

FRIDAY, 2nd July, 2010

10:30 Registration

11:15 Introduction (Chair: *Miguel Otaduy*)

11:30-13:00 Session 1: Character Motion I
(Chair: *Victor Zordan*)

Fast Local and Global Similarity Searches in Large Motion Capture Databases

Bjoern Krueger, Jochen Tautges, Andreas Weber, Arno Zinke

Editing Dynamic Human Motions via Momentum and Force

Kwang Won Sok, Katsu Yamane, Jehee Lee, Jessica Hodgins

Modeling Style and Variation in Human Motion

Wanli Ma, Shihong Xia, Jessica Hodgins, Xiao Yang, Chunpeng Li, Zhaoqi Wang

LUNCH

14:30-16:00 Session 2: Constrained Dynamics
(Chair: *Rasmus Tamstorf*)

Linear-Time Dynamics for Multibody Systems with General Joint Models

Weiguang Si, Brian Guenter

Constraint-Based Simulation of Adhesive Contact

Jorge Gascon, Javier S. Zurdo, Miguel A. Otaduy

Point Cloud Glue: Constraining simulations using the Procrustes transform

Christopher Twigg, Zoran Kacic-Alesic

COFFEE BREAK

16:30-18:00 Session 3: Fluids I
(Chair: *Matthias Müller*)

Interactive SPH Simulation and Rendering on the GPU

Prashant Goswami, Philipp Schlegel, Barbara Solenthaler, Renato Pajarola

A parallel multigrid Poisson solver for fluids simulation on large grids

Aleka McAdams, Eftychios Sifakis, Joseph Teran

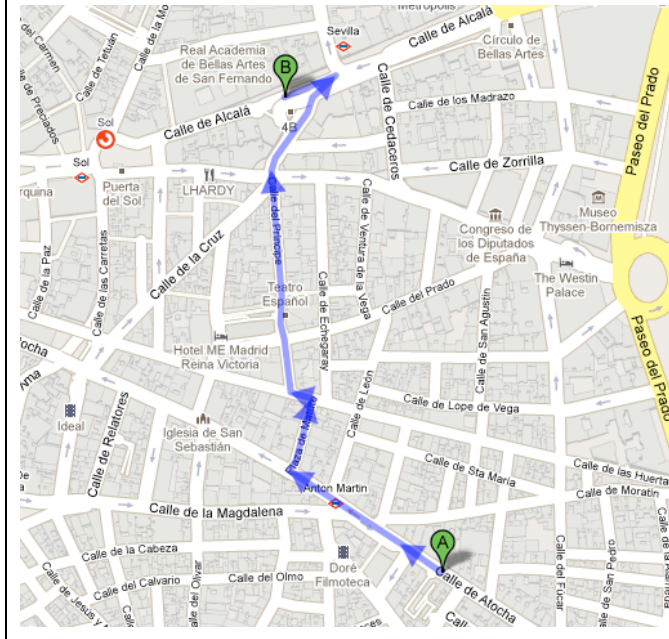
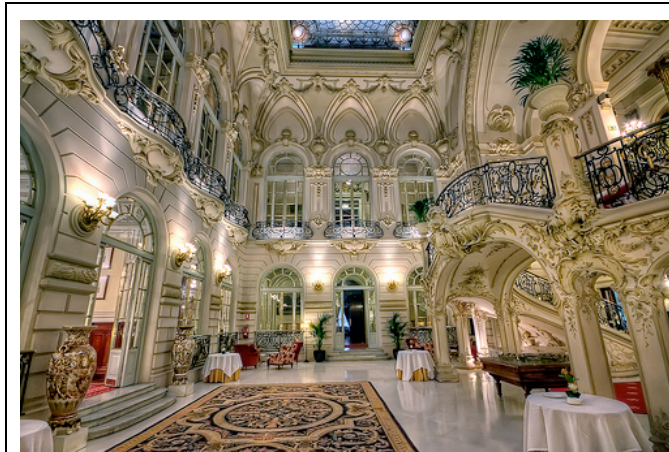
Enhancing Fluid Animation with Adaptive, Controllable and Intermittent Turbulence

Ye Zhao, Zhi Yuan, Fan Chen

18:00-19:00 General Assembly

SOCIAL EVENT

21:00 Conference Dinner at the Casino de Madrid
Calle Alcalá 15, Salon Puerta del Sol



SATURDAY, 3rd July, 2010

9:00-10:30 Session 4: Augmenting and Editing Animations
(Chair: *Ming Lin*)

Wrinkle Meshes

Matthias Mueller, Nuttapong Chentanez

Augmenting Hand Animation with Three-Dimensional Secondary Motion

Eakta Jain, Yaser Sheikh, Moshe Mahler, Jessica Hodgins

A Bayesian Interactive Optimization Approach to Procedural Animation Design

Eric Brochu, Tyson Brochu, Nando de Freitas

COFFEE BREAK

11:00-12:30 Session 5: Walking, Running, and Crowds
(Chair: *Nuria Pelechano*)

Goal-Directed Stepping with Momentum Control

Chun-Chih Wu, Victor Zordan

PLEdistrans: A Least-Effort Approach to Crowd Simulation

Stephen Guy, Jatin Chhugani, Sean Curtis, Pradeep Dubey, Ming Lin, Dinesh Manocha

Control Systems for Human Running using an Inverted Pendulum Model and a Reference Motion Capture Sequence

Kwon Taesoo, Jessica Hodgins

LUNCH

14:00-15:00 Keynote: Robots and the Human
(Chair: *Caroline Larboulette*)

Oussama Khatib, Professor of Computer Science, Stanford University

15:00-16:30 Session 6: Cameras, Navigation, and Collisions

(Chair: *James O'Brien*)

A Real-time Cinematography System for 3D Environments

Christophe Lino, Marc Christie, Fabrice Lamarche, Guy Schofield, Patrick Olivier

FASTCD: Fracturing-Aware Stable Collision Detection
JaePil Heo, Joon-Kyung Seong, DukSu Kim, Miguel A. Otaduy, JeongMo Hong, Min Tang, Sung-Eui Yoon

Shortest Paths with Arbitrary Clearance from Navigation Meshes
Marcelo Kallmann

16:30-16:45 Posters Fast Forward
(Chair: Adam Bargteil)

16:45-18:00 EXTENDED COFFEE BREAK
POSTERS & DEMOS

SOCIAL EVENT

19:30-20:30 Animation Theater



Keynote: Oussama Khatib, Stanford

In the field of robotics, the motivation to emulate human movement has been driven by the desire to endow robots, humanoids in particular, with human-like movement characteristics. Inspired by human behaviors, our extensive study of human musculoskeletal system has brought insights and results that proved extremely valuable in human biomechanics. Understanding human motion is a complex procedure that requires accurate reconstruction of movement sequences, modeling of musculoskeletal kinematics, dynamics, and actuation, and suitable criteria for the characterization of performance. These issues have much in common with the problems of articulated body systems studied in robotics research. Building on methodologies and techniques developed in robotics, a host of new effective tools have been established for the synthesis of human motion. These include efficient algorithms for the simulation of musculoskeletal systems, novel physio-mechanical criteria and performance measures, real-time tracking and reconstruction of human motion, and accurate human performance characterization. These developments are providing new avenues for exploring human motion -- with exciting prospects for novel clinical therapies, athletic training, character animation, and human performance improvement.

SUNDAY, 4th July, 2010

9:00-10:30 Session 7: Character Motion II
(Chair: Paul Kry)

Animating Non-Humanoid Characters with Human Motion Data
Katsu Yamane, Yuka Ariki, Jessica Hodgins

BoLeRO: A Principled Technique for Including Bone Length Constraints in Motion Capture Occlusion Filling
Lei Li, James McCann, Nancy Pollard, Christos Faloutsos

Performance capture with physical interaction
Nam Nguyen, Nkenge Wheatland, David Brown, Brian Parise, Karen Liu, Victor Zordan

COFFEE BREAK

11:00-12:30 Session 8: Fluids II
(Chair: Chris Twigg)

Reconstructing Surfaces of Particle-Based Fluids Using Anisotropic Kernels
Jihun Yu, Greg Turk

Practical Animation of Compressible Flow for Shock Waves and Related Phenomena
Nipun Kwatra, Jon T. Gretarsson, Ronald Fedkiw

Real-time Simulation of Large Bodies of Water with Small Scale Details
Nuttapong Chentanez, Matthias Mueller

12:30-13:30 Awards & Closing Session
(Chair: François Faure)

We would like to thank our sponsors:



SCA'10

July 2 – 4, 2010

Madrid, Spain



Program

of the

ACM SIGGRAPH / Eurographics

Symposium on

COMPUTER ANIMATION

2010

LOCATION

TRYP Atocha
C/ Atocha 83
Madrid, Spain