Medicine Meets Virtual Reality 18: NextMed

Westwood, James D.


Table of Contents

Table of Content

Preface
James D. Westwood

Conference Organization

Evaluation of a VR and Stereo-Endoscopic Tool to Facilitate 3rd Ventriculostomy
Kamyar Abhari, Sandrine de Ribaupierre, Terry Peters and Roy Eagleson

Sleep Dysfunctions Influence Decision Making in Undemented Parkinson’s Disease Patients: A Study in a Virtual Supermarket
Giovanni Albani, Simona Raspelli, Laura Carelli, Lorenzo Priano, Riccardo Pignati, Francesca Organti, Andrea Gaggioli, Patrice L. Weiss, Rachel Kizony, Noomi Katz, Alessandro Mauro and Giuseppe Riva

Visual Tracking of Laparoscopic Instruments in Standard Training Environments
Brian F. Allen, Florian Kasper, Gabriele Natanelli, Erik Dutson and Petros Faloutsos

On the Use of Laser Scans to Validate Reverse Engineering of Bony Anatomy
Joseph B. Anstey, Erin J. Smith, Brian Rasquinha, John F. Rudan and Randy E. Ellis

Classification of Pulmonary System Diseases Patterns Using Flow-Volume Curve
Hossein Arabalibeik, Samaneh Jafari and Khosro Agin

Cost-Efficient Suturing Simulation with Pre-Computed Models
Venkata Sreekanth Arakatla, Ganesh Sankaranarayanan and Suvranu De

Anesthesia Residents’ Preference for Learning Interscalene Brachial Plexus Block (ISBPB): Traditional Winnie’s Technique vs. Ultrasound-Guided Technique

Fuzzy Control of a Hand Rehabilitation Robot to Optimize the Exercise Speed in Passive Working Mode
Mina Arab Baniasad, Mohammad Akbar, Aria Alasty and Farzam Farahmand

Engaging Media for Mental Health Applications: The EMMA Project
R. Ba?os, C. Botella, S. Quero, A. García-Palacios and M. Alca?iz

NeuroSim ? The Prototype of a Neurosurgical Training Simulator
Florian Beier, Stephan Diederich, Kirsten Schmieder and Reinhard M?nner

Low-Cost, Take-Home, Beating Heart Simulator for Health-Care Education
Devin R. Berg, Andrew Carlson, William K. Durfee, Robert M. Sweet and Troy Reihsen

An Adaptive Signal-Processing Approach to Online Adaptive Tutoring
Bryan Bergeron and Andrew Cline

Comparison of a Disposable Bougie Versus a Newly Designed Malleable Bougie in the Intubation of a Difficult Manikin Airway
Ben H. Boedeker, Mary Bernhagen, David J. Miller and W. Bosseau Murray

Improving Fiberoptic Intubation with a Novel Tongue Retraction Device
Ben H. Boedeker, Mary Bernhagen, David J. Miller, Thomas A. Nicholas IV, Andrew Linnaus and W.B. Murray

Combined Intubation Training (Simulated and Human) for 4th Year Medical Students: The Center for Advanced Technology and Telemedicine Airway Training Program
Ben H. Boedeker, Mary Bernhagen, Thomas A. Nicholas IV and W. Bosseau Murray

Battlefield Tracheal Intubation Training Using Virtual Simulation: A Multi Center Operational Assessment of Video Laryngoscope Technology
Ben H. Boedeker, Kirsten A. Boedeker, Mary A. Bernhagen, David J. Miller and Timothy Lacy
Intubation Success Rates and Perceived User Satisfaction Using the Video Laryngoscope to Train Deploying Far Forward Combat Medical Personnel
Ben H. Boedeker, Mary A. Barak-Bernhagen, Kirsten A. Boedeker and W. Bosseau Murray

Field Use of the STORZ C-MAC? Video Laryngoscope in Intubation Training with the Nebraska National Air Guard
Ben H. Boedeker, Mary A. Bernhagen, David J. Miller, Nikola Miljkovic, Gail M. Kuper and W. Bosseau Murray

The Combined Use of Skype? and the STORZ CMAC? Video Laryngoscope in Field Intubation Training with the Nebraska National Air Guard
Ben H. Boedeker, Mary Bernhagen, David J. Miller, Nikola Miljkovic, Gail M. Kuper and W. Bosseau Murray

Online Predictive Tools for Intervention in Mental Illness: The OPTIMI Project
Cristina Botella, In?s Moragrega, R. Ba?os and Azucena Garc?a-Palacios

An Integrated Surgical Communication Network ? SurgON
Richard D. Bucholz, Keith A. Laycock, Leslie L. McDurmont and William R. MacNeil

Web-Accessible Interactive Software of 3D Anatomy Representing Pathophysiological Conditions to Enhance the Patient-Consent Process for Procedures
D. Burke, X. Zhou, V. Rotty, V. Konchada, Y. Shen, B. Konety and R. Sweet

Fast Adaptation of Pre-Operative Patient Specific Models to Real-Time Intra-Operative Volumetric Data Streams
Bruce M. Cameron, Maryam E. Rettmann, David R. Holmes III and Richard A. Robb

Realistic Visualization of Living Brain Tissue
Llyr ap Cenydd, Annette Walter, Nigel W. John, Marina Bloj and Nicholas Phillips

A Virtual Surgical Environment for Rehearsal of Tympanomastoidectomy
Sonny Chan, Peter Li, Dong Hoon Lee, J. Kenneth Salisbury and Nikolas H. Blevins

Acquisition of Technical Skills in Ultrasound-Guided Regional Anesthesia Using a High-Fidelity Simulator
Jeffrey J.H. Cheung, Ewen W. Chen, Yaseen Al-Allaq, Nasim Nikravan, Colin J.L. McCartney, Adam Dubrowski and Imad T. Awad

MeRiTS: Simulation-Based Training for Healthcare Professionals
David Chodos, Eleni Stroulia and Sharla King

A Framework for Treatment of Autism Using Affective Computing
Seong Youb Chung and Hyun Joong Yoon

Modification of Commercial Force Feedback Hardware for Needle Insertion Simulation
Timothy R. Coles, Nigel W. John, Giuseppe Sofia, Derek A. Gould and Darwin G. Caldwell

Visualization of Pelvic Floor Reflex and Voluntary Contractions
Christos E. Constantiou, Daniel Korenblum and Bertha Chen

Mixed Virtual Reality Simulation ? Taking Endoscopic Simulation One Step Further

A Serious Game for Off-Pump Coronary Artery Bypass Surgery Procedure Training
Brent Cowan, Hamed Sabri, Bill Kapralos, Fuad Moussa, Sayra Cristancho and Adam Dubrowski

Progressive Simulation-Based Program for Training Cardiac Surgery-Related Skills
Sayra Cristancho, Fuad Moussa, Alex Monclou, Camilo Moncayo, Claudia Rueda and Adam Dubrowski

MSMS Software for VR Simulations of Neural Prostheses and Patient Training and Rehabilitation
Rahman Davoodi and Gerald E. Loeb

Virtual Reality System in Conjunction with Neuorobotics and Neuroprosthetics for Rehabilitation of Motor Disorders
Alessandro De Mauro, Eduardo Carrasco, David Oyarzun, Aitor Ardanza, Anselmo Frizera Neto, Diego Torricelli, Jos? Luis Pons, Angel Gil and Julian Florez

Modeling the Thermal Effect of the Bipolar Electrocautery for Neurosurgery Simulation
S?bastien Delorme, Anne Cabral, F?bio Ayres and DI Jiang

CliniSpace?: A Multiperson 3D Online Immersive Training Environment Accessible Through a Browser
Parvati Dev, W. LeRoy Heinrichs and Patricia Youngblood

Medical Education Through Virtual Worlds: The HLTHSIM Project
Roy Eagleson, Sandrine de Ribaupierre, Sharla King and Eleni Stroulia
Ubiquitous Health in Practice: The Interreality Paradigm
Andrea Gaggioli, Simona Raspelli, Alessandra Grassi, Federica Pallavicini, Pietro Cipresso, Brenda K. Wiederhold and Giuseppe Riva

Bench Model Surgical Skill Training Improves Novice Ability to Multitask: A Randomized Controlled Study
Lawrence Grierson, Megan Melnyk, Nathan Jowlett, David Backstein and Adam Dubrowski

A Design of Hardware Haptic Interface for Gastrointestinal Endoscopy Simulation
Yunjin Gu and Doo Yong Lee

Open Surgery Simulation of Inguinal Hernia Repair
Niels Hald, Sudip K. Sarker, Paul Ziprin, Pierre-Frederic Villard and Fernando Bello

SML: SoFMIS Meta Language for Surgical Simulation
Tansel Halic and Suvaranu De

A Software Framework for Multimodal Interactive Simulations (SoFMIS)
Tansel Halic, Sreekanth A. Venkata, Ganesh Sankaranarayanan, Zhonghua Lu, Woojin Ahn and Suvaranu De

Simulation of Vaginal Wall Biomechanical Properties from Pelvic Floor Closure Forces Map
Shin Hasegawa, Yuki Yoshida, Daming Wei, Sadao Omata and Christos E. Constantinou

A Generalized Haptic Feedback Approach for Arbitrarily Shaped Objects
Rui Hu, Kenneth E. Barner and Karl V. Steiner

Piezoelectric Driven Non-Toxic Injector for Automated Cell Manipulation
H.B. Huang, Hao Su, H.Y. Chen and J.K. Mills

Virtual Arthroscopy Trainer for Minimally Invasive Surgery
Vassilios Hurmusiadis, Kawal Rhode, Tobias Schaeffter and Kevin Sherman

Design for Functional Occlusal Surface of CAD/CAM Crown Using VR Articulator
Tomoko Iwata, Takumi Ogawa, Yuko Shigeta, Shintaro Kasama, Rio Hiramayashi, Junji Fukushima, Asaki Hattori and Naoki Suzuki

Biopsym: A Learning Environment for Trans-Rectal Ultrasound Guided Prostate Biopsies
Thomas Janssoone, Gr?goire Chevreau, Lucile Vadcard, Pierre Mozer and Jocelyne Troccaz

Comparison of Reaching Kinematics During Mirror and Parallel Robot Assisted Movements
Zahra Kadivar, Cynthia Sung, Zachary Thompson, Marcia O?Malley, Michael Liebschner and Zhigang Deng

Serious Games in the Classroom: Gauging Student Perceptions
Bill Kapralos, Sayra Cristancho, Mark Porte, David Backstein, Alex Monclou and Adam Dubrowski

Influence of Metal Artifacts on the Creation of Individual 3D Cranio-Mandibular Models
Shintaro Kasama, Takumi Ogawa, Tomoko Iwata, Yuko Shigeta, Shinya Hirai, Junji Fukushima, Asaki Hattori and Naoki Suzuki

Web-Based Stereoscopic Visualization for the Global Anatomy Classroom
Mathias Kaspar, Fred Dech, Nigel M. Parsad and Jonathan C. Silverstein

Expanding the Use of Simulators as Assessment Tools: The New Pop Quiz
Abby R. Kaye, Lawrence H. Salud, Zachary B. Domont, Katherine Blossfield Iannitelli and Carla M. Pugh

Validation of Robotic Surgery Simulator (RoSS)
Therkurussi Kesavadas, Andrew Stegemann, Gughan Sathyaseelan, Ashinad Chowriappa, Govindarajan Sirinathvarevalli, St?fani Seixas-Mikelus, Rameella Chandrasekhar, Gregory Wilding and Khurshid Guru

Practical Methods for Designing Medical Training Simulators
Thomas Knott, Sebastian Ulrich and Torsten Kuhlen

The Minnesota Pelvic Trainer: A Hybrid VR/Physical Pelvis for Providing Virtual Mentorship
Vamshi Konchada, Yunhe Shen, Dan Burke, Omer B. Argun, Anthony Weinhaus, Arthur G. Erdman and Robert M. Sweet

Registration Stability of Physical Templates in Hip Surgery
Manuela Kunz, John F. Rudan, Gavin C.A. Wood and Randy E. Ellis

Real-Time 3D Avatars for Tele-Rehabilitation in Virtual Reality
Gregorij Kurillo, Tomaz Koritnik, Tadej Bajd and Ruzena Bajcsy Fundamentals of Gas Phase Plasmas for Treatment of Human Tissue
Mark J. Kushner and Natalia Yu. Babaeva
VR-Based Training and Assessment in Ultrasound-Guided Regional Anesthesia: From Error Analysis to System Design
Erik L. vquist, Owen O'Sullivan, Donnchadh Oh'Ainle, Graham Baitson, George Shorten and Nick Avis

Real-Time Electrocautery Simulation for Laparoscopic Surgical Environments
Zhonghua Lu, Venkata Sreekanth Arikatla, Dingfang Chen and Suvaranu De

Guidewire and Catheter Behavioural Simulation
Vincent Luboz, Jianhua Zhai, Tolu Odetoyinbo, Peter Littler, Derek Gould, Thien How and Fernando Bello

Design and Implementation of a Visual and Haptic Simulator in a Platform for a TEL System in Percutaneous Orthopedic Surgery
Vanda Luengo, Aurelie Larcher and Jerome Tonetti

Computational Modeling of Human Head Electromagnetics for Source Localization of Milliscale Brain Dynamics
Allen D. Malony, Adnan Salman, Sergei Turovets, Don Tucker, Vasily Volkov, Kai Li, Jung Eun Song, Scott Biersdorff, Colin Davey, Chris Hoge and David Hammond

Simulation and Modeling of Metamorphopsia with a Deformable Amsler Grid
Anabel Martin-Gonzalez, Ines Landz, Ramin Khoramnia and Nassir Navab

Development of a Customizable Software Application for Medical Imaging Analysis and Visualization
Marisol Martinez-Escobar, Catherine Peloquin, Bethany Juhrke, Joanna Peddicord, Sonia Jose, Christian Noon, Jung Leng Foo and Eliot Winer

Pneumoperitoneum Technique Simulation in Laparoscopic Surgery on Lamb Liver Samples and 3D Reconstruction
F. Martinez-Martinez, M.J. Ruperez, M.A. Lago, F. Lpez-Mir, C. Monserrat and M. Alca??z

Technology Transfer at the University of Nebraska Medical Center
Kulia Matsuo, Henry J. Runge, David J. Miller, Mary A. Barak-Bernhagen and Ben H. Boedeker

CvHslicer: An Interactive Cross-Sectional Anatomy Navigation System Based on High-Resolution Chinese Visible Human Data
Q. Meng, Y.P. Chui, J. Qin, W.H. Kwok, M. Karmakar and P.A. Heng

Generation of Connectivity-Preserving Surface Models of Multiple Sclerosis Lesions
Oscar Meruvia-Pastor, Mei Xiao, Jung Soh and Christoph W. Sensen

A Comparison of Videolaryngoscopic Technologies
David J. Miller, Nikola Mijakovic, Chad Chiesa, Nathan Schulte, John B. Callahan Jr. and Ben H. Boedeker

Telemedicine Using Free Voice over Internet Protocol (VoIP) Technology
David J. Miller, Nikola Mijakovic, Chad Chiesa, John B. Callahan Jr., Brad Webb and Ben H. Boedeker

iMedic: A Two-Handed Immersive Medical Environment for Distributed Interactive Consultation
Paul Mlyniec, Jason Jerald, Arun Yoganandan, F. Jacob Seagull, Fernando Toledo and Udo Schultheis

Patient Specific Surgical Simulator for the Evaluation of the Movability of Bimanual Robotic Arms
Andrea Moglia, Giuseppe Turini, Vincenzo Ferrari, Mauro Ferrari and Franco Mosca

CyberMedVPS: Visual Programming for Development of Simulators
Aline M. Morais and Liliane S. Machado

A Bloodstream Simulation Based on Particle Method
Masashi Nakagawa, Nobuhiko Mukai, Kiyomi Niki and Shuichiro Takanashi

Laser Induced Shockwaves on Flexible Polymers for Treatment of Bacterial Biofilms
Artemio Navarro, Zachary D. Taylor, David Beenhouwer, David A. Haake, Vijay Gupta, Warren S. Grundfest

Virtual Reality Haptic Human Dissection
Caroline Needham, Caroline Wilkinson and Roger Soames

The Tool Positioning Tutor: A Target-Pose Tracking and Display System for Learning Correct Placement of a Medical Device
Douglas A. Nelson and Joseph T. Samosky

A Cost Effective Simulator for Education of Ultrasound Image Interpretation and Probe Manipulation

A Portable Palpation Training Platform with Virtual Human Patient
Tyler Niles, D. Scott Lind and Kyle Johnsen
A Development of Surgical Simulator for Training of Operative Skills Using Patient-Specific Data
Masato Ogata, Manabu Nagasaka, Toru Inuiya, Kazuhide Makiyama and Yoshinobu Kubota

Virtual Reality Image Applications for Treatment Planning in Prosthodontic Dentistry
Takumi Ogawa, Tomoko Ikawa, Yuko Shigeta, Shintaro Kasama, Eriko Ando, Shunji Fukushima, Asaki Hattori and Naoki Suzuki

The Initiation of a Preoperative and Postoperative Telemedicine Urology Clinic
Eugene S. Park, Ben H. Boedeker, Jennifer L. Hemstreet and George P. Hemstreet

Modeling Surgical Skill Learning with Cognitive Simulation
Shi-Hyun Park, Irene H. Suh, Jung-hung Chien, Jaehyon Paik, Frank E. Ritter, Dmitry Oleynikov, Ka-Chun Siu

Virtual Reality Stroop Task for Neurocognitive Assessment
Thomas D. Parsons, Christopher G. Courtney, Brian Arizmendi and Michael Dawson

Implementation of Virtual Online Patient Simulation
V. Patel, R. Aggarwal, D. Taylor and A. Darzi

Patient-Specific Cases for an Ultrasound Training Simulator
Kresimir Petrinec, Eric Savitsky and Cheryl Hein

Stereo Image-Based Arm Tracking for In Vivo Surgical Robotics
Eric Psota, Kyle Strabala, Jason Dumpert, Lance C. Perez, Shane Farritor and Dmitry Oleynikov

A Simulation Framework for Wound Closure by Suture for the Endo Stitch Suturing Instrument
Sukitti Punak and Sergei Kurenov

Simplified Cosserat Rod for Interactive Suture Modeling
Sukitti Punak and Sergei Kurenov

A Design for Simulating and Validating the Nuss Procedure for the Minimally Invasive Correction of Pectus Excavatum
Krzysztof J. Rechowicz, Robert Kelly, Michael Goretsky, Frazier W. Frantz, Stephen B. Krisley, Donald Nuss and Frederic D. McKenzie

AISLE: An Automatic Volumetric Segmentation Method for the Study of Lung Allometry
Hongliang Ren and Peter Kazanzides

Development of a Wireless Hybrid Navigation System for Laparoscopic Surgery
Hongliang Ren, Denis Rank, Martin Merdes, Jan Stallkamp and Peter Kazanzides

Visualization of Probabilistic Fiber Tracts in Virtual Reality
Tobias Rick, Anette von Kapri, Svenja Caspers, Katrin Amunts, Karl Zilles and Torsten Kuhlen

NeuroVR 2: A Free Virtual Reality Platform for the Assessment and Treatment in Behavioral Health Care
Giuseppe Riva, Andrea Gaggioli, Alessandra Grassi, Simona Raspelli, Pietro Cipresso, Federica Pallavicini, Cinzia Vigna, Andrea Gagliati, Stefano Gasco and Giuseppe Donvito

Personal Health Systems for Mental Health: The European Projects
Giuseppe Riva, Rosa Banos, Cristina Botella, Andrea Gaggioli and Brenda K. Wiederhold

An Intelligent Virtual Human System for Providing Healthcare Information and Support
Albert A. Rizzo, Belinda Lange, John G. Buckwalter, Eric Forbell, Julia Kim, Kenji Sagae, Josh Williams, Barbara O. Rothbaum, JoAnn Difede, Greg Reger, Thomas Parsons and Patrick Kenny

Virtual Reality Applications for Addressing the Needs of Those Aging with Disability
Albert Rizzo, Phil Requejo, Carolee J. Weinstein, Belinda Lange, Gisele Ragusa, Alma Merians, James Patton, Pat Banerjee and Mindy Aisen

The Validation of an Instrumented Simulator for the Assessment of Performance and Outcome of Knot Tying Skill: A Pilot Study
David Rojas, Sayra Cristancho, Claudia Rueda, Lawrence Grierson, Alex Monclou and Adam Dubrowski


Are Commercially Available Simulators Durable Enough for Classroom Use?
Jonathan C. Salud, Katherine Blossfield Iannitelli, Lawrence H. Salud and Carla M. Pugh

Toward a Simulation and Assessment Method for the Practice of Camera-Guided Rigid Bronchoscopy
Lawrence H. Salud, Alec R. Peniche, Jonathan C. Salud, Alberto L. de Hoyos and Carla M. Pugh
Use of Sensor Technology to Explore the Science of Touch
Lawrence H. Salud and Carla M. Pugh


Toward a Comprehensive Hybrid Physical-Virtual Reality Simulator of Peripheral Anesthesia with Ultrasound and Neurostimulator Guidance
Joseph T. Samosky, Pete Allen, Steve Boronyak, Barton Branstetter, Steven Hein, Mark Juhas, Douglas A. Nelson, Steven Orebaugh, Rohan Pinto, Adam Smelko, Mitch Thompson and Robert A. Weaver

A Fixed Point Proximity Method for Extended Contact Manipulation of Deformable Bodies with Pivoted Tools in Multimodal Virtual Environments
Ganesh Sankaranarayanan, Zhonghua Lu and Suvaranu De

Collision and Containment Detection Between Biomechanically Based Eye Muscle Volumes
Graciela Santana Sosa and Thomas Kaltofen

Visualization of 3D Volumetric Lung Dynamics for Real-Time External Beam Lung Radiotherapy
Anand P. Santhanam, Harini Neelakkantan, Yugang Min, Nicolene Papp, Akash Bhargava, Kevin Erhart, Xiang Long, Rebecca Mitchell, Eduardo Divo, Alain Kassab, Olusegun Ibegbua, Bari H. Ruddy, Jannick P. Rolland, Sanford L. Meeks and Patrick A. Kupelian

Laser Surgery Simulation Platform: Toward Full-Procedure Training and Rehearsal for Benign Prostatic Hyperplasia (BPH) Therapy
Yunhe Shen, Vamsi Konchada, Nan Zhang, Saurabh Jain, Xiangmin Zhou, Daniel Burke, Carson Wong, Culley Carson, Claus Roehrborn and Robert Sweet

3D Tracking of Surgical Instruments Using a Single Camera for Laparoscopic Surgery Simulation
Sangkyun Shin, Youngjun Kim, Hyunsoo Kwak, Deukhee Lee and Sehyung Park

Perceptual Metrics: Towards Better Methods for Assessing Realism in Laparoscopic Simulators
Ravikiran B. Singapogu, Christopher C. Pagano, Timothy C. Burg and Karen J.K.L. Burg

Role of Haptic Feedback in a Basic Laparoscopic Task Requiring Hand-Eye Coordination
Ravikiran B. Singapogu, Christopher C. Pagano, Timothy C. Burg, Karen J.K.L. Burg and Varun V. Prabhu

A Model for Flexible Tools Used in Minimally Invasive Medical Virtual Environments
Francisco Soler, M. Victoria Luzon, Serban R. Pop, Chris J. Hughes, Nigel W. John and Juan Carlos Torres

Segmentation of 3D Vasculatures for Interventional Radiology Simulation
Yi Song, Vincent Luboz, Nizar Din, Daniel King, Derek Gould, Fernando Bello and Andy Bulpitt

EEG-Based "Serious" Games and Monitoring Tools for Pain Management
Olga Sourina, Qiang Wang and Minh Khoa Nguyen

A New Part Task Trainer for Teaching and Learning Confirmation of Endotracheal Intubation
Cyle Sprick, Harry Owen, Cindy Hein and Brigid Brown

Mobile Three Dimensional Gaze Tracking
Josef Stoll, Stefan Kohlbecher, Svenja Marx, Erich Schneider and Wolfgang Einh?user

High-Field MRI-Compatible Needle Placement Robot for Prostate Interventions
Hao Su, Alex Camilo, Gregory A. Cole, Nobuhiko Hata, Clare M. Tempany and Gregory S. Fischer

Electromyographic Correlates of Learning During Robotic Surgical Training in Virtual Reality
Irene H. Suh, Mukul Mukherjee, Ryan Schrack, Shi-Hyun Park, Jung-hung Chien, Dmitry Olevnikov and Ka-Chun Siu

Web-Based Interactive Volume Rendering
Stefan Suwelack, Sebastian Maier, Roland Unterhinninghofen and R?diger Dillmann

A Method of Synchronization for Haptic Collaborative Virtual Environments in Multipoint and Multi-Level Computer Performance Systems
Kazuyoshi Tagawa, Tatsuro Bito and Hiromi T. Tanaka

A Hybrid Dynamic Deformation Model for Surgery Simulation
Kazuyoshi Tagawa and Hiromi T. Tanaka

Single and Multi-User Virtual Patient Design in the Virtual World