

Curriculum Vitae

LISA STREIT

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Principal Interests

My research crosses disciplines of Art, Computer Science, Engineering and the Natural Sciences. With a focus in Computer Science, experience working with experts in all these disciplines and teaching students, I am confident that I can both contribute to and benefit from being a part of SIAT community.

- Generally: Continue generating new research relations which contribute to advancing and connecting these fascinating research disciplines and share these advances with the next generation of researchers.
- Specifically: Computer graphics modelling and rendering: interactive and controllable design and modelling of complex scenes, (particularly natural phenomena) using illustrative or sketch-based approaches for use by artists and designers, particularly for non-photorealistic (i.e. rendering) results.

EDUCATION

Ph. D.	Computer Graphics	Imager Computer Graphics Group	Sep. 1998 - Dec. 2003
		Computer Science, University of British Columbia	Degree Awarded May 2004
M. Sc.	Computer Graphics	Render Group	Sep. 1996 - Jul. 1998
		Computing Science, University of Alberta	Degree Awarded Dec. 1998
B. Sc.	Computer Science	Industrial Internship Program	Sep. 1991 - Apr. 1996
		Computing Science, University of Alberta	Degree Awarded Jun. 1996

EMPLOYMENT

- **NSERC Post-Doctoral Fellow:** *Computer Graphics Group, Department of Computer Science, University of Calgary* Jan 2004 - present
- **Research Assistant:** *Imager Computer Graphics Group, Department of Computer Science, University of British Columbia* Sep. 2002- Apr. 2003
involved initiating and organizing two weekly research meetings which involved coordinating research presentations, and invited speakers, paper overviews and communication of conference and paper deadlines.

- **Teaching Assistant:** *Introduction to Computer Graphics* Sep. 2001 - Apr. 2002
Department of Computer Science, University of British Columbia
 involved instruction of labs, answering student's questions, designing, distributing, collecting and marking assignments, designing exam questions and updating the course website of notices and reference materials.
- **Teaching Assistant:** *Introduction to Computer Science* Sep. 1998 - Apr. 1999
Department of Computer Science, University of British Columbia
 Responsibilities included instructing labs, collecting and marking assignments and coordination of the course with the instructor.
- **Instructor:** *Introduction to Computer Science* Jun. 1998 - Aug. 1998
Department of Computing Science, University of Alberta
 involved re-designing the course content, coordinating the labs and teaching assistants, designing assignments and creating and marking exams, administration of course (including web site, and mark submission) and handling student problems.
- **Instructor:** *Summer Youth University, Faculty of Extension* Jun - Aug, 1996, 1997
University of Alberta
 involved teaching senior high school and junior college students the wonders of computer science. The goal was to arouse excitement and interest in computer science. I found this experience both challenging and extremely rewarding and enjoyable.
- **Teaching Assistant:** *Introductory Computer Science & Computer Graphics* Sep. - Jun, 1995 - 1998
Department of Computing Science University of Alberta
 Duties included lab instruction, assignment marking and course coordination with the instructor.
- **Systems Analyst:** *Home Oil Company Ltd. Calgary, Alberta* May 1994 - Aug. 1995
 My responsibilities including coordination, handling and resolution of problem reports from our internal users, conversion of financial accounting system to a new platform and design of a new interface.
- **Teaching Assistant:** *Department of Computing Science and* Sep. 1993 - Apr. 1994
Department of Mathematics, University of Alberta
 I was responsible for marking assignments and preparing solution guides.

RESEARCH PROJECTS

- **Halftoning and Non-photorealistic Rendering** While at the University of Alberta I was involved in research in both halftoning and non-photorealistic rendering, particularly for high quality printed output. Through involvement with the research group I was exposed to tools for simulating various artistic media, as well as for creating illustrative 2D, 3D and animated video sequences.
- **Modelling of Natural Phenomena (Feathers)** At the University of British Columbia my research was in the area of modelling and rendering of natural phenomena. More specifically the modelling of feather coats and feather coat morphogenesis. It was through this research that I recognized the lack of modelling tools for complex and dynamic scenes. I developed a system for modelling feather coats in a dynamic environment, allowing for both movement of the feathers, the underlying skin and for changes in the feather coat.

- **Image-based Illustration and Artistic Texturing** Also during my Ph.D. research at the University of British Columbia, I continued to stay in-touch and involved with the non-photorealistic rendering community. I was involved in two projects, one that used precomputed distributions and graphics hardware to create illustrations at interactive rates and another with the larger NPR community which summarized the work and the current directions of this research area into an instructive course.

FELLOWSHIPS and AWARDS

• NSERC Post-Doctoral Fellowship	Ph.D./UBC	Jan. 2004 - Jan. 2006
• University Graduate Fellowship	Ph.D./UBC	Sep. 2002 - Dec. 2002
• University Graduate Fellowship	Ph.D./UBC	Sep. 2001 - Aug. 2002
• NSERC PGS B Graduate Fellowship	Ph.D./UBC	Sep. 1999 - Aug. 2001
• 3rd Prize of Gunther Enderle Award (3rd Best Conference Paper - Eurographics 1998)	M.Sc./UofA	Aug. 1998- Aug. 1999
• Best Student Paper Award - Eurographics 1998	M.Sc./UofA	Aug. 1998- Aug. 1999
• Mary Louise Imire Graduate Student Award	M.Sc./UofA	Aug. 1998
• Graduate Research Assistantship Award (Highest M.Sc. Grades)	M.Sc./UofA	Sep. 1997 - Apr. 1998
• Graduate Studies Research Scholarship	M.Sc./UofA	Sep. 1997 - Apr. 1998
• Dean's Honour Role	B.Sc./UofA	1992/1993 1996/1997
• Canada Scholarship	B.Sc./UofA	Sep. 1992 - Apr. 1993
• J.R. Longstaffe Leadership Award	B.Sc./UofA	Sep. 1991 - Apr. 1992
• Alexander Rutherford Scholarship	B.Sc./UofA	Sep. 1991 - Apr. 1992

PUBLICATIONS

Theses

- *Modelling of Feather Coat Morphogenesis for Computer Graphics*. Ph.D. thesis, University of British Columbia, December 2003.
- *Importance Driven Halftoning*. M.Sc. thesis, University of Alberta, August 1998.

Tutorials

- Mario Costa Sousa, Brett Achron, Daniel Teece, Sheelagh Carpendale, David S. Ebert, Bruce Gooch, Victoria Interrante, Lisa Streit, Oleg Veryovka, *Theory and Practice of Non-Photorealistic Graphics: Algorithms, Methods, and Production Systems*, ACM SIGGRAPH 2003 Course 10. (During Ph.D.)

Journal Articles

- Streit, L. and Heidrich, W. (2002) A Biological-Parameterized Feather Model. *Computer Graphics Forum (Eurographics)*. Vol. 21, No. 3, pp. 565-573. (Ph.D. Work)

- Streit, L.M. and Buchanan, J.W.(1998) Importance Driven Halftoning. *Computer Graphics Forum (Eurographics)*. Vol. 17, No. 3, pp.207-217. (M.Sc. Work)

Refereed Contributions

- Adrian Secord, Wolfgang Heidrich and Lisa Streit (2002) Fast-Primitive Distribution for Illustration. *Eurographics Workshop on Rendering 2002*. pp. 225-236 (During Ph.D.)
- Lisa Streit and Wolfgang Heidrich. (2002) Modelling of Feathers. *Graphics Interface 2002*. Poster (Ph.D. Work)
- Lisa Streit and Wolfgang Heidrich. (2002) Generating Feather Coats Using Bézier Curves. *Conference Abstracts and Applications of SIGGRAPH 2002 - International Conference on Computer Graphics and Interactive Techniques*. p. 188 (Ph.D. Work)
- John Buchanan and Lisa Streit (1998) Variable Shape Halftoning. *Proceedings of IASTED International Conference on Computer Graphics and Image Manipulation*. July 1998. pp. 45-49. (M.Sc. Work)
- John Buchanan, Lisa Streit and Oleg Veryovka (1998) Edge Enhancement Issues in Halftoning. *Graphics Interface 1998*. pp. 209-216. (M.Sc. Work)

Non-refereed Contributions

- Streit, Lisa and Heidrich, Wolfgang (2001) Modelling the Embryological Distribution of Follicles. *Western Computer Graphics Symposium*. pp. 41-47. (Ph.D. Work)
- Lisa Streit, Oleg Veryovka and John Buchanan (1999) Non-photorealistic Rendering using an Adaptive Halftoning Technique. *Tenth Western Computer Graphics Symposium*. pp. 37-45. (During Ph.D.)
- John Buchanan and Lisa Streit (1997) Threshold-diffuse hybrid Halftoning Methods. *Eighth Western Computer Graphics Symposium*. pp. 79-90. (M.Sc. Work)

PRESENTATIONS

- *Modelling Plant Variations*, University of Calgary, September 2004.
- *Literature Overview of Plant Movements*, University of Calgary, September 2004.
- *Modelling of Feather Coat Morphogenesis*, University of Calgary, February 2004.
- *Modelling of Feather Coat Morphogenesis*, University of British Columbia, November 2004.
- *Artistic Texturing: Theory and Practice of Non-Photorealistic Graphics: Algorithms, Methods, and Production Systems*, ACM SIGGRAPH 2003 - Course 10, San Diego California, July 2003.
- *A Biological-Parameterized Feather Model*, Eurographics 2002, Saarbruecken Germany, Sept. 2002.

- *Generating Feather Coats Using Bézier Curves*, Conference Abstracts and Applications of SIGGRAPH 2002 - International Conference on Computer Graphics and Interactive Techniques, San Antonio Texas, July 2002.
- *Modelling of Feathers*, Graphics Interface Poster Presentation, Calgary Canada, May 2002.
- *Modelling of Feathers*, British Columbia Advanced Systems Institute Exchange, Poster Presentation, Vancouver Canada, April 2002.
- *Modelling the Embryological Distribution of Follicles*, Twelfth Western Computer Graphics Symposium, Kamloops Canada, May 2001.
- *Imager Computer Graphics Lab Overview*, Twelfth Western Computer Graphics Symposium, Kamloops Canada, May 2001.
- *Non-photorealistic Rendering using an Adaptive Halftoning Technique* Tenth Western Computer Graphics Symposium, Banff Canada, May 1999.
- *Importance Driven Halftoning*, Eurographics 1998, Lisbon Portugal, September 1998. (received awards for 3rd best conference paper and best student paper).
- *Threshold-diffuse hybrid Halftoning Methods*, Eighth Western Computer Graphics Symposium, Whistler Canada, May 1997.

REVIEWING

- ACM SIGGRAPH Annual Conference 2001, 2002
- Eurographics Conference 2004
- Eurographics Symposium on Rendering, 2003
- Graphics Interface 2001, 2002, 2003, 2004
- IEEE Transactions on Image Processing 2004
- Journal of Graphics Tools 2002 - Special Issue on Hardware Accelerated Rendering Techniques
- Visual Computer 2004

OTHER ACADEMIC INVOLVEMENT/SERVICE

- **Research and Collaboration:** I was pivotal in the establishment and coordination of two main research seminars for computer graphics at UBC as well as many social events that have brought faculty, students and industry together. These seminars and social events have helped our research lab remain together after moving to a new building and losing one of our key Faculty to illness. I have presented overviews of our lab both at department meetings and conferences. And I have been involved in organizing social gatherings at International conferences to promote communication between colleagues.

As a member of IEEE, ACM and Eurographics I have tried diligently to keep both myself and my colleagues well informed of relevant papers, calls for papers and conference deadlines. I was also the

lab advocate to encourage students to attend and have organized student travel and accommodations to various conferences.

- **Committee and Leadership Work:** During my Ph.D. I served on the Space Committee involved in coordinating office allocation and redesign of department space in addition to the initial planning of a new building. I was also the graduate student representative for the graduate student seminars. I was responsible for scheduling guest speakers and initiating discussions with new graduates about library resources, department machine and network resources, guidelines on how to find a thesis topic, and how to be good research and teaching assistants. I was also involved in communicating research to industrial representatives through participation in the ASI (BC Advanced Systems Institute) Exchange.

During my M.Sc. I was the Treasurer of the CSGSA (Computer Science Graduate Student Association). Through the CSGSA and my active involvement in the graphics research group at the University of Alberta, I have been involved in organizing various events including gatherings for new graduates, department candidate talks and visits, industry visits and coordination of graduate student conference travel. I was also the grad “gripe” representative who was responsible for providing an anonymous venue for communicating graduate student issues/gripes to faculty members.

PROFESSIONAL MEMBERSHIPS

- Association for Computing Machinery (ACM), since 1999
- Eurographics Association, since 1999
- Institute of Electrical and Electronics Engineers (IEEE), since 1998