
B. Ma, R. E. Ellis, D. J. Fleet
- 51) A standardized C.A.D. assisted x-ray-hip-measurement and its prognostic reliability to the hipjoint-containment in the final outcome of LCP-disease
M. Schlauer, D. M. Müller, H. Manner, O. Pinggera, H. Altenhuber, F. Grill
- 52) Intra-operative tracking of the trunk during surgical instrumentation of the scoliotic spine
J.-M. Mac-Thiong, H. Labelle, S. Delorme, S. Vandal, C.-É. Aubin
- 53) A novel navigation system for computer-assisted arthroscopic surgery
O. Tonet, G. Megali, P. Dario, M. C. Carrozza, P. F. La Palombara, M. D. Marcacci
- 54) Computer-assisted post-operative audit
W. J. Viant, M. N. Chawda, M. S. Bielby, A. M. M. A. Mohsen
- 55) Efficient integration of a 3D digitizing system and a surgical robot
J. Wahrburg, F. Kerschbaumer

- 56) Efficacy of robot-assisted hip stem implantation. A radiographic comparison of matched-pair femurs prepared manually and with the ROBODOC[®] system using an anatomic prosthesis.
K. Wenger, F. Gossé, K. Knabe, C. J. Wirth
- 57) A feasibility study on computer assisted planning of total knee replacement surgery
K. Wolsiffer, W. A. Kalender

13.45 **Special Posters, Part 2**

Moderated oral presentations and interactive discussions at the poster booths. The following eight posters will be presented in two parallel sessions.

Chairmen: S. L. Delp and D. Vandeveld

- 58) Visual, interactive, computational & anatomic modeling (VICAM) technology in computer-assisted orthopaedic surgery (CAOS)
E. Y. S. Chao, Y. Nakamura, J. Lepisto, M. Armand, J. Elias
- 59) The active constraint robot (ACROBOT) for knee surgery – The second generation
B. Davies
- 60) Is CAOS necessary for the placement of the cup in THR?
A. Lahmer, U. Wiesel, M. Börner
- 61) New advances in computer and robot assisted total knee replacement
M. Marcacci, S. Martelli, L. Nofrini, F. La Palombara, A. Malvisi, F. Iacono, P. Vendruscolo, M. Pierantoni

Chairmen: L. Joskowicz and D. Schlenzka

- 62) Double bundle anatomic ACL-reconstruction with CAS
J. W. H. Luites, A. B. Wymenga, L. Blankevoort, J. G. M. Kooloos, M. Sati
- 63) Computer-assisted TKR planning system
W. Müller, U. Bockholt, A. Lahmer, G. Voss, M. Börner
- 64) Case report: A new computer-assisted technique for distal radius osteotomy
D. R. Pichora, R. E. Ellis
- 65) Computer assisted total hip replacement
R. Wetzel, U. Lönnecke

<i>Session X – Special CAOS Applications</i>

Chairmen: J. Hassenpflug and E. Y. S. Chao

- 14.40 Computer assisted arthroscopy of the shoulder joint – A feasibility study
J. M. Strauss, R. Kothe, G. Deuretzbacher, W. Rütther
- 14.50 The use of computer assisted technology for navigation in tumor surgery
D. Vandeveld, J. Somville, J. Michielsen, J. Verstreken
- 15.00 Computer assisted THR in a Gridlestone hip with malunion of the femur
C. von Hasselbach
- 15.10 DISCUSSION
- 15.20 Computer assisted core decompression for osteonecrosis of the femoral head
T. Laine, T. Lund, D. Schlenzka

- 15.30 Computer assisted arthroscopically controlled removal of an intraarticular screw: A case report
N. Suhm, L.-P. Nolte, P. Regazzoni, P. Messmer
- 15.40 DISCUSSION
- 15.50 COFFEE BREAK

Session XI – Treatment of Long Bones

Chairmen: P. Cinquin and D. Wolter

- 16.10 Computer assisted radius osteotomy
H. Croitoru, R. E. Ellis, R. Prihar, C. F. Small, D. R. Pichora
- 16.20 Parameter studies on the sensitivity of three-dimensional finite-element-models for preoperative simulation of intertrochanteric varisation operations
J. Schmitt, M. Lengsfeld
- 16.30 Computer and robotic assisted knee osteotomy
R. Phillips, J. W. Ward, M. Hafez, J. R. Hewitt, K. B. Marouf, A. M. M. A. Mohsen
- 16.40 Planning and guidance of tibial osteotomies: Clinical results
R. E. Ellis, M. M. Harrison, J. F. Rudan
- 16.50 DISCUSSION
- 17.00 Computer assisted nailing osteosynthesis of long bone fractures
N. Suhm, M. Sati, L. A. Jacob, L.-P. Nolte, P. Regazzoni, P. Messmer
- 17.10 Early experiences with virtual fluoroscopic navigation
D. M. Kahler
- 17.20 Computer assistance for antetorsion angle correction during femoral fracture reduction
C. Krettek, R. Hofstetter, G. Koeppen, T. Hüfner, M. Slomczykowski

Closing

- 17.30 Presentation of the Best Poster Award
A. M. DiGioia
- 17.35 Presentation of the Best Paper Award
R. G. T. Geesink
- 17.40 Final remarks
P. Regazzoni
- 17.45 End of the Millennium CAOS-Symposium

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During the entire time of the Symposium the industrial exhibition is open to the participants. Companies that cover a wide range of recent developments present hands-on cutting-edge technology for surgical planning, simulation, execution, and documentation.

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Symposium Information

Venue	Davos Convention Center Promenade 92 7270 Davos Switzerland
During the Symposium	Phone +41-81-414-6407 Fax +41-81-414-6426 Email caos@mem.unibe.ch
Beginning	Friday, February 18, 8:00 a.m.
Ending	Saturday, February 19, 5:45 p.m.
Registration	Thursday, February 17 7:00 – 9:00 p.m. at the venue Friday, February 18 7:00 – 8:00 a.m. at the venue
Reception	Thursday, February 17 7:00 – 9:00 p.m. at the venue
Registration Fees	CHF 700,- (Students: CHF 500,-)
Social Program	Welcome Reception Conference Banquet (included in registration fee) Trip to St. Moritz (for accompanying persons)
Awards	Maurice E. Müller Award for Excellence in Computer Assisted Surgery <i>sponsored by the Maurice E. Müller Foundation, Bern, CH</i> Best Poster Award <i>sponsored by Sulzer Orthopaedics Ltd., Winterthur, CH</i> Best Paper Award <i>sponsored by Northern Digital Inc., Waterloo, CAN</i>
Information	
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<i>Hotel & Tourism</i>	Davos Tourist Office Promenade 67 7270 Davos Platz Switzerland Phone +41-81-415-2121 Fax +41-81-415-2101 Email davos@davos.ch WWW http://www.davos.ch/