Third International Conference on 3D Digital Imaging and Modeling

PRELIMINARY PROGRAM AND REGISTRATION BULLETIN

Loews Le Concorde Hotel
Québec City, Canada
May 28 – June 1, 2001

Sponsored by:

National Research Council Canada

Conference Secretariat

Marie Lanouette, Conference Manager
Third International Conference on 3D Digital Imaging and Modeling
National Research Council Canada
Building M-19, Montreal Road
Ottawa, ON, Canada K1A 0R6

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Internet: www.3dimconference.org

Important Dates
Early registration deadline – April 1, 2001
Hotel accommodation deadline – April 11, 2001

Organization

CONFERENCE COMMITTEE

Chair – Marc Rioux, National Research Council Canada
Program Co-Chairs – Denis Laurendeau, Université Laval
Martial Hébert, Carnegie Mellon University

Organizing Committee Members

Jean-Angelo Beraldin	Jacques Domey	David Green
Pierre Boulanger	Sabry El-Hakim	Eric Paquet
Luc Cournoyer	Guy Godin	John Taylor

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- Tanneguy Redarce, INSA de Lyon (France)
- Luc Robert, REALVIZ S.A. (France)
- Kathleen Robinette, Wright Patterson Air Force Base (USA)
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- Michael Vannier, University of Iowa (USA)
- Mark Wheeler, Cyra Technologies Inc. (USA)
- Kazuhiko Yamamoto, Gifu University (Japan)
- Naokazu Yokoya, Nara Institute of Science and Technology (Japan)

Introduction

We invite you to join us next May, in Québec City, capital of the province of Québec for the Third International Conference on 3D Digital Imaging and Modeling. This conference, organized by the National Research Council of Canada (NRC), is intended to cover a wide spectrum of activities in the emerging science of 3D digital imaging and modeling. It will provide an international forum for scientists and engineers to present and discuss recent advances in the field. Attendees will receive both a broad overview of key technologies and a glimpse into state-of-the-art developments that are currently occurring all over the world. Short courses will also provide opportunities for those entering the field or wishing to broaden their knowledge.

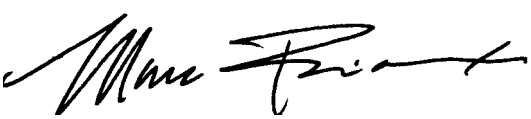
The conference will take place at the Loews Le Concorde Hotel, one of the finest hotels in town, which is located at the very center of the city, adjacent to the Plains of Abraham and within walking distance of a variety of cafés, restaurants, shops, museums, galleries, and the exceptional Terrasse Dufferin. At this time of the year, the temperatures range from about 20° C (70° F) during the day to 12° C (54° F) at night. May is a very busy month for visitors to Québec City, so book early to be sure to obtain a room at the Loews Le Concorde Hotel.

The conference begins on Monday morning with tutorial classes and ends Friday at noon. Approximately 50 papers from more than a dozen countries have been accepted for presentation in a single track format. Half of the papers presented will cover the collection and the preprocessing of 3D data, the other half of the papers will focus on modeling (objects, environment and the human body). There will be three and a half days of presentations starting on Tuesday morning and ending on Friday at noon. Four invited speakers with vast experience in the field will share their views on the collection of 3D data, recent modeling techniques and emerging application opportunities in the field.

To complement the conference, on Monday there will be four half day short courses organized in two parallel tracks. In the morning there will be a session on the design of optical digitizing for 3D image capture in parallel with a session on geometric processing of 3D data. In the afternoon, there will be two parallel sessions on modeling, one related to 3D capture and modeling and the other related to the human body digitizing for anthropometry.

To provide you with more opportunities to meet and get to know your colleagues, we have planned a welcoming reception on Tuesday evening at the Loews Le Concorde Hotel and a dinner on Wednesday night.

Whether you are interested in learning about 3D digitizing, 3D modeling and the various applications emerging from this field of imaging, or in meeting the leading experts of this developing technology, this is the conference to attend. We look forward to seeing you there.



Marc Rioux, Conference Chair
Denis Laurendeau and Martial Hébert, Scientific Program Co-Chairs

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PROGRAM

Monday, May 28

07:30 – 18:00 Registration

09:00 – 12:00 Tutorial Sessions

Session # 1 : Active 3D Sensing
J. Angelo Beraldin and François Blais, National Research Council Canada

This tutorial provides an introduction to some of the most popular active 3D sensing techniques found in the literature and in commercial products. Although the emphasis of the course is focused on active triangulation and imaging time of flight systems, other techniques such as optical interferometry and passive methods are briefly discussed.

For each group of 3D method, optical, hardware, and algorithmic related topics as well as case studies are discussed. Basic knowledge of 3D measurement principle, Gaussian beam propagation and optical signal detection with solid-state detectors is provided so that critical aspects like image resolution and range image precision can be evaluated. Furthermore, algorithms related to signal extraction, control of scanning mechanisms, calibration, and some specific case studies are presented.

Benefits
The aim of this tutorial is to provide the attendees with tools to evaluate and better understand active 3D sensing techniques in their own applications. Those applications may include building or purchasing a 3D system and understanding the nature of the 3D images in order to apply optimal geometric processing algorithms. This tutorial should help the attendee in modeling a given sensor into a “black box”, and in understanding some image artifact that can be encountered. The case studies will expose the attendee to have a feel of some of the most interesting applications of active 3D sensing.

Intended audience
People who are involved in the development, evaluation and application of 3D sensing techniques in an industrial or educational context.

J.Angelo Beraldin joined the Institute for Information Technology at the National Research Council Canada in 1986. His current research interests include sensor systems engineering and analog and digital signal processing for 3D vision systems. He has more than 40 papers and publications, 1 patent, and, has licensed technology to 3 Canadian companies. He is also a registered professional engineer with the province of Ontario.

François Blais joined the National Research Council Canada in 1984 where he has been involved in the development of the different 3D range sensor technologies at NRC. His topics of interest cover various fields in digital signal and image processing, control, 3D vision systems and their applications. He has more than 60 papers and publications, and 8 patents of which 7 have been licensed to different Canadian industries. Mr. Blais is a registered professional engineer of Ontario.

Session # 2 : Knowledge Representation in Range Image Analysis

Pierre Boulanger, National Research Council Canada

The purpose is to present state-of-the-art techniques on processing range images in a coherent knowledge representation context and how to use this information to solve practical problems. The different methods used for representing surfaces and curves and how one can reliably infer them from real range images using a Baysian framework will be reviewed. From these estimated geometrical primitives, a description on how one can represent the relationships between them using various techniques and how these methods can be used will be provided. Dr. Boulanger will also demonstrate that as in complex mechanical problems in physics where a well-adapted coordinate system can significantly simplify a problem, a good knowledge representation method can also simplify the complexity of higher level processing.

A description of how one can represent high level knowledge in a manner compatible with lower level will be addressed. He will describe how some procedural systems calling low level or intermediate level routines can interrogate and reason about the low level knowledge. Emphasis will be placed on the importance of maximum likelihood reasoning to produce a system capable of dealing with real-world situations such as false knowledge and missing information. He will also focus on feedback expectancy methods to stabilize the analysis process. During this tutorial, experimental results and an analysis of the pros and cons of each method will be presented.

Benefits
This course will enable the attendee to grasp the basic concepts allowing the extraction of geometric primitives from 3D data.

Intended audience
This tutorial is primarily intended for practitioners of computer vision who are interested in state-of-the-art range image processing and understanding. The tutorial requires some basic knowledge of computer vision, differential geometry, and statistics, but these are not prerequisite.

Dr. Pierre Boulanger is a Senior Research Officer at the National Research Council, specializing in the field of range image processing, geometrical modeling, and virtualized reality. He has published more than 50 papers, in journals and for conferences, on various topics relating to range image processing and its applications. Dr. Boulanger has a Ph.D. from the University of Montreal in Electrical Engineering.

12:00 – 13:30 Lunch

13:30 – 17:30 Tutorial Sessions

Session # 3: 3D Engineering Anthropometry
Kathleen M. Robinette, Air Force Research Laboratory, USA

The study of human body measurement (anthropometry) using one-dimensional (1D) technology has been around for centuries and researchers are very comfortable with using this technology. As a result three-dimensional (3D) scanning technology is often viewed as a means to obtain these 1D measurements rather than as a new type of measurement capability.

This tutorial provides an introduction to effective engineering anthropometry practices with emphasis on the advantages and needs for using 3D scanning and analysis tools in modeling and design. Common practices in statistics and modeling will be reviewed and effective practices will be presented with a comparison of using traditional 1D measurements to 3D. New capabilities available with the new technology will also be presented.

Benefits
The aim of the tutorial is to provide the attendees with tools to evaluate and better understand how and when to use 3D anthropometry technologies. The applications to be covered include using 3D anthropometry to evaluate fit, using 3D anthropometry to find and select cases, and using 3D anthropometry in design.

Intended Audience
This tutorial is geared for designers, and engineers with an interest in understanding how to use 3D anthropometry. It is also geared to help model/software developers understand how engineers and designers wish to use 3D anthropometry. It will not assume a background in any particular area.

Kathleen Robinette has been working in this field since 1978 and has been with the U.S Air Force Research Laboratory since 1982. She is the Senior Research Anthropologist and Director of the Computerized Anthropometric Research and Design (CARD) Laboratory. She has been focused on 3D anthropometric research since 1986, and is the director of the CAESAR project, a 3D anthropometry survey of North America and Europe, the first of its kind.

Session # 4: 3D Modeling from Images
Marc Pollefeys (Katholieke Universiteit Leuven, Belgium)

This tutorial describes how 3D models can be obtained from images acquired with a hand-held camera. The course will explain the different components which are required to build an automatic system to do so. The course will cover automatic feature matching, projective reconstruction, self-calibration, dense matching and 3D modeling. It will be illustrated with examples ranging from archaeology and architecture to planetary exploration.

Benefits
This course will enable attendees to understand how 3D models can automatically be obtained from images.

Intended Audience
This course is intended for computer vision and computer graphics researchers who are interested in state-of-the-art methods for obtaining 3D models from images. A basic knowledge of computer vision and 3D geometry is usefull but not required.

Dr. Marc Pollefeys is a Postdoctoral Fellow of the Fund for Scientific Research - Flanders associated with the K.U.Leuven. His research interest includes 3D modelling from images, self-calibration, multi-view geometry, plenoptic modelling, virtual and augmented reality. He has more than 40 papers and publications and won several prizes for his research in 3D modelling from images. He is now involved in several projects, ranging from virtual archaeology to stereobased Mars rover control. Dr. Pollefeys has a Ph.D. in Electrical Engineering from the University of Leuven.

18:00 – 22:00 Exhibition Set-up

Tuesday, May 29 2001

07:30 – 17:30 Registration

08:30 - 09:10 Digitizing, Manipulating and Understanding Three-Dimensional Events
Takeo Kanade, *Carnegie Mellon University, USA* (Invited Speaker)

Session # 1: 3D Sensors

09:10 - 09:35 A Self-Referenced Hand-Held Range Sensor

Patrick Hébert, *Computer Vision and Systems Laboratory, Department of Electrical Engineering, Laval University, Canada*

09:35 - 10:00 Calibration-Free Approach to 3D Reconstruction Using Light Stripe Projections on a Cube Frame

Chang Woo Chu and Soon Ki Jung, *Virtual Reality Laboratory, Department of Computer Engineering, Kyungpook National University, Daegu, Korea*

10:00 - 10:25 Approaches to a Color Scannerless Range Imaging System, Lawrence A. Ray, Kenneth Repich and Louis Gabello, *Eastman Kodak Company, USA*

10:25 - 10:55 Coffee Break

Session # 2: 3D Sensors

10:55 - 11:20 Compact and Portable 3D Camera for Space Applications ,
É. Harvey, M. Arsenault, J.-F. Lavoie, B. Bélanger and M.-A. Boucher, *Institut national d'optique, Sainte-Foy (QC), Canada*

11:20 - 11:45 In Process 3D-Sensing for Laser Material Processing

P. Klinger, B. Spellenberg, J. M. Hermann and G. Haeusler, *Chair for Optics, University of Erlangen-Nuernberg, Erlangen, Germany*

11:45 - 13:20 Lunch

Session # 3: 3D Sensors

13:20 - 13:45 3D Modeling of Archaeological Vessels Using Shape from Silhouette

Srdan Tosovic and Robert Sablatnig, *Vienna University of Technology, Institute of Computer Aided Automation, Pattern Recognition and Image Processing Group, Vienna, Austria*

13:45 - 14:10 Stroboscopic Stereo Rangefinder

Jean-Christophe Nebel, Francisco J. Rodriguez-Miguel and
W. Paul Cockshott, *University of Glasgow, UK*

14:10 - 14:35 Dual-Beam Structured-Light Scanning for 3D Object Modeling

Johnny Park, Guilherme N. DeSouza and Avinash C. Kak, *Purdue University, USA*

14:35 - 15:05 Coffee Break

Session # 4: 3D Sensors

15:05 - 15:30 Structure and Motion from Two Uncalibrated Views Using Points on Planes

Adrien Bartoli, Peter Sturm and Radu Horaud, *INRIA, France*

15:30 - 15:55 A Laser Range Scanner Designed for Minimum Calibration Complexity

James Davis and Xing Chen, *Stanford University, USA*

15:55 - 16:20 3D Rendering With an Amateur Digital Camera

Magdalena Urbanek, Radu Horaud and Peter Sturm, *INRIA Rhone-Alpes, France*

16:20 - 16:45 A 3D Laser Micro-Sensor Integrating Control and Data Processing in an FPGA-Based Calculator

Nestor Arana, Maurice Briot, Christian Ganibal, Alexeandre Nketsa, and Roland Prajoux, *LAAS-CNRS, France*

16:45 - 17:20 Poster presentation (2 minute presentation of each poster)

17:20 - 18:30 Reception and Poster Session

Wednesday, May 30 2001

07:30 – 17:30 Registration

08:30 - 09:10 Modeling from Reality

Katsushi Ikeuchi, *University of Tokyo, Japan* (Invited Speaker)

Session # 5: View Planning and Registration

09:10 - 09:35 View Planning with a Registration Constraint

William R. Scott, *Department of Electrical Engineering, University of Ottawa and Visual Information Technology Group, National Research Council Canada, Ottawa, Canada*

Gerhard Roth, *Visual Information Technology Group, National Research Council Canada*, *Ottawa, Canada*

Jean-François Rivest, *Department of Electrical Engineering, University of Ottawa, Canada*

09:35 - 10:00 Computing Camera Positions from a Multi-Camera Head

Gerhard Roth, *Visual Information Technology Group, National Research Council Canada, Ottawa, Canada*

10:00 - 10:30 Coffee Break

Session # 6: View Planning and Registration

10:30 - 10:55 Efficient Variants of the ICP Algorithm

Szymon Rusinkiewicz and Marc Levoy, *Stanford University, USA*

10:55 - 11:20 Automatic 3D Modeling Using Range Images Obtained from Unknown Viewpoints

Daniel F. Huber, *Robotics Institute, Carnegie Mellon University, USA*

11:20 - 11:45 A Nearest Neighbor Method for Efficient ICP

Michael Greenspan and Guy Godin, *National Research Council Canada, Ottawa, Canada*

11:45 - 13:20 Lunch

Session # 7: View Planning and Registration

13:20 - 13:45 Robust Recognition and Pose Determination of 3D Objects Using Range Images in Eigenspace Approach

Danijel Skocaj and Ales Leonardis, *Faculty of CIS, University of Ljubljana, Slovenia*

13:45 - 14:10 A Method for the Registration of Attributed Range Images

Guy Godin, *National Research Council Canada, Ottawa, Canada*

Denis Laurendeau and Robert Bergevin, *Laval University, Canada*

14:10 - 14:35 Reconstruction of Complex Environments by Robust Pre-Aligned ICP

Vittorio Murino, Luca Ronchetti and Umberto Castellani, *Dipartimento Scientifico e Tecnologico, University of Verona, Italy*

14:35 - 15:05 The Parallel Iterative Closest Point Algorithm

Christian Langis, Michael Greenspan and Guy Godin, *National Research Council Canada, Ottawa, Canada*

15:05 - 15:30 Coffee Break

Session # 8: Geometric Signal Processing

15:30 - 15:55 Real-Time Geometrical Tracking and Pose Estimation Using Laser Triangulation and Photogrammetry

F. Blais , J.-A.Beraldin, S. El-Hakim and L. Cournoyer, *Institute for Information Technology, National Research Council Canada, Ottawa, Canada*

15:55 - 16:20 Affine Transformations of 3D Object Represented with Neural Networks

Emmanouil Piperakis and Itsuo Kumazawa, *Department of Computer Science, Tokyo Institute of Technology, Tokyo, Japan*

16:20 - 16:45 Reliable 3D Surface Acquisition, Registration and Validation Using Statistical Error Models

J. Gühring, *Institute for Photogrammetry, University of Stuttgart, Germany*

18:30 - 21:00 Dinner - Hôtel Loews Le Concorde

Thursday, May 31 2001

07:30 – 16:30 Registration

08:30 - 09:10 How Much 3D-Information can we Acquire?

Gerd Häusler, *University of Erlangen-Nürnberg, Germany* (Invited Speaker)

Session # 9: Geometric Signal Processing

09:10 - 09:35 Comparison of HK and SC Curvature Description Methods

Helmut Cantzler and Robert B. Fisher, *University of Edinburgh, UK*

09:35 - 10:00 Fast Range Image Segmentation by an Edge Detection Strategy

Angel Sappa and Michel Devy, *LAAS-CNRS, France*

10:00 - 10:25 Shape Recovery and Analysis of Large Screw Threads

C. Robertson and R. B. Fisher, *Vision Group, IPAB, Division of Informatics, University of Edinburgh, UK*

10:25 - 10:55 Coffee Break

Session # 10: Object Modeling

10:55 - 11:20 3D Reconstruction from Two Orthogonal Views Using Simulated Annealing Approach

Jing Ning, *Sally McClean Faculty of Informatics, University of Ulster at Coleraine, Co. Londonderry*

Kieran Cranley, *Radiation Protection and Imaging Section Northern Ireland Regional Medical Physics Agency Forster Green Hospital, Belfast, Ireland*

11:20 - 11:45 Processing Range Data for Reverse Engineering and Virtual Reality

S. Karbacher, X. Laboureux, N. Schön and G. Häusler, *Chair for Optics, Physics Institute, University of Erlangen, Germany*

11:45 - 13:20 Lunch

Session # 11: Object Modeling

13:20 - 13:45 A Method of Style Discrimination of Oil Painting Based on 3D Range Data

Naoya Masuda, Kunihito Kato and Kazuhiko Yamamoto, *Gifu University, Japan*

Hideki Tanahashi, *Softopia Japan Foundation, HOIP, Japan*

13:45 - 14:10 Estimation of Elastic Constants from 3D Range-Flow

Jochen Lang and Dinesh K. Pai, *Laboratory of Computational Intelligence, Department of Computer Science, University of British Columbia, Vancouver, Canada*

14:10 - 14:35 Tolerance Control with High Quality 3D Data

F. Prieto, *Universidad Nacional de Colombia Sede Manizales Colombia*

T. Redarce, *Laboratoire d'Automatique Industrielle INSA de Lyon France*

P. Boulanger, *Institute for Information Technology, National Research Council Canada, Ottawa, Canada*

R. Lepage, *LIVIA, École de Technologie Supérieure Montréal, Canada*

14:35 - 15:05 Coffee Break

Session # 12: Environment Modeling

15:05 - 15:30 Reconstructing Urban 3D Model Using Vehicle-Borne Laser Range Scanners

Huijing Zhao and Ryosuke Shibasaki, *Center for Spatial Information Science, University of Tokyo, Japan*

15:30 - 15:55 AVENUE: Automated Site Modeling in Urban Environments

Peter K. Allen, Ioannis Stamos, Atanas Gueorguiev, Ethan Gold and Paul Blaer, *Department of Computer Science, Columbia University, USA*

15:55 - 16:20 Acquisition of Three-Dimensional Information in Real Environment By Using Stereo Omni-Directional System (SOS)

H. Tanahashi, Y. Niwa, *Softopia Japan and JST*, *Japan*

D. Shimada and K. Yamamoto, *Gifu University, Japan*

Friday, June 1 2001

08:00 – 12:00 Registration

08:30 - 09:10 3D Imaging for Computer Graphics (cg) Applications

Holly Rushmeier, *IBM TJ Watson Research Center, USA* (Invited Speaker)

Session # 13: Human Modeling

09:10 - 09:35 3D Modeling System of Human Face and Full 3D Facial Caricaturing

Takayuki Fujiwara and Hiroyasu Koshimizu, *SCCS, Chukyo University, Japan*

Kouta Fujimura, Hitoshi Kihara, Yoshiaki Noguchi and Naoya Ishikawa, *SANYO Electric Co. Ltd, Japan*

09:35 - 10:00 3D Landmark Detection and Identification in the CAESAR Project

Dennis Burnsides and Mark Boehmer, *Sytronics, Inc., Beavercreek, USA*

Kathleen Robinette, *Air Force Research Laboratory, Wright-Patterson AFB, USA*

10:00 - 10:25 A Physically-Based Model for Real-Time Facial Expression Animation

Yu Zhang, Eric Sung and Edmond C. Prakash, *School of Electrical and Electronic Engineering, Nanyang Technological University, Singapore*

10:25 - 10:55 Coffee Break

10:55 - 11:20 Plenary Session on Future Trends of 3D Digitizing

11:20 - 11:45 Plenary Session on Applications of 3D Digitizing and Modeling

11:45 - 12:00 Closing Comments

LIST OF POSTER PRESENTATIONS

1 **Extract and Display Movement Object in All Direction by Using Stereo Omnidirectional System(SOS)**
D. Shimada, K. Yamamoto and K. Kato, *Gifu University, Japan*
H. Tanahashi and Y. Niwa, *SoftopiaJapan and JST, Japan*

2 **Compact 3D Profilometer with Grazing Incidence Diffraction Optics**
Tom Ditto, *DeWitt Brothers Tool Company, USA*

3 **Reconstruction of Surfaces Behind Occlusions in Range Images**
Freek Stulp, Fabio Dell'Acqua and Robert Fisher, *University of Edinburgh, UK*

4 **Planar Patch Extraction with Noisy Depth Data**
Dana Cobzas and Hong Zhang, Department of Computing Science, *University of Alberta, Canada*

5 **Range Image Registration: A Software Platform and Empirical Evaluation**
Gerald Dalley and Patrick J. Flynn, *The Ohio State University, USA*

6 **Generation of Geometric Model by Registration and Integration of Multiple Range Image**
Takeshi Masuda, *Electrotechnical Laboratory, Japan*

7 **Three-Dimensional Shape Modeling with Extended Hyperquadrics**
Munenori Ohuchi and Tsuneo Saito, *Institute of Information Sciences and Electronics, University of Tsukuba, Japan*

8 **Refining Triangle Meshes by Non-Linear Subdivision**
S. Karbacher, S. Seeger and G. Häuser, *University of Erlangen, Germany*

Venue and Dates

The Third International Conference on 3D Digital Imaging and Modeling will be held at the Loews Le Concorde Hotel, 1225, Cours du Général-De Montcalm, Québec City, Canada from May 28 – June 1, 2001.

Official Languages

The official languages of the conference are English and French. There will be no simultaneous interpretation during the Conference.

Format of the Conference

The Scientific Program emphasizes the most recent and exciting developments in 3D imaging and modeling and will cover all aspects from sensors to processing, along with modeling and applications.

Exhibition

In conjunction with the scientific program, commercial companies have been invited to exhibit their products and technology relevant to this Conference. The commercial exhibit will be located in the Krieghoff and Borduas rooms of the Loews Le Concorde Hotel and will be open Tuesday, May 29 to Thursday, May 31 from 10:00 to 17:30 hours.

For further information regarding this exhibition, please contact the Conference Secretariat at:
Third International Conference on 3D Digital Imaging and Modeling
National Research Council Canada
Building M-19, Montreal Road
Ottawa, Ontario, Canada K1A 0R6

Telephone: (613) 993-0414
Facsimile: (613) 993-7250
E-mail: 3dconf@nrc.ca

Financial Assistance

The conference is organized on a self-supporting basis and no financial assistance will be available. We encourage anyone requiring financial support to seek the necessary funding from an institution/ government, company or organization.

Letter of Invitation

The Conference Secretariat will be pleased to send an official letter of invitation to any individual making such a request. It is understood that such an invitation is intended to help potential attendees raise travel funds or obtain a visa. It is not a commitment on the part of the Conference organizers to provide any financial support.

Social Activities

Welcoming Reception
Tuesday, May 29, 2001
17:20 - 18:30
Loews Le Concorde Hotel
Dress: Casual

Conference Banquet
Wednesday, May 30, 2001
18:30 – 21:00
Dress: Business

Additional tickets may be purchased for guests or accompanying persons at $70.00 per person.
**Access by badge – tickets must be presented.

Registration

To participate in the conference everyone must complete the enclosed Registration Form and forward the original copy together with their payment made payable to the **Receiver General for Canada (3D 2001)**, in Canadian or US dollars to:

Conference Secretariat
Third International Conference on 3D Digital Imaging and Modeling
National Research Council Canada
Building M-19, Montreal Road
Ottawa, Ontario, Canada K1A 0R6

Payment may be made by cheque, money order, bank transfer or credit card (Visa, Mastercard or American Express). The organizers do not take responsibility for reimbursement of overpayments due to currency rate fluctuations.

Registration Desk

The Registration Desk will be located at the Loews Le Concorde Hotel on the 3rd floor and will be open:

Monday, May 28	07:30 – 18:00 hrs
Tuesday, May 29	07:30 – 17:30 hrs
Wednesday, May 30	08:00 – 17:30 hrs
Thursday, May 31	08:00 – 17:00 hrs
Friday, June 1	08:00 – 12:00 hrs

Fees

Conference

BEFORE April 1, 2001	
Regular Participant	$800 CAN / $535 US
Student	$400 CAN / $270 US

AFTER April 1, 2001	
Regular Participant	$900 CAN / $600 US
Student	$450 CAN / $300 US

Tutorials

Morning Sessions	$175 CAN / $120 US
Afternoon Sessions	$175 CAN / $120 US

Official Receipt

An official receipt will be mailed to those who have forwarded their payment and Registration Form. Receipts will not be mailed after May 1, 2001. After this date, receipts will be held and given to delegates upon arrival.

Cancellation and Refunds

Participants may withdraw their registration fee and submit this request in writing prior to April 15, 2001. All refunds will be subject to a $75.00 administration charge.

No refund requests will be accepted after this date.

Badges

Badges must be worn at all times in order to gain access into the scientific sessions, exhibition and all social functions.

Accommodation

A block of rooms has been reserved at the Loews Le Concorde Hotel. The conference rate is $189.00 CAN excluding taxes. (Currently, there is a 7% GST and a 7.5% Provincial tax). Please complete the Request for Accommodation Form and forward it directly to the Loews Le Concorde Hotel. To guarantee your hotel room, you must provide the hotel with one night's deposit ($189 CAN) which will be credited to your first night's stay.

Availability of rooms and conference rate can only be guaranteed prior to April 11, 2001.

Accommodation deadline: April 11, 2001.

GENERAL INFORMATION

Conference Secretariat

All correspondence before the Conference should be addressed to:

Conference Secretariat
Third International Conference on 3D Digital Imaging and Modeling
National Research Council Canada
Building M-19, Montreal Road
Ottawa, Ontario, Canada K1A 0R6
Telephone: (613) 993-0414
Facsimile: (613) 993-7250
E-mail: 3dconf@nrc.ca

Health Insurance

Visitors are NOT covered by the Canadian Health Insurance Plan. It is, therefore, recommended that participants arrange their own health and accident insurance. This can be done before leaving home through a local agent or medical association.

Liability

The Conference fees DO NOT include provisions for the insurance of participants against personal injuries, sickness, theft or property damage. This also applies to any event held during the Conference period. Participants and accompanying persons are advised to arrange for insurance that they consider necessary. Neither the Conference Committee, nor its sponsors or committee members assume any responsibility for loss, injury or damage to persons or belongings, whatever their cause may be.

Passports and Visas

Participants are strongly advised to determine which requirements apply to them with respect to entering Canada. For information, please consult your nearest Canadian Embassy, High Commission, Consulate or Customs Agent.

Tourist Information

Those wishing to plan excursions in Canada before or after the Conference can obtain maps, accommodation lists and description of sites of interest from the tourism services of each Canadian province:

Québec	1-800-363-7777 www.bonjourquebec.com
Ontario	1-800-668-2746 www.ontariotravel.net
Newfoundland & Labrador	1-800-563-6353 www.gov.nf.ca/tourism
British Columbia	1-800-663-6000 www.hellobc.com
Alberta	1-800-661-8888 www.travelalberta.com
Saskatchewan	1-877-237-2273 www.sasktourism.com
Manitoba	1-800-665-0040 www.travelmanitoba.com
New Brunswick	1-800-561-0123 www.tourismnbcanada.com
Nova Scotia	1-800-565-0000 www.explorens.com
Prince Edward Island	1-800-463-4734 www.peiplay.com

Please check the Website at **www.travelcanada.ca** for further information. For sites to see and things to do in Québec City such as Museums, Sightseeing Old Québec, Festivals and other attractions this clean and safe city has to offer, please consult the Official Website of the Greater Québec Area Tourism and Convention Bureau at **www.quebecregion.com.**

Urgent Messages

During the Conference, urgent messages may be left at the hotel where the participant is staying.

Weather and Clothing

Formal dress will not be necessary for any of the social functions of the Conference. During the month of May, the weather is pleasant in Québec City. The average high is 20°C (68°F).

THIRD INTERNATIONAL CONFERENCE ON
3D DIGITAL IMAGING AND MODELING
May 28 – June 1, 2001
Québec City, Canada

12_S55_00

REGISTRATION FORM

Please complete and return this form along with your payment to the **Conference Secretariat, 3D Digital Imaging and Modeling, National Research Council Canada, Building M-19, Montreal Road, Ottawa, Ontario Canada K1A 0R6 or by fax at: (613) 993-7250. (Please type or print clearly)**

First Name: _____ Family Name: _____

Title: _____ Affiliation: _____

Address: _____

City, Province (State), Country: _____ Postal Code: _____

Telephone: ( ) _____ Fax: ( ) _____ E-Mail: _____

FEES:

	Received **BEFORE** April 1, 2001	Received **AFTER** April 1, 2001	
Regular Participant	$ 800 CAN/$ 535 US	$ 900 CAN/$ 600 US	$ _____
Student*	$ 400 CAN/$ 270 US	$ 450 CAN/$ 300 US	$ _____

* The following statement must be completed. I certify that (name) _____ is a student currently registered at (name of institution) _____

Department Chair's Signature: _____

Tutorials – Monday, October 4

A – Morning Session – 09:00 - 12:00 hrs (choose only one)
❑ **Session 1:** Active 3D Sensing
❑ **Session 2:** Knowledge Representation in Range Image
Cost: $ 175 CAN/$ 120 US $ _____

B – Afternoon Session – 13:30 - 17:30 hrs (choose only one)
❑ **Session 3:** 3D Engineering Anthropometry
❑ **Session 4:** 3D Modeling from Images
Cost: $ 175 CAN/$ 120 US $ _____

Banquet (included with registration; additional tickets, $ 70 CAN/$ 50 US each) $ _____

Taxes Outside Canada, add 3% GST $ _____

Canadian Residents, add 7% GST $ _____

Québec Residents, add 15.02% GST & QST $ _____

TOTAL Remittance included: ❑ CAN ❑ US **$** _____

Total remittance made payable to: **"Receiver General for Canada (3D 2001)"**
Method of Payment: ❑ Cheque ❑ Money Order ❑ Bank Transfer* ❑ Visa ❑ MasterCard ❑ American Express

Payment by credit card: Name (as it appears on card): _____

Card number: _____ Expiry date: _____

Signature: _____ Date: _____

* Bank transfers should be sent to the Toronto-Dominion Bank, Branch Transit 3232 (Customer Ref. No. 03510140), 106 Sparks Street, Ottawa, Ontario Canada K1P 5B6. Please indicate 3D 2001 on your bank transfer.

Forms received without appropriate remittance do not constitute advance registration. A photocopy of this form is acceptable.