

Timothy R. Langlois

education Ph.D., Computer Science, Cornell University, 2011–2016.

Advised by Doug James

Courses:

- Nonlinear Finite Element Methods
- Computational Motion
- Dynamical Systems
- Sparse Matrix Computations
- Programming Languages and Logics
- Realistic Image Synthesis
- Partial Differential Equations
- Operating Systems
- Analysis of Algorithms

B.S., Computer Systems Engineering, University of Massachusetts Amherst, 2009.

Summa Cum Laude

Double major in Computer Science

**research
interests** Computer Graphics
Computational Physics
Acoustics
Scientific Computing

publications *Conference and Journal Articles*

Pedro Morgado, Nuno Vasconcelos, Timothy Langlois, Oliver Wang. “[Self-Supervised Generation of Spatial Audio for 360° Video](#).” *Neural Information Processing Systems (NIPS)*. December, 2018.

Jui-Hsien Wang, Ante Qu, Timothy R. Langlois, Doug James. “[Toward Wave-based Sound Synthesis for Computer Animation](#).” *ACM Transactions on Graphics (SIGGRAPH 2018)*. 37(4), August, 2018.

Dingzeyu Li, Timothy R. Langlois, Changxi Zheng. “[Scene-Aware Audio for 360° Videos](#).” *ACM Transactions on Graphics (SIGGRAPH 2018)*. 37(4), August, 2018.

Timothy R. Langlois, Ariel Shamir, Daniel Dror, Wojciech Matusik, David I.W. Levin. “[Stochastic Structural Analysis for Context-Aware Design and Fabrication](#).” *ACM Transactions on Graphics (SIGGRAPH Asia 2016)*. 35(6), December, 2016.

Timothy R. Langlois, Changxi Zheng, and Doug L. James. “[Toward Animating Water with Complex Acoustic Bubbles](#).” *ACM Transactions on Graphics (SIGGRAPH 2016)*. 35(4), July, 2016.

Timothy R. Langlois, Steven S. An, Kelvin K. Jin, and Doug L. James. “[Eigenmode Compression for Modal Sound Models](#).” *ACM Transactions on Graphics (SIGGRAPH 2014)*. 33(4), August, 2014.

Timothy R. Langlois and Doug L. James. “[Inverse-Foley Animation: Synchronizing rigid-body motions to sound](#).” *ACM Transactions on Graphics (SIGGRAPH 2014)*. 33(4), August, 2014.

Timothy R. Langlois, Ramgopal R. Mettu, and Richard W. Vachet. “[Protein Identification Using Receptor Arrays and Mass Spectrometry](#).” *Advances in Computational Biology*, Springer Advances in Experimental Medicine and Biology Series. 680, 343–351, 2010.

Patents

Srinivas Ravela, William J. Dupree, Timothy R. Langlois, Marilyn M. Wolfson, and Christopher M. Yang. “[Method and apparatus for generating a forecast weather image](#).” U.S. Patent No. 8,625,840. 7 Jan. 2014.

- experience** Research Scientist: Adobe Research Creative Technologies Lab, 2016-Present.
 Research Intern: Disney Research Boston, 2015 (summer).
 Software Engineer: MIT Lincoln Laboratory, 2009–2011.
 Developed distributed, real-time weather prediction algorithms.
 Software Engineering Intern: Raytheon, 2008 (summer).
 Software Engineering Intern: DEKA Research and Development, 2006–2008 (summers/winters).
 Developed software for embedded systems on various medical devices.
- teaching** Teaching Assistant: Physically Based Animation (CS5643), Cornell University, 2015.
 Teaching Assistant: Introduction to Computer Graphics (CS4620), Cornell University, 2013.
- service** Reviewer:
- ACM SIGGRAPH
 - ACM SIGGRAPH Asia
 - ACM TON
 - CGF
 - TVCG
 - ECCV
 - Pacific Graphics
 - IEEE VR
- Volunteer: Adobe Employee Community Fund Grant Committee, 2018.
 Reviewed applications from nonprofit organization for Adobe grants.
- Organizer: Cornell Computer Science Student Brown Bag Seminar, 2013–2015.
 Organized weekly presentations on current research by graduate students.
- Volunteer: Expand Your Horizons, 2012.
 Co-organized an educational workshop for middle-school students.
- grants & awards** Recipient: National Science Foundation, Graduate Research Fellowship, 2012–2016.