

Andrew Nealen

Computer Science and Engineering
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Prof. Dr.-Ing. Andrew Nealen
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RESEARCH INTERESTS Computational modeling in games, game programming and design, computer aided game design, computer graphics, interactive techniques, geometric modeling, human perception, computer animation, physically-based modeling

CURRENT POSITION Assistant Professor of Computer Science at NYU

EDUCATION ◇ **Technische Universität Berlin**, Germany.
Ph.D. (Dr.-Ing.) in Computer Science (Summa Cum Laude), 2003 – September 2007. Thesis title: *Algorithms and Interfaces for the Creation, Modification and Optimization of Surface Meshes*.

◇ **University of British Columbia**, Canada.
Fall 2001 – Spring 2002. Graduate Computer Science studies.

◇ **Technische Universität Darmstadt**, Germany.
M.Sc. (Dipl.-Inform.) in Computer Science, 1999 – May 2003.
Thesis title: *Hybrid Texture Synthesis*.

◇ **Technische Universität Darmstadt**, Germany.
Spring 1997 – Summer 1999. Graduate studies in Material Science.

◇ **Technische Universität Darmstadt**, Germany.
M.Sc. (Dipl.-Ing.) in Civil Engineering (Structural Engineering and Architecture), 1989 – 1996. Thesis title: *Energy Conserving Construction Design*.

GRANTS ◇ Winston Foundation grant for the development of *Game Design for Citizen Science* (\$75,000, co-PI with Frank Lantz, start: jan 2015, finish: dec 2015)

◇ *Goddard Junior Faculty Fellowship* (\$4,000, start: july 2014, finish: july 2015)

◇ NSF grant for research on *Thermodynamic Cycles and Relaxation Timescales in Surface Hybridization* (\$53,934 total funds for my lab, co-PI with PI Rastislav Levicky, start: may 2013, finish: may 2014)

◇ NSF grant for research on *Human Centric Computing: Dynamic Skeletal Part Hierarchies for Sketching 3D Shapes and Their Animations* (\$499,272, solo PI, start: september 2009, finish: august 2014)

AWARDS
AND
SCHOLARSHIPS

- ◇ *Best Paper Award* for the paper *Exploring Game Space Using Survival Analysis at Foundations of Digital Games* (June 2015)
- ◇ *Apple Design Award 2011* for *Osmos* (June 2011)
- ◇ Awarded *iPad Game of the Year* for *Osmos* by Apple Computer Inc. (December 2010)
- ◇ Awarded *best of show* and *most fun/compelling* at IndieCade for video game *Osmos* (October 2009)
- ◇ D2D vision award at the Independent Games Festival (IGF) for video game *Osmos* (March 2009)
- ◇ INI-GraphicsNet best paper award (2006)
- ◇ JSPS scholarship for research at The University of Tokyo, Japan (2005)
- ◇ INI-GraphicsNet best thesis award (2003)
- ◇ DAAD graduate scholarship for the University of British Columbia (2001/2002)
- ◇ Highest ranked graduate student in Civil Engineering, TU Darmstadt (1997)

PUBLICATIONS

Journal papers (9)

- ◇ Ming Jin, Dan Gopstein, Yotam Gingold and Andrew Nealen. AniMesh: Interleaved Animation, Modeling and Editing. Accepted for publication at *SIGGRAPH Asia*, 2015.
- ◇ Timothy Gerstner, Adam Finkelstein, Marc Alexa, Doug DeCarlo, Yotam Gingold and Andrew Nealen. Pixelated Image Abstraction with Integrated User Constraints. *Computers & Graphics* Vol. 37, Issue 5, August 2013.
- ◇ Peter Borosan, Ming Jin, Doug DeCarlo, Yotam Gingold and Andrew Nealen. RigMesh: Automatic Rigging for Part-Based Shape Modeling and Deformation. *ACM Transactions on Graphics* Vol. 31, Issue 6 (*Proceedings of SIGGRAPH Asia*), 2012.
- ◇ Adrian Secord, Cynthia Lu, Adam Finkelstein, Manish Singh and Andrew Nealen. A Perceptual Model of Viewpoint Preference. *ACM Transactions on Graphics* Vol. 30, Issue 5, October 2011.
- ◇ Kenshi Takayama, Olga Sorkine, Andrew Nealen and Takeo Igarashi. Volumetric Modeling with Diffusion Surfaces. *ACM Transactions on Graphics* Vol. 29, Issue 5 (*ACM SIGGRAPH Asia*), 2010.
- ◇ Johannes Zimmermann, Andrew Nealen and Marc Alexa. Sketching Contours. *Computers & Graphics*, 32(3):486–499, 2008.
- ◇ Andrew Nealen, Takeo Igarashi, Olga Sorkine and Marc Alexa. FiberMesh: Designing Freeform Surfaces with 3D Curves. *ACM Transactions on Graphics (Proceedings of ACM SIGGRAPH)*, 26(3), article no. 41, 2007.
- ◇ Andrew Nealen, Olga Sorkine, Marc Alexa and Daniel Cohen-Or. A Sketch-Based Interface for Detail-Preserving Mesh Editing. *ACM Transactions on Graphics (Proceedings of ACM SIGGRAPH)*, 24(3):1142–1147, 2005.

- ◇ Andrew Nealen, Matthias Müller, Richard Keiser, Eddy Boxerman and Mark Carlson. Physically-Based Deformable Models in Computer Graphics. *Computer Graphics Forum*, 25(4):809 - 836, 2005.

Refereed proceedings (15)

- ◇ Aaron Isaksen and Andy Nealen. Comparing Player Skill, Game Variants, and Learning Rates with Survival Analysis. To appear in *Player Modeling Workshop at the AAAI Conference on Artificial Intelligence and Interactive Digital Entertainment*, November 2015.
- ◇ Aaron Isaksen, Dan Gopstein, Julian Togelius, and Andy Nealen. Discovering Unique Game Variants. In proceedings of *Computational Creativity and Games Workshop*, Sixth International Conference on Computational Creativity (ICCC) 2015, July 2015.
- ◇ Aaron Isaksen, Dan Gopstein, and Andy Nealen. Exploring Game Space Using Survival Analysis. In proceedings of *Foundations of Digital Games (FDG) 2015*, June 2015. **Best Paper Award** <http://www.fdg2015.org/program.html#bpa>.
- ◇ Andy Nealen. Ascension: a Case Study in Deckbuilding Games. In proceedings of *Digital Games Research Association (DiGRA) 2013*, August 2013.
- ◇ Timothy Gerstner, Adam Finkelstein, Marc Alexa, Doug DeCarlo, Yotam Gingold and Andrew Nealen. Pixelated Image Abstraction. In proceedings of *International Symposium on Non-Photorealistic Animation and Rendering (NPAR) 2012*, June 2012.
- ◇ Andrew Nealen, Adam Saltsman and Eddy Boxerman. Towards Minimalist Game Design. In proceedings of *Foundations of Digital Games (FDG) 2011*.
- ◇ Péter Borosán, Reid Howard, Shaoting Zhang and Andrew Nealen. Hybrid Mesh Editing. In proceedings of *Eurographics 2010*.
- ◇ Shaoting Zhang, Andrew Nealen and Dimitris Metaxas. Skeleton Based As-Rigid-As-Possible Volume Modeling. In proceedings of *Eurographics 2010*.
- ◇ Andrew Nealen, Justus Pett, Marc Alexa and Takeo Igarashi. GridMesh: fast and high quality 2D Mesh generation for interactive 3D shape modeling. In *IEEE International Conference on Shape Modeling and Applications, 2009 (SMI 2009)*., 155–162, 2009.
- ◇ Johannes Zimmermann, Andrew Nealen and Marc Alexa. SilSketch: Automated Sketch-Based Editing of Surface Meshes. In *Eurographics Workshop on Sketch-Based Interfaces and Modeling*, 23–30, 2007.
- ◇ Andrew Nealen, Takeo Igarashi, Olga Sorkine and Marc Alexa. Laplacian Mesh Optimization. *ACM GRAPHITE*, 381–389, 2006.
- ◇ Anders Adamson, Marc Alexa and Andrew Nealen. Adaptive Sampling of Intersectable Models Exploiting Image and Object-space Coherence. In *ACM SIGGRAPH Symposium on Interactive 3D Graphics and Games*, 171–178, 2005.

- ◇ Matthias Müller, Richard Keiser, Andrew Nealen, Mark Pauly, Markus Gross and Marc Alexa. Point Based Animation of Elastic, Plastic and Melting Objects. In *ACM SIGGRAPH / Eurographics Symposium on Computer Animation*, 141–151, 2004.
- ◇ Andrew Nealen and Marc Alexa. Fast and High Quality Overlap Repair for Patch-Based Texture Synthesis. In *Computer Graphics International*, 582–585, 2004.
- ◇ Andrew Nealen and Marc Alexa. Hybrid Texture Synthesis. In *Eurographics Symposium on Rendering*, 97–105, 2003.

Book Chapters (2)

- ◇ Andrew Nealen and Marc Alexa. The Creation and Modification of 3D Models Using Sketches and Curves. In *Sketch-Based Interfaces and Modeling*, Springer Berlin Heidelberg, DOI 10.1007/978-1-84882-812-4 (2011).
- ◇ Marc Alexa and Andrew Nealen. Mesh Editing Based on Discrete Laplace and Poisson Models. In *Advances in Computer Graphics and Computer Vision*, Springer Berlin Heidelberg, DOI 10.1007/978-3-540-75274-5 (2008).

Games (4)

- ◇ Eddy Boxerman, Dave Burke, Kun Zhang, and Andy Nealen. Osmos Multiplayer. Published on *iOS*, (2012). <https://itunes.apple.com/us/app/osmos/id382991304>
- ◇ Andy Nealen and Rupert Helbig. Grow21. Published under a Creative Commons Attribution-NonCommercial-ShareAlike 3.0 Unported License. tabletop, (2011). http://www.nealen.net/projects/grow21_rules.pdf
- ◇ Eddy Boxerman, Dave Burke, Aaron Barsky, Kun Zhang, and Andy Nealen. Osmos Mobile. Published on *iOS*, (2010). <https://itunes.apple.com/us/app/osmos/id382991304>
- ◇ Eddy Boxerman, Dave Burke, Kun Zhang, and Andy Nealen. Osmos. Published on *Steam* PC/Mac OS/Linux, (2009/2010). <http://store.steampowered.com/app/29180/>

Technical reports (2)

- ◇ Andrew Nealen and Olga Sorkine. A note on boundary constraints for linear variational surface design. Technical Report, TU Berlin, 2007.
- ◇ Andrew Nealen. An as-short-as-possible introduction to the least squares, weighted least squares and moving least squares methods for scattered data approximation and interpolation. Technical Report, TU Darmstadt, 2004.

Online Articles (2)

- ◇ Andrew Nealen. My Tabletop Games of 2014. Medium, 2014. <https://medium.com/board-games/my-tabletop-games-of-2014-e4f8d903ffab>

- ◇ Andrew Nealen. The 10 Best Board Games of 2013. Paste, 2013.
<http://www.pastemagazine.com/blogs/lists/2013/12/the-10-best-boardgames-of-2013.html>

Material science (5)

- ◇ Peter Grübl, Andrew Nealen and Norbert Schmidt. Concrete made from recycled aggregate: experiences from the building project Waldspirale. In *Darmstadt Concrete – Annual Journal 14*, TU Darmstadt, 1999.
- ◇ Peter Grübl and Andrew Nealen. Construction of an office building using concrete made from recycled demolition material. In *Symposium on sustainable construction*, University of Dundee, 1998.
- ◇ Andrew Nealen and Sven Schenk. The Influence of recycled aggregate core moisture on freshly mixed and hardened concrete properties. In *Darmstadt Concrete – Annual Journal 13*, TU Darmstadt, 1998.
- ◇ Christoph Lemmer, Markus Rühl and Andrew Nealen. Correction of consistency of concrete made with aggregates from concrete rubble. In *Darmstadt Concrete – Annual Journal 13*, TU Darmstadt, 1998.
- ◇ Andrew Nealen and Markus Rühl. Consistency aspects in the production of concrete using aggregates from recycled demolition material. In *Darmstadt Concrete – Annual Journal 12*, TU Darmstadt, 1997.

WORK EXPERIENCE

- ◇ **Assistant Professor of Computer Science**
NYU Polytechnic School of Engineering (September 2012 – Today)
- ◇ **Core Team Member**
Hemisphere Games (September 2007 – Today)
- ◇ **Assistant Professor of Computer Science**
Rutgers University (September 2008 – July 2012)
- ◇ **Postdoctoral Researcher and Lecturer**
Technische Universität Berlin (October 2007 – August 2008)
Teaching: game design and programming
- ◇ **Research Assistant, Teaching Assistant and PhD Student**
Technische Universität Darmstadt and
Technische Universität Berlin (June 2003 – September 2007)
Teaching: introductory and advanced computer graphics, linear algebra
- ◇ **Software Developer**, Signal 7, Darmstadt, Germany (May 2002 - May 2003)
Red Bull Web-based Content Management System (www.redbull.de)
Java J2EE/XML/XSL module development for a worldwide operating intranet system
- ◇ **Research and Teaching Assistant**
Imager Computer Graphics Lab, UBC (September 2001 – April 2002)
Research: port of existing graphics demo software to SGI OS
Teaching: advanced software engineering, Java server programming

- ◇ **Software Developer**, Signal 7, Darmstadt, Germany (April 2000 - August 2001) Java module development for various content management systems
- ◇ **Research Assistant, Teaching Assistant and PhD Student**
Technische Universität Darmstadt (July 1997 – September 1999)
Teaching: material science, material mechanics, concrete construction
Research: material science, concrete construction, concrete recycling
- ◇ **Engineering/Architectural Consultant**
Reuter Architects and Engineers, Idstein, Germany (July 1989 - June 1997)
Worked in all key areas of construction planning, execution and management
Design, construction and maintenance of bridges, urban housing, and industrial buildings.
- ◇ **CS-GY 9223 Game Design Research**, Fall 2015, Enrollment: 16, Graduate Seminar, NYU
- ◇ **CS-GY 9223 Game Design for Citizen Science**, Spring 2015, Enrollment: 12, Graduate Class, NYU
- ◇ **CS-GY 6553 / CS-UY 4553 Game Design**, Spring 2015, Enrollment: 16, Cross-listed Class, NYU
- ◇ **CS-GY 6533 / CS-UY 4533 Interactive Computer Graphics**, Fall 2014, Enrollment: 28, Cross-listed Class, NYU
- ◇ **CS 9223 Minimalist Game Design**, Spring 2014, Enrollment: 16, Cross-listed Class, NYU
- ◇ **CS 6533 Interactive Computer Graphics**, Fall 2013, Enrollment: 26, Cross-listed Class, NYU Poly
- ◇ **CS 9223 Minimalist Game Design**, Spring 2013, Enrollment: 16, Cross-listed Class, NYU Poly
- ◇ **CS 6533 Interactive Computer Graphics**, Fall 2012, Enrollment: 30, Cross-listed Class, NYU Poly
- ◇ **CS 672 Video Game Design and Programming**, Spring 2012, Enrollment: 16, Cross-listed Class, Rutgers
- ◇ **CS 523 Computer Graphics: Shape Modeling**, Spring 2011, Enrollment: 16, Graduate Class, Rutgers
- ◇ **CS 428 Introduction to Computer Graphics**, Fall 2010, Enrollment: 30, Cross-listed Class, Rutgers
- ◇ **CS 672 Video Game Programming and Design**, Spring 2010, Enrollment: 16, Cross-listed Class, Rutgers
- ◇ **CS 428 Introduction to Computer Graphics**, Fall 2009, Enrollment: 30, Cross-listed Class, Rutgers
- ◇ **CS 500 Computer Science Seminar: Computer Graphics: Modeling, Animation and Games**, Fall 2009, Enrollment: 8, Graduate Seminar, Rutgers

GRADUATE
AND
UNDER-
GRADUATE
CLASSES

- ◇ **CS 195 Honors Seminar in Computer Science:** Video Game Design, Spring 2009, Enrollment: 12, Undergraduate Seminar, Rutgers
- ◇ **CS 523 Computer Graphics:** Shape Modeling, Spring 2009, Enrollment: 18, Graduate Class, Rutgers
- ◇ **0433 L 370 Game Programming,** Summer 2008, Enrollment: 16, Undergraduate Class, TU Berlin
- ◇ **0433 L 370 Game Programming,** Winter 2007/08, Enrollment: 16, Undergraduate Class, TU Berlin
- ◇ **0433 L 370 Game Programming,** Summer 2007, Enrollment: 16, Undergraduate Class, TU Berlin

PHD
STUDENTS
ADVISED

- ◇ **Zhu Wang:** Interfaces and Modalities for Navigation in Mixed Virtual Reality. NYU, PhD Thesis, Expected Graduation: fall 2020 (Co-advisor: Prof. Ken Perlin, NYU)
- ◇ **Fernando Silva:** Interfaces and Visualizations for Interactive Game Design. NYU, PhD Thesis, Expected Graduation: fall 2019
- ◇ **Dan Gopstein:** Human Perception and Behavior in Computer Graphics Applications and Games. NYU, PhD Thesis, Expected Graduation: fall 2019
- ◇ **Aaron Isaksen:** Computational Modeling for Computer Aided Game Design. NYU, PhD Thesis, Expected Graduation: fall 2017
- ◇ **Ming Jin:** User Interfaces for Rigged Character Animation. NYU, PhD Thesis, Expected Graduation: spring 2016
- ◇ **Peter Borosan:** Automatic Meshing and Rigging for the Creation and Deformation of 3D Shapes. Rutgers University, PhD Thesis, 2013 (now at Google)
- ◇ **Adrian Secord:** Creating collections and evaluating viewpoints: Selection techniques for interface design. New York University, PhD Thesis, September 2010 (Co-advisor: Prof. Denis Zorin, NYU) (now at Google)

POSTDOCTORAL
FELLOWS

- ◇ **Bert Buchholz:** Virtual Camera Control and Teaching with Games. 2013-2014 (now Postdoctoral fellow at TU Delft)
- ◇ **Yotam Gingold:** Interfaces and Algorithms for Meshing and Modeling Shapes. 2011-2012 (now Assistant Professor at GMU)

MSC
STUDENTS
ADVISED

- ◇ **Timothy Gerstner:** Pixelated Image Abstraction. Rutgers University, M.Sc. Thesis, March 2013
- ◇ **Kristian Bergmann:** User Interfaces Based on a Handheld Projection Screen. TU Berlin, M.Sc. Thesis (Dipl.-Inform.), March 2009 (Co-advisor: Prof. Marc Alexa, TU Berlin)
- ◇ **Justus Pett:** Sketching Meshes. TU Berlin, M.Sc. Thesis (Dipl.-Inform.), May 2008 (Co-advisor: Prof. Marc Alexa, TU Berlin)
- ◇ **Johannes Zimmermann:** Automated, Sketch Based Editing of Triangle Meshes. TU Berlin, M.Sc. Thesis (Dipl.-Inform.), July 2007 (Co-advisor: Prof. Marc Alexa, TU Berlin)

- ◇ **Falk Schaub:** Real-Time Shadow Rendering using Image and Object Space Techniques. TU Darmstadt, M.Sc. Thesis (Dipl.-Inform.), October 2004 (Co-advisor: Prof. Marc Alexa, TU Darmstadt)
- ◇ **Paulo Goncalves:** Simulating Landslides on the GPU. TU Darmstadt, M.Sc. Thesis (Dipl.-Ing.), October 2004 (Co-advisors: Prof. Stefan Schäfer, TU Darmstadt; Prof. Marc Alexa, TU Darmstadt)
- ◇ **Sven Schenk:** The Influence of recycled aggregate core moisture on freshly mixed and hardened concrete properties. TU Darmstadt, M.Sc. Thesis (Dipl.-Ing.), October 1998 (Co-advisor: Prof. Peter Grübl)
- ◇ **Norbert Schmidt:** Concrete made from recycled aggregate: Experiences from the building project Waldspirale. TU Darmstadt, M.Sc. Thesis (Dipl.-Ing.), October 1999 (Co-advisor: Prof. Peter Grübl)

UNDERGRADUATE
STUDENTS
ADVISED

- ◇ **Christian Appelt:** Real-Time 3D Vehicle Simulation. TU Berlin, Undergraduate Thesis, August 2007 (Co-advisor: Prof. Marc Alexa, TU Berlin)
- ◇ **Julien Koenen:** Image Space Smoothies for Real-Time Shadow Rendering on the GPU. TU Darmstadt, Undergraduate Thesis, February 2006 (Co-advisor: Prof. Marc Alexa, TU Darmstadt)

THESIS
COMMIT-
TEES

- ◇ **David Harmon:** Robust, Efficient, and Accurate Contact Algorithms, Ph.D. Thesis, Columbia University, 2010, Advisor: Eitan Grinspun
- ◇ **Yotam Gingold:** 2D-Centric Interfaces and Algorithms for 3D Modeling, Ph.D. Thesis, New York University, 2009, Advisor: Denis Zorin

RESEARCH
VISITS

- ◇ The University of Tokyo, research visit, Autumn 2005. Interactive mesh construction, editing and optimization (with Takeo Igarashi).
- ◇ Tel Aviv University, research visit, Autumn 2004. Sketch based modeling and interactive shape editing interfaces (with Olga Sorkine and Daniel Cohen-Or).
- ◇ ETH Zürich, research visit, January 2004. Point Based Animation of Elastic, Plastic and Melting Objects (with Matthias Müller, Richard Keiser, Mark Pauly and Markus Gross).

PROFESSIONAL
ACTIVITIES

Editorial (2)

- ◇ *Practice: The Journal of Game Design*, NYU Press, Editor-in-Chief (EIC)
- ◇ *The Journal of Puzzle & Game Design*, <http://www.cameronius.com/gapd/>, Editorial Panel

Conference Program Co-Chair (5)

- ◇ BIRS Workshop on Computational Modeling in Games 2016, Co-organizer
- ◇ Foundations of Digital Games 2015, Game Technology Track Chair
- ◇ Foundations of Digital Games 2012, Game Design Track Chair
- ◇ IndieCade Conference 2011, Culver City, Los Angeles

- ◇ 2011 Symposium on Sketch Based Interfaces and Modeling, Vancouver, Canada

International Program Committee member (29)

- ◇ SIGGRAPH 2016 Technical Papers
- ◇ Eurographics 2016 Papers
- ◇ Symposium on Computer Animation 2015
- ◇ SIGGRAPH Asia 2014 Technical Briefs and Posters
- ◇ SIGGRAPH 2014 Technical Papers
- ◇ Motion in Games 2014
- ◇ SIGGRAPH Asia 2013 Technical Briefs and Posters
- ◇ SIGGRAPH 2013 Technical Papers
- ◇ Motion in Games 2013
- ◇ Independent Games Festival 2013 Technical Excellence and Grand Prize Juries
- ◇ Eurographics 2013 Papers
- ◇ Independent Games Festival 2012 Technical Excellence and Grand Prize Juries
- ◇ Eurographics/ACM SIGGRAPH Symposium on Geometry Processing 2012
- ◇ Shape Modeling International 2012
- ◇ Motion in Games 2012
- ◇ Eurographics/ACM SIGGRAPH Symposium on Geometry Processing 2011
- ◇ Pacific Graphics 2011
- ◇ Independent Games Festival 2011 Technical Excellence and Grand Prize Juries
- ◇ Eurographics/ACM SIGGRAPH Symposium on Geometry Processing 2010
- ◇ Symposium on Sketch Based Interfaces and Modeling 2010
- ◇ ACM SIGGRAPH 2009 General + Late Breaking Jury
- ◇ ACM SIGGRAPH 2009 Games Papers
- ◇ ACM SIGGRAPH/Eurographics Symposium on Computer Animation 2009
- ◇ Eurographics/ACM SIGGRAPH Symposium on Geometry Processing 2009
- ◇ Independent Games Festival Student Games Jury 2009
- ◇ ACM SIGGRAPH 2008 General + Late Breaking Jury
- ◇ ACM SIGGRAPH ASIA 2008 Sketches & Posters
- ◇ Eurographics 2008 Short Papers
- ◇ ACM SIGGRAPH 2007 Sketches & Posters

Reviewer service

- ◇ **Conferences:** ACM SIGGRAPH, ACM SIGCHI, Foundations of Digital Games (FDG), Digital Games Research Association (DiGRA), Eurographics, Eurographics/ACM SIGGRAPH Symposium on Geometry Processing, Eurographics Symposium on Rendering, Graphics Interface, Eurographics/ACM SIGGRAPH Symposium on Computer Animation, Pacific Graphics, Shape Modeling International, ACM Solid and Physical Modeling Symposium, ACM Web3D, IndieCade, Motion in Games, Sketch-Based Interfaces and Modeling, User Interface Software and Technology (UIST), Virtual Reality Software and Technology (VRST)
- ◇ **Journals:** ACM Transactions on Graphics (TOG), IEEE Transactions on Visualization and Computer Graphics, IEEE Transactions on Image Processing, IEEE Computer Graphics and Applications, Computer Graphics Forum, Computers & Graphics, Computer Aided Geometric Design, Graphical Models, The Visual Computer, Mathematical Imaging and Vision, Computing and Cultural Heritage
- ◇ **Organizations:** International Game Developers Association (IGDA) Education SIG, Independent Games Festival (IGF), National Science Foundation (NSF), IndieCade

Talks at conferences, seminars, and museums (40)

- ◇ Exploring Game Space using Survival Analysis, *Tri-State Workshop on Imaging and Graphics*, Columbia University, April 2015
- ◇ An Introduction to Minimalist Game Design, *Princeton University*, Invited by Adam Finkelstein, Princeton, April 2015
- ◇ Teaching Games with Games: Flappy Bird as a Case Study in Design Education, *Game Developers Conference (GDC)*, March 2015
- ◇ Game Design 101, *30 Weeks*, A Founders Program for Designers, <https://www.30weeks.com/#collaborators>, NYC, October 2014
- ◇ Graphics and Games: Learning from and Contributing to Mostly Disjoint Communities, *Tri-State Workshop on Imaging and Graphics*, Princeton, 2014
- ◇ Ascension: a Case Study in Deckbuilding Games, *Digital Games Research Association (DiGRA)*, August 2013
- ◇ RigMesh: Automatic Rigging for Part-Based Shape Modeling and Deformation, *The University of Tokyo*, December 2012
- ◇ Inspiration, Introspection, Depth, Critique, and Insight *ArtsTech @ EYE-BEAM*, <https://eyebeam.org/>, New York, August 2012
- ◇ The Minimalist Game Design of Osmos, *School of Visual Arts, SVA*, New York, April 2012

- ◇ Minimalist Game Design Principles, *NYU ITP*, New York, April 2012
- ◇ Minimal vs Elaborate, Simple vs Complex and the Space Between, *Game Developers Conference (GDC)*, March 2012
- ◇ Games as Space: A dialogue between Casey Reas and Andrew Nealen, *New Museum*, New York, December 2011.
- ◇ Towards Minimalist Game Design, *Foundations of Digital Games*, Bordeaux, France, June 2011
- ◇ Minimalist Game Design, *TEDx Rutgers*, April 2011
- ◇ Minimalism and Osmos: A Postmortem, *Game Developers Conference China (GDC China)*, Shanghai, December 2010
- ◇ Minimalist Game Design Principles, *NYU ITP*, New York, October 2010
- ◇ Minimalism and Osmos: A Postmortem, *IndieCade*, Los Angeles, Oct 2010
- ◇ Minimalist Game Design: Growing Osmos, *University of Southern California (USC)*, August 2010
- ◇ Minimalist Game Design: Growing Osmos, *Game Developers Conference (GDC)*, March 2010
- ◇ Measuring and Modeling Human Preference for Viewpoint Selection and Video Games, *MIT Computer Graphics Seminar*, Boston, February 2010
- ◇ Contemporary Video Game Design Challenges: Visualization, Interaction and Simulation, *Rutgers Perceptual Science Seminar*, September 2009
- ◇ Contemporary Video Game Design Challenges: Visualization, Interaction and Simulation, *DIMACS Workshop on Algorithmic Mathematical Art*, June 2009
- ◇ Simple 3D Content Creation Tools, *IGDA NY*, October 2008
- ◇ In Search of the Human Video-Out, *Rutgers*, October 2008
- ◇ FiberMesh and SilSketch, *Rutgers, The State University of New Jersey*, 2008
- ◇ FiberMesh and SilSketch, *Princeton Graphics Group*, April 2008
- ◇ Interfaces and Algorithms for the Creation, Modification, and Optimization of Surface Meshes, *Polytechnic University of Catalonia, Barcelona*, Feb 2008
- ◇ FiberMesh and SilSketch, *Université de Montreal*, August 2007
- ◇ FiberMesh: Designing Freeform Surfaces with 3D Curves, *ACM SIGGRAPH Conference*, San Diego, August 2007
- ◇ Interfaces and Algorithms for the Creation, Modification, and Optimization of Surface Meshes, *REVES/Inria Sophia Antipolis*, June 2007
- ◇ Laplacian Mesh Optimization, *ACM GRAPHITE Conference*, Kuala Lumpur, November 2006
- ◇ Sketch-Based Mesh Deformation and Optimization, *Max Planck Insitut für Informatik*, Saarbrücken, August 2006

- ◇ Physically Based Deformable Models in Computer Graphics, *Ochanomizu University*, November 2005
- ◇ Physically Based Deformable Models in Computer Graphics, *The University of Tokyo*, October 2005
- ◇ Physically Based Deformable Models in Computer Graphics, *Eurographics Conference*, Dublin, August 2005
- ◇ A Sketch-Based Interface for Detail-Preserving Mesh Editing *ACM SIGGRAPH Conference*, Los Angeles, August 2005
- ◇ *Point Based Animation and Continuum Mechanics*, Tel Aviv University, October 2004
- ◇ Point Based Animation of Elastic, Plastic and Melting Objects, *Symposium on Computer Animation*, Grenoble, August 2004
- ◇ Fast and High Quality Overlap Repair for Patch-Based Texture Synthesis, *Computer Graphics International*, Crete, June 2004
- ◇ Hybrid Texture Synthesis, *Eurographics Symposium on Rendering*, Leuven, June 2003

Host and interviewer for the *Indie Tech Talk* series at NYU (25)

- ◇ Indie Tech Talk 27: Preserving a Sense of Discovery in the Age of Spoilers, *Jim Crawford*, https://www.youtube.com/watch?v=Rtqf51Gc_Hg, May 2015
- ◇ Indie Tech Talk 26: Teaching with Puzzles, *Itay Keren & Julia Detar Keren*, <https://www.youtube.com/watch?v=6cItzLF0Beg>, April 2015
- ◇ Indie Tech Talk 25: Minimalism and Iteration, *with Andy Wallace*, <https://www.youtube.com/watch?v=FvdJU23L56U>, March 2015
- ◇ Indie Tech Talk 24: Bending Tech to Cibeles Will, *Nina Freeman & Emmett Butler*, <https://www.youtube.com/watch?v=r9Ag5JjQSkM>, January 2015
- ◇ Indie Tech Talk 23: Cheeky Designs, *with Robert Yang*, <https://www.youtube.com/watch?v=t0ih10A8JH0>, December 2014
- ◇ Indie Tech Talk 22: Coffee: A Misunderstanding, *with Deidra Kiai*, <https://www.youtube.com/watch?v=ydWsarBTa5Q>, November 2014
- ◇ Indie Tech Talk 21: Implementing Beat-em-up Combat Systems, *with Matthew Wegner*, <https://www.youtube.com/watch?v=XG90h-2SmUY>, October 2014
- ◇ Indie Tech Talk 20: Flailing, Screaming, and Laughing, *with Jane Friedhoff*, <https://www.youtube.com/watch?v=5BYhKHZHWg8>, October 2014
- ◇ Indie Tech Talk 19: Programmers, Who Needs Em?, *with Johnnemann Nordhagen*, <https://www.youtube.com/watch?v=GPcnQ8b2-zA>, May 2014
- ◇ Indie Tech Talk 18: Dialog Systems in Double Fine Games, *with Anna Kipnis*, https://www.youtube.com/watch?v=o76JAP_9GkA, April 2014

- ◇ Indie Tech Talk 17: Freefalling Through the Goldilocks Zone, *with Andy Hull*, <https://www.youtube.com/watch?v=6GWavyfFbIY>, March 2014
- ◇ Indie Tech Talk 16: Three Games, *with Eddo Stern*, February 2014
- ◇ Indie Tech Talk 15: Accelerometers, How Do They F*cking Work?, *with Doug Wilson*, <http://livestre.am/4I715>, December 2013
- ◇ Indie Tech Talk 14: Fat Fingers, *with Janet Gilbert*, <http://livestre.am/4GKNc>, November 2013
- ◇ Indie Tech Talk 13: Games, Exploration and Abstractions (The Toy Ball and the Moon), *with Marc Ten Bosch*, <http://livestre.am/4ES98>, October 2013
- ◇ Indie Tech Talk 12: Making Hokra, *with Ramiro Corbetta*, <https://www.youtube.com/watch?v=PBbZQS1K0jQ>, September 2013
- ◇ Indie Tech Talk 11: Humanist Game Design, *with Adam Saltsman*, <https://www.youtube.com/watch?v=FNoJay5LUio>, May 2013
- ◇ Indie Tech Talk 10: The 6502 and You, *with Don Miller*, <https://www.youtube.com/watch?v=BTHf8nLupq0>, April 2013
- ◇ Indie Tech Talk 09: Talking about CENTIPEDE +30, *with Dona Bailey*, <https://www.youtube.com/watch?v=EroNgxCsGk4>, March 2013
- ◇ Indie Tech Talk 08: Conceptual Art as Technical Practice, *with Zach Gage*, https://www.youtube.com/watch?v=N_XxwQKUoJU, February 2013
- ◇ Indie Tech Talk 07: Building BaraBariBall and Beyond, *with Noah Sasso*, <https://www.youtube.com/watch?v=1vT7PnjFLw0>, January 2013
- ◇ Indie Tech Talk 04: Engines, Frameworks and means of Production, *with Ivan Safrin*, <https://www.youtube.com/watch?v=mZOS0mfkAJA>, October 2012
- ◇ Indie Tech Talk 03: Punks not Thre(e)-D, *with Kevin Cancienne*, <https://www.youtube.com/watch?v=KPdRDVDiGas>, September 2012
- ◇ Indie Tech Talk 02: Simple Technology and the Game Experience, *with Kaho Abo*, <https://www.youtube.com/watch?t=12&v=Hb3sFdpbuf8>, May 2012
- ◇ Indie Tech Talk 01: Fun with Signed Distance Fields, *with Scott Anderson*, <https://www.youtube.com/watch?t=22&v=DXFE0I2SsNY>, April 2012

INTERNAL
SERVICE

New York University

- ◇ Co-director of the NYU Game Innovation Lab, 2015–
- ◇ Director, CSE Game Engineering undergraduate minor, 2014–
- ◇ Member of the media and games network (MAGNET) presidium, 2014–
- ◇ Member of the NYU Game Center game programming committee, 2014–
- ◇ Member of the CSE Game Engineering undergraduate major committee, 2014–
- ◇ Chair of the committee for the AY 2014/2015 NYU Abu Dhabi (NYUAD) search for outstanding faculty in computer science

- ◇ Member of the committee for the 2015 NYU CSE search in cybersecurity
- ◇ Member of the committee for the 2015 NYU CSE search for teaching faculty
- ◇ Interim director of the NYU Game Innovation Lab, 2014–2015
- ◇ Member of the ad-hoc Ph.D. requirements committee, 2013–2014
- ◇ Co-organizer of the annual NYU PRACTICE game design conference, 2012–

Rutgers University

- ◇ Member of the undergraduate curriculum committee, 2008–2012
- ◇ Member of the faculty recruiting committee, 2010–2012
- ◇ Member of the outreach and PR committee, 2008–2010

PRESS & MEDIA

- ◇ The New Yorker: "Playdate" (2015)
<http://www.newyorker.com/culture/culture-desk/cover-story-playdate>
- ◇ The Simpsons: "Luca\$" (April 2014, episode 17)
<http://engineering.nyu.edu/news/2014/04/15/andy-nealens-osmos-game-simpsons>
- ◇ NPR: "Put Down the Smartphone, Board Games Are Cool Now" (May 2014)
<http://www.wnyc.org/story/put-down-phone-board-games-are-cool-now/>
- ◇ PBS: "The Creativity of Indie Games" (2012)
<http://video.pbs.org/video/2287049951/>
- ◇ Tek Syndicate: "Andy Nealen of Osmos" (2012)
<https://teksyndicate.com/videos/interview-andy-nealen-osmos>
- ◇ New York Times: "Mobile Game Favorites of the Experts, of All Ages" (2011)
<http://www.nytimes.com/2011/11/03/technology/personaltech/mobile-game-favorites-of-the-experts.html>
- ◇ WIRED: Osmos Review (9/10)
<http://www.wired.com/reviews/2011/11/osmos-app/>
- ◇ TUAW: "2011 Apple Design Award winners announced" (2011)
<http://www.tuaw.com/2011/06/07/2011-apple-design-award-winners-announced/>
- ◇ Huffington Post: "15 Best iPad Apps Every User Should Try" (2010)
http://www.huffingtonpost.com/craig-kanalley/best-ipad-apps-must-haves_b_660970.html
- ◇ TIME: "The DIY Wave of Indie Gaming" <http://ti.me/jz4aig>
- ◇ Osmos named iPad game of the year 2010 by Apple Computer Inc. (2010)
<http://www.hemispheregames.com/2010/12/11/apples-ipad-game-of-the-year/>
- ◇ Osmos named best all-time iPhone game on IGN (2010)
<http://www.ign.com/videos/2010/09/09/the-best-iphone-game-revealed>
- ◇ Rutgers video feature on Prof. Nealen's research (2010)
<http://www.youtube.com/watch?v=iogLHvSqW5g>
- ◇ NYT Magazine: "Can D.I.Y. Supplant the First-Person Shooter?" (2009)
<http://www.nytimes.com/2009/11/15/magazine/15videogames-t.html>