CURRICULUM VITAE

PERSONAL INFORMATION

Name	Christian Lessig
Date of birth	May 8th, 1981
Nationality	German
Address	Department of Computer Science 40 St. George Street M5S 2E4 Toronto, ON Canada
Telephone	001 416 946 8877 (office)
Email	lessig@dgp.toronto.edu
Homepage	http://www.dgp.toronto.edu/people/lessig/
Current status	Ph.D. candidate, Department of Computer Science, University of Toronto; Research assistant, Technische Universität Berlin, Berlin, Germany.

RESEARCH INTERESTS

- Computer graphics:
  - Light transport simulations, in particular its physical and mathematical foundations.
  - Physically-based simulations.
- Applied mathematics:
  - Geometric mechanics, in particular its use for structure-preserving computations for infinite-dimensional systems.
  - Functional analysis, in particular reproducing kernel Hilbert spaces and frames, as a unified perspective for computational techniques.

PUBLICATIONS

C. Lessig, T. de Witt, and E. Fiume, *Efficient and Accurate Rotation of Finite Spherical Harmonics Expansions*, Journal of Computational Physics, Accepted with revisions, 2011.

C. Lessig and E. Fiume, *On the Effective Dimension of Light Transport*, Computer Graphics Forum 29(4) (August 2010, Proceedings of EGSR 2010): 1399-1403.

C. Lessig and P. Bientinesi, *On Parallelizing the MRRR Algorithm*, PPAM 2009.

C. Lessig and E. Fiume, *SOHO: Orthogonal and Symmetric Wavelets on the Sphere*, ACM Trans. Graph., 27(1), January 2008.

H.-F. Pabst, J. P. Springer, A. Schollmeyer, R. Lenhardt, C. Lessig, B. Fröhlich, *Ray Casting of Trimmed NURBS Surfaces on the GPU*, The 2006 IEEE Symposium on Interactive Ray Tracing, September 2006.

C. Lessig, D. Nowrouzezahrai, K. Singh, *GPU-Accelerated Ray Casting of Node-Based Implicit Surfaces*, SIGGRAPH 2006 (Poster), July 2006.

M. Moehring, C. Lessig, O. Bimber, *Video See-Through AR on Consumer Cell-Phones*, ISMAR 2004, November 2004.

M. Moehring, C. Lessig, O. Bimber, *Video See-Through On Consumer Cell-Phones: A First Case Study*, SIGGRAPH 2004 (Sketch), July 2004.

FELLOWSHIPS

2004 - 2007	Studienstiftung des Deutschen Volkes.
2005 - 2006	Okino Computer Graphics Award.
2010 - 2011	Wolfond Fellowship.

EDUCATION

06/2007 - present	Ph.D. candidate, Department of Computer Science, University of Toronto, Canada (Supervisor: Eugene Fiume).
09/2005 - 05/2007	Master of Science, Department of Computer Science, University of Toronto, Canada (Thesis topic: Orthogonal and Symmetric Haar Wavelets on the Sphere).
10/2001 - 12/2004	Bachelor of Science, Fakultät Medien (media systems), Bauhaus Universität Weimar, Germany (Thesis topic: Interactive Ray Tracing and Ray Casting on Programmable Graphics Hardware).
04/2000 - 09/2000	Technische Universität Dresden, Department of Physics, Dresden, Germany.
09/1991 - 07/1999	Albert-Schweitzer-Gymnasium (High School), Ruhla, Germany.

WORK EXPERIENCE

06/2007 - 08/2007	Internship at NVIDIA, Developer Technology Group, London, UK (Supervisor: Mark Harris, Manager: Ashu Rege).
06/2006 - 08/2006	Internship at NVIDIA, Developer Technology Group, London, UK (Supervisor: Mark Harris, Manager: Ashu Rege).
06/2005 - 08/2005	Internship at NVIDIA, Developer Technology Group, London, UK (Supervisor: Mark Harris, Manager: Ashu Rege).
01/2005 - 05/2005	Internship at the Fraunhofer Institute for Computer Graphics, Darmstadt, Germany.

06/2003 - 09/2004	Implementation and maintenance of the online evaluation system at the Fakultät Medien at Bauhaus Universität Weimar, Germany.
10/2003 - 04/2004	Research assistant at Virtual Reality Systems Group, Bauhaus Universität Weimar, Germany.
01/2001 - 09/2001	Internship at Gildemeister AG, IT Department, Seebach, Germany.
01/2000 - 03/2000	Internship at the Max Planck Institute for Dynamics of Complex Technical Systems, Magdeburg, Germany.

TEACHING EXPERIENCE (full courses)

04/2011 - 07/2011	Advanced Image Synthesis, Technische Universität Berlin.

TEACHING EXPERIENCE (teaching assistant)

05/2011	Mini-course on data-parallel programming and modern graphics hardware, part of High-Performance Matrix Computation (Paolo Bientinesi, Martin Buecker), RWTH Aachen.
09/2010 - 04/2011	Computational Reality, Illusion and Deception (Eugene Fiume).
01/2010 - 05/2010	Computers Graphics (Eugene Fiume).
09/2009 - 12/2009	Computers and Society (Eugene Fiume).
09/2008 - 05/2009	Computer Graphics (Kyros Kutulakos, Patrick Coleman).
09/2007 - 05/2008	Computer Graphics (Kyros Kutulakos).
09/2007 - 05/2008	Computational Reality, Illusion and Deception (Eugene Fiume).
09/2006 - 12/2006	Computer Graphics (Aaron Hertzman).
01/2006 - 05/2006	Computer Graphics (Aaron Hertzman).
09/2005 - 12/2005	Programming for Engineering Students.

EXTRA CURRICULAR ACTIVITIES

2007 - 2009	Graduate curriculum renewal committee.
2007 - 2008	Graduate affairs committee, Department of Computer Science, University of Toronto.
2002 - 2004	Member of various university committees (e.g. Fakultätsrat, Studienkomission), Bauhaus Universität Weimar.
2002 - 2004	Student magazine micro (editor in chief, layout, writing).
1999 - 2000	Youth magazine explizit (publisher, editor in chief).

LANGUAGES

- German (mother tongue).
- English (fluent).
- French (basic).
- Spanish (basic).

APPENDIX A (Courses)

Graduate

Special Reading Course (Metropolis Light Transport)	A+
Parallel Programming	A+
Computational Biology	A+
Seminar in Privacy and Security	A
Numerical Software	A
Advanced Image Synthesis	A+
Topics in Software Engineering	A
Geometric Representations in Computer Graphics	A+
Machine Learning	A+

Undergraduate
(Marks range from 1.0 to 5.0, 1.0 = "excellent".)

Bachelor Thesis	1.0
Visualization	1.0
C++ Guru Seminar	1.0
Project: MobilAR	1.0
Computer Graphics	1.3
Computer Supported Cooperative Work	1.3
Networked Systems	1.3
Project: Current Graphics Hardware and its Programming	1.0
Fuzzy Systems	1.3
Logical and Discrete Systems	1.0
Programming Language and Software Development	1.0
Stochastic Systems	2.0
Concurrent Systems	2.0
Higher Mathematics	2.0
Operating Systems	2.7
User Interfaces	2.3
Algorithms and Data Structures	1.7
Numerical Mathematics	1.0
Psycho-Physiological Systems	1.0
Physical Systems	1.0
Media Technology	1.0
Functional Analysis	1.0
Device Architecture	1.7
Introduction to Computer Science	1.7
Intermediate Diplom examination	1.3
Bachelor Diploma	1.2 mit Auszeichnung (A+ mit Distinction)