Andrew Nealen

Interactive Media & Games Division
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Prof. Dr.-Ing. Andrew Nealen
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Current position(s)	Associate Professor of Cinematic Arts & Computer Science USC Cinematic Arts / USC Viterbi School of Engineering
Professional Interests	Game design, game prototyping, game production, artificial intelligence, computer graphics, game programming, computer aided game design, interactive techniques, geometric modeling, human perception, computer animation, physically-based modeling

Work experience

- **Director, Advanced Games Project (AGP)**
  USC Games (May 2023 – Today)
- **Acting Chair, Interactive Media & Games Division**
  USC School of Cinematic Arts (January 2023 – August 2023)
- **Associate Professor of Cinematic Arts and Computer Science**
  USC Cinematic Arts / USC Viterbi (December 2019 – Today)
- **Associate Professor of Cinematic Arts**
  USC School of Cinematic Arts (May 2019 – November 2019)
- **Visiting Associate Professor of Interactive Media & Games**
  USC School of Cinematic Arts (September 2018 – May 2019)
- **Research Professor**
  NYU Tandon School of Engineering (September 2018 – August 2021)
- **Director, NYU Game Innovation Lab**
  NYU Tandon School of Engineering (January 2015 – September 2018)
- **Assistant Professor of Computer Science**
  NYU Tandon School of Engineering (September 2012 – September 2018)
- **Core Team Member**
  Hemisphere Games (September 2007 – Today)
- **Assistant Professor of Computer Science**
  Rutgers University (September 2008 – July 2012)
- **Game Designer/Programmer**
  Area/Code (September 2010 – May 2011)

- **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.

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 (total research and teaching funds = $1,993,955)

- NSF grant for research on *General Intelligence through Algorithm Invention and Selection* ($427,000, co-PI with PI Julian Togelius (50/50 split of funds), start: september 2017, finish: august 2020)
- Honda Research Institute (HRI) sponsored grant for research on *Cooperative Design Innovation Games* ($270,792, solo PI, start: march 2017, finish: february 2020)
- SoftBank Group Corp. sponsored grant for research on extracting *3D Modeled, Rigged, and Animated Characters from 2D Video* ($664,020, solo PI, start: september 2016, finish: august 2019)
- 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 *Dynamic Skeletal Part Hierarchies for Sketching 3D Shapes and Their Animations* ($499,272 total ($363,110 at Rutgers + $136,162 at NYU), solo PI, start: september 2009, finish: august 2014)

Awards and Scholarships

- *Best Paper Award* for the paper *AtDelfi: Automatically Designing Legible, Full Instructions For Games* at *Foundations of Digital Games* (August 2018)
- *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 videogame *Osmos* (October 2009)
- D2D vision award at the Independent Games Festival (IGF) for videogame *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 (NAMES OF MY STUDENTS UNDERLINED)

Google Scholar Page

https://scholar.google.com/citations?user=YjpanIYAAAAJ

Journal papers (14)

[**J14**] Rodrigo Canaan, Xianbo Gao, Andy Nealen, Julian Togelius, and Stefan Menzel. Generating and adapting to diverse ad-hoc partners in Hanabi. *IEEE Transactions on Games*. vol. 15, no. 2, June 2023, pp. 228–241. https://doi.org/10.48550/arXiv.2004.13710.

[**J13**] Adam Summerville, Sam Snodgrass, Matthew Guzdial, Christoffer Holmgård, Amy K. Hoover, Aaron Isaksen, Andy Nealen, and Julian Togelius. Procedural Content Generation via Machine Learning (PCGML). *IEEE Transactions on Games*. vol. 10, no. 3, September 2018, pp. 257–270. https://arxiv.org/abs/1702.00539.

[**J12**] Aaron Isaksen, Dan Gopstein, Julian Togelius, and Andy Nealen. Exploring Game Space of Minimal Action Games via Parameter Tuning and Survival Analysis. *IEEE Transactions on Games*. vol. 10, no. 2, June 2018, pp. 182–194.

[**J11**] Aaron Isaksen, Christoffer Holmgård, Julian Togelius, and Andy Nealen. Characterising Score Distributions in Dice Games. *Game and Puzzle Design*. vol. 2, no. 1, 2016, pp. 24–37. http://game.engineering.nyu.edu/characterizing-dice-games/

[**J10**] Aaron Isaksen, Mehmet Ismail, Steven J. Brams, and Andy Nealen. Catch-up: A Game In Which the Lead Alternates. *Game and Puzzle Design*. vol. 1, no. 2, 2015, pp 38–49. http://game.engineering.nyu.edu/projects/catch-up/

[**J9**] Ming Jin, Dan Gopstein, Yotam I. Gingold and Andrew Nealen. AniMesh: Interleaved Animation, Modeling and Editing. *ACM Transactions on Graphics* (*SIGGRAPH Asia*). Vol. 34, Issue 6, 2015, pp. 207:1-207:8. http://game.engineering.nyu.edu/projects/animesh/

[**J8**] Timothy Gerstner, Adam Finkelstein, Marc Alexa, Doug DeCarlo, Yotam I. Gingold and Andrew Nealen. Pixelated Image Abstraction with Integrated User Constraints. *Computers & Graphics*. Vol. 37, Issue 5, 2013, pp. 333–347.

[**J7**] Péter Borosán, Ming Jin, Doug DeCarlo, Yotam I. Gingold and Andrew Nealen. RigMesh: Automatic Rigging for Part-Based Shape Modeling and Deformation. *ACM Transactions on Graphics* (*SIGGRAPH Asia*), Vol. 31, Issue 6, 2012, pp. 198:1–198:9. http://game.engineering.nyu.edu/rigmesh/

[**J6**] Adrian Secord, Jingwan Lu, Adam Finkelstein, Manish Singh and Andrew Nealen. Perceptual Models of Viewpoint Preference. *ACM Transactions on Graphics*, Vol. 30, Issue 5, 2011, pp. 109:1–109:12.

[J5] Kenshi Takayama, Olga Sorkine, Andrew Nealen and Takeo Igarashi. Volumetric Modeling with Diffusion Surfaces. *ACM Transactions on Graphics* (*SIGGRAPH Asia*), Vol. 29, Issue 6, 2010, pp. 180:1–180:8. `https://www.youtube.com/watch?v=gFQKMCF2jqs`

[J4] Johannes Zimmermann, Andrew Nealen and Marc Alexa. Sketching Contours. *Computers & Graphics*, 32(5):486–499, 2008.

[J3] 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. `https://www.youtube.com/watch?v=W0XGkS7zebo`

[J2] 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. `https://www.youtube.com/watch?v=EMx6yNe23ug`

[J1] 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, 2006.

Refereed proceedings (46)

[C46] Rodrigo de Moura Canaan, Xianbo Gao, Yuojin Chung, Julian Togelius, Andy Nealen, and Stefan Menzel. Behavioral Evaluation of Hanabi Rainbow DQN Agents and Rule-Based Agents. Proceedings of the AAAI Conference on Artificial Intelligence and Interactive Digital Entertainment, 2020, 16(1), 31-37.

[C45] Hirotaka Suetake, Tsukasa Fukusato, Christian Arzate Cruz, Andy Nealen, and Takeo Igarashi. Interactive Design Exploration of Game Stages Using Adjustable Synthetic Testers. FDG '20: International Conference on the Foundations of Digital Games. September 2020 Article No.: 25, Pages 1–4. `https://doi.org/10.1145/3402942.3402982`

[C44] Rodrigo de Moura Canaan, Xianbo Gao, Yuojin Chung, Julian Togelius, Andy Nealen, and Stefan Menzel. Evaluating RL agents in hanabi with unseen partners. AAAI'20 Reinforcement Learning in Games Workshop, 2020.

[C43] Tiago Machado, Angela Wang, Oded Nov, Andrew Nealen, and Julian Togelius. Evaluation of a Recommender System for Assisting Novice Game Designers. Proceedings of the AAAI Conference on Artificial Intelligence and Interactive Digital Entertainment, 15(1), 167-173. 2019.

[C42] Rodrigo de Moura Canaan, Christoph Salge, Julian Togelius, and Andy Nealen. Leveling the Playing Field - Examining Fairness in Human versus AI Game Benchmarks. In Proceedings of Foundations of Digital Games (FDG), 2019. `https://arxiv.org/abs/1903.07008`

[**C41**] Rodrigo de Moura Canaan, Julian Togelius, Andy Nealen, and Stefan Menzel. Diverse Agents for Ad-Hoc Cooperation in Hanabi. In Proceedings of the IEEE Conference on Games (CoG), 2019. https://arxiv.org/abs/1907.03840

[**C40**] Tiago Machado, Dan Gopstein, Andy Nealen, and Julian Togelius. Pitako - Recommending Game Design Elements in Cicero. In Proceedings of the IEEE Conference on Games (CoG), 2019. https://arxiv.org/abs/1907.03877

[**C39**] Tiago Machado, Dan Gopstein, Andy Nealen, and Julian Togelius. Kwiri– What, When, Where and Who: Everything you ever wanted to know about your game but didn't know how to ask. In Proceedings of the Knowledge Extraction from Games (KEG-19) workshop at the AAAI Conference on Artificial Intelligence (AAAI-19), 2019.

[**C38**] Michael Cerny Green, Ahmed Khalifa, Gabriella A.B. Barros, Tiago Machado, Andy Nealen, and Julian Togelius. AtDelfi: Automatically Designing Legible, Full Instructions for Games. In Proceedings of Foundations of Digital Games (FDG), 2018. https://arxiv.org/abs/1807.04375. **Best Paper Award**

[**C37**] Fernando de Mesentier Silva, Scott Lee, Julian Togelius, and Andy Nealen. Evolving maps and decks for ticket to ride. In Proceedings of the 13th International Conference on the Foundations of Digital Games (p. 48), ACM, 2018.

[**C36**] Fernando de Mesentier Silva, Christoph Salge, Aaron Isaksen Julian Togelius, and Andy Nealen. Drawing without replacement as a game mechanic. In Proceedings of the 13th International Conference on the Foundations of Digital Games (p. 57), Tabletop Games Workshop, 2018.

[**C35**] Michael Cerny Green, Ahmed Khalifa, Gabriella A.B. Barros, Andy Nealen, and Julian Togelius. Generating Levels That Teach Mechanics. In Proceedings of Foundations of Digital Games (FDG), PCG Workshop, 2018. https://arxiv.org/abs/1807.06734

[**C34**] Rodrigo Canaan, Haotian Shen, Ruben Rodriguez Torrado, Julian Togelius, Andy Nealen and Stefan Menzel. Evolving Agents for the Hanabi 2018 CIG Competition. In Proceedings of Computational Intelligence and Games (CIG Competition Paper). IEEE, 2018. https://arxiv.org/abs/1809.09764

[**C33**] Rodrigo Canaan, Stefan Menzel, Julian Togelius, and Andy Nealen. Towards Game-based Metrics for Computational Co-Creativity. In Proceedings of Computational Intelligence and Games (CIG Vision Paper). IEEE, 2018. https://arxiv.org/abs/1809.09762

[**C32**] Fernando de Mesentier Silva, Julian Togelius, Frank Lantz, and Andy Nealen. Generating Novice Heuristics for Post-Flop Poker. In Proceedings of Computational Intelligence and Games (CIG). IEEE, 2018.

[**C31**] Fernando de Mesentier Silva, Julian Togelius, Frank Lantz, and Andy Nealen. Generating Beginner Heuristics for Simple Texas Hold'em. In Proceedings of The Genetic and Evolutionary Computation Conference, 2018.

[C30] Ahmed Khalifa, Scott Lee, Andy Nealen, and Julian Togelius. Talakat: Bullet Hell Generation through Constrained Map-Elites. In Proceedings of The Genetic and Evolutionary Computation Conference (GECCO), 2018. `https://arxiv.org/abs/1806.04718`

[C29] Tiago Machado, Daniel Gopstein, Oded Nov, Andy Nealen, and Julian Togelius. AI-assisted Game Debugging with Cicero. In IEEE World Congress on Computational Intelligence, 2018.

[C28] Tiago Machado, Andy Nealen, and Julian Togelius. CICERO: Computationally Intelligent Collaborative Environment for game and level design. In Computational Creativity and Games Workshop (CCGW at ICCC), 2017.

[C27] Fernando de Mesentier Silva, Scott Lee, Julian Togelius, and Andy Nealen. AI-based Playtesting of Contemporary Board Games. In Proceedings of Foundations of Digital Games (FDG), 2017.

[C26] Tiago Machado, Andy Nealen, and Julian Togelius. SeekWhence: A Retrospective Analysis Tool for General Game Design. In Proceedings of Foundations of Digital Games (FDG, Short Papers), 2017.

[C25] Aaron Isaksen, Drew Wallace, Adam Finkelstein, and Andy Nealen. Simulating Strategy and Dexterity for Puzzle Games. Proceedings of the IEEE Conference on Computational Intelligence and Games (CIG). IEEE, 2017.

[C24] Frank Lantz, Aaron Isaksen, Alexander Jaffe, Andy Nealen, and Julian Togelius. Depth in Strategic Games. Proceedings of the AAAI *What's Next for AI in Games?* Workshop, 2017, pp. 967–974.

[C23] Fernando de Mesentier Silva, Scott Lee, Julian Togelius, and Andy Nealen. AI as Evaluator: Search Driven Playtesting of Modern Board Games. Proceedings of the AAAI *What's Next for AI in Games?* Workshop, 2017, pp. 959–966.

[C22] Andre Mendes, Andy Nealen, and Julian Togelius. Hyper-Heuristic General Video Game Playing. Proceedings of IEEE Computational Intelligence and Games (CIG) 2016.

[C21] Fernando de Mesentier Silva, Aaron Isaksen, Julian Togelius, and Andy Nealen. Generating Heuristics for Novice Players. Proceedings of Computational Intelligence and Games (CIG). IEEE (2016).

[C20] Matt Stanton, Sascha Geddert, Adrian Blumer, Paul Hormis, Andy Nealen, Seth Cooper, and Adrien Treuille. Large-scale finite state game engines. Proceedings of the Eurographics/ACM SIGGRAPH Symposium on Computer Animation 2016, pp. 221–229.

[C19] Aaron Isaksen and Andy Nealen. A Statistical Analysis of Player Improvement and Single-Player High Scores. Proceedings of DiGRA/FDG 2016.

[C18] Tiago Machado, Ivan Bravi, Zhu Wang, Andy Nealen, and Julian Togelius. Shopping for Game Mechanics. Proceedings of the 2016 FDG Workshop on Procedural Content Generation.

[C17] Ahmed Khalifa, Aaron Isaksen, Julian Togelius and Andy Nealen. Modifying MCTS for Human-like General Video Game Playing. Proceedings of IJCAI, 2016, pp. 2514–2520.

[C16] Aaron Isaksen, Julian Togelius, Frank Lantz, and Andy Nealen. Playing Games Across the Superintelligence Divide. Thirtieth AAAI Conference on Artificial Intelligence (AAAI-16) Workshop on AI, Ethics, and Society, 2016, pp. 89–97.

[C15] Aaron Isaksen and Andy Nealen. Comparing Player Skill, Game Variants, and Learning Rates with Survival Analysis. In *Player Modeling Workshop at the AAAI Conference on Artificial Intelligence and Interactive Digital Entertainment* (AIIDE), November 2015, pp. 15–21.

[C14] 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.

[C13] 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.fdg201high5.org/program.html#bpa`. Demo `http://game.engineering.nyu.edu/projects/exploring-game-space/`

[C12] Andy Nealen. Ascension: a Case Study in Deckbuilding Games. *Digital Games Research Association* (DiGRA) 2013, August 2013.

[C11] Timothy Gerstner, Adam Finkelstein, Marc Alexa, Doug DeCarlo, Yotam I. Gingold and Andrew Nealen. Pixelated Image Abstraction. In proceedings of *International Symposium on Non-Photorealistic Animation and Rendering* (NPAR), June 2012, pp. 29–36.

[C10] Andrew Nealen, Adam Saltsman and Eddy Boxerman. Towards Minimalist Game Design. In proceedings of *Foundations of Digital Games (FDG)*, 2011, pp. 38–45.

[C9] Péter Borosán, Reid Howard, Shaoting Zhang and Andrew Nealen. Hybrid Mesh Editing. In proceedings of *Eurographics (Short Papers)*, 2010, pp. 41–44.

[C8] Shaoting Zhang, Andrew Nealen and Dimitris Metaxas. Skeleton Based As-Rigid-As-Possible Volume Modeling. In proceedings of *Eurographics (Short Papers)*, 2010, pp. 21–24.

[C7] 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.

[C6] Johannes Zimmermann, Andrew Nealen and Marc Alexa. SilSketch: Automated Sketch-Based Editing of Surface Meshes. In *4th Eurographics Workshop on Sketch-Based Interfaces and Modeling*, 23–30, 2007.

[C5] Andrew Nealen, Takeo Igarashi, Olga Sorkine and Marc Alexa. Laplacian Mesh Optimization. *ACM GRAPHITE*, 381–389, 2006.

[C4] Anders Adamson, Marc Alexa and Andrew Nealen. Adaptive Sampling of Intersectable Models Exploiting Image and Object-space Coherence. *ACM SIGGRAPH Symposium on Interactive 3D Graphics and Games*, 2005, pp. 171–178.

[C3] 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.

[C2] Andrew Nealen and Marc Alexa. Fast and High Quality Overlap Repair for Patch-Based Texture Synthesis. In *Computer Graphics International*, 2004, pp. 582–585.

[C1] Andrew Nealen and Marc Alexa. Hybrid Texture Synthesis. In *Eurographics Symposium on Rendering*, 97–105, 2003.

Online Research (arXiv.org) Articles (1)

[I1] Michael Cook, Mirjam Eladhari, Andy Nealen, Mike Treanor, Eddy Boxerman, Alex Jaffe, Paul Sottosanti, and Steve Swink. PCG-Based Game Design Patterns. October 2016. `https://arxiv.org/abs/1610.03138`.

Book Chapters (2)

[B2] 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).

[B1] 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 (5)

[G5] Eddy Boxerman, Dave Burke, Aaron Barsky, Kun Zhang, Andy Nealen, and Mat Jarvis. Osmos+. Published on *Apple Arcade*, (2023).

[G4] Eddy Boxerman, Dave Burke, Kun Zhang, and Andy Nealen. Osmos Multiplayer. Published on *iOS*, (2012). `https://itunes.apple.com/us/app/osmos/id382991304`

[G3] 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`

[G2] 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`

[G1] 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)

[T2] Andrew Nealen and Olga Sorkine. A note on boundary constraints for linear variational surface design. Technical Report, TU Berlin, 2007.

[T1] 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)

[O2] Andrew Nealen. My Tabletop Games of 2014. Medium, 2014.
`https://medium.com/board-games/my-tabletop-games-of-2014-e4f8d903ffab`

[O1] 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)

[M5] 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.

[M4] 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.

[M3] 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.

[M2] 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.

[M1] 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.

Graduate and Undergraduate Classes Taught

- ◇ **CSCI 529b Advanced Game Projects**, Fall 2023, Enrollment: 50, Cross-listed Class, USC
- ◇ **CSCI 426 Game Prototyping**, Spring 2023, Enrollment: 25, Cross-listed Class, USC
- ◇ **CSCI 529a Advanced Game Projects**, Fall 2022, Enrollment: 50, Cross-listed Class, USC

- **CSCI 426 Game Prototyping**, Fall 2022, Enrollment: 25, Cross-listed Class, USC
- **CSCI 420 Computer Graphics**, Fall 2021, Enrollment: 65, Undergraduate Computer Science, USC
- **CSCI 426 Game Prototyping**, Fall 2021, Enrollment: 20, Cross-listed Class, USC
- **CSCI 360 Introduction to Artificial Intelligence**, Spring 2021, Enrollment: 200, Undergraduate Computer Science, USC
- **CSCI 426 Game Prototyping**, Spring 2021, Enrollment: 22, Cross-listed Class, USC
- **CSCI 420 Computer Graphics**, Fall 2020, Enrollment: 46, Undergraduate Computer Science, USC
- **CSCI 426 Game Prototyping**, Fall 2020, Enrollment: 25, Cross-listed Class, USC
- **CTIN 532L Interactive Design and Production I**, Spring 2019, Enrollment: 8, Graduate Computer Science, USC
- **CSCI 426 Game Prototyping**, Spring 2020, Enrollment: 29, Cross-listed Class, USC
- **CSCI 420 Computer Graphics**, Fall 2019, Enrollment: 52, Undergraduate Computer Science, USC
- **CSCI 426 Game Prototyping**, Fall 2019, Enrollment: 11, Cross-listed Class, USC
- **CSCI 360 Introduction to Artificial Intelligence**, Spring 2019, Enrollment: 76, Undergraduate Computer Science, USC
- **CSCI 426 Game Prototyping**, Spring 2019, Enrollment: 9, Cross-listed Class, USC
- **CS-GY 6553 / CS-UY 4553 Game Design**, Spring 2018, Enrollment: 18, Cross-listed Class, NYU
- **CS-UY 2124 Object-Oriented Programming (in C++)**, Fall 2017, Enrollment: 40, NYU
- **CS-GY 6553 / CS-UY 4553 Game Design**, Spring 2017, Enrollment: 28, Cross-listed Class, NYU
- **CS-GY 6553 / CS-UY 4553 Game Design**, Spring 2016, Enrollment: 23, Cross-listed Class, NYU
- **CS-GY 6533 / CS-UY 4533 Interactive Computer Graphics**, Spring 2016, Enrollment: 37, Cross-listed Class, NYU
- **CS-GY 9223 Game Design Research**, Fall 2015, Enrollment: 9, 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: 25, Cross-listed Class, NYU
- **CS 9223 Minimalist Game Design**, Spring 2014, Enrollment: 10, Cross-listed Class, NYU
- **CS 6533 Interactive Computer Graphics**, Fall 2013, Enrollment: 15, Cross-listed Class, NYU Poly
- **CS 9223 Minimalist Game Design**, Spring 2013, Enrollment: 13, Cross-listed Class, NYU Poly
- **CS 6533 Interactive Computer Graphics**, Fall 2012, Enrollment: 32, 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
- **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

- **Rodrigo Canaan** (graduated): Diversity and Adaptation of Cooperative Agents. NYU, PhD Thesis, April 2021.
- **Ahmed Khalifa** (graduated): General Level Generation. NYU, PhD Thesis, June 2020 (Co-advisor: Prof. Julian Togelius)
- **Tiago Machado** (graduated): Cicero: An AI - Assisted Game Design System. NYU, PhD Thesis, September 2019 (Co-advisor: Prof. Julian Togelius)
- **Dan Gopstein** (graduated): Atoms of Confusion. NYU, PhD Thesis, April 2020 (Co-advisor: Prof. Justin Cappos)
- **Ming Jin** (graduated): Towards a Non-Destructive Shape Modeling and Animation Pipeline. NYU, PhD Thesis, September 2019.
- **Gabriella Barros** (graduated): Adventures in Data-Driven Game Content Generation. NYU, PhD Thesis, September 2019. (Co-advisor: Prof. Julian Togelius)
- **Fernando Silva** (graduated): Exploring Simple Heuristics. NYU, PhD Thesis, September 2018.
- **Aaron Isaksen** (graduated): Computational Modeling for Computer Aided Game Design. NYU, PhD Thesis, April 2017. Winner of the Pearl Brownstein Doctoral Research Award.
- **Peter Borosan** (graduated): Automatic Meshing and Rigging for the Creation and Deformation of 3D Shapes. Rutgers University, PhD Thesis, 2013
- **Adrian Secord** (graduated): Creating collections and evaluating viewpoints: Selection techniques for interface design. New York University, PhD Thesis, September 2010 (Co-advisor: Prof. Denis Zorin, NYU)

Postdoctoral Fellows

- **Christoph Salge**: Empowerment in Artificial Intelligence. 2016–Today.
- **Christoffer Holmgard**: Human-Like Computational Playing and Playtesting using MCTS. 2016-2017 (Assistant Professor at Northeastern University starting fall 2017)
- **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

- **Scott Lee**: AI for tabletop and video game design, M.Sc. Thesis, Expected Graduation: fall 2017 (Co-advisor: Prof. Julian Togelius, NYU)
- **Daniel Zhang**: Inducing Cooperation Through Virtual Reality. NYU, M.Sc. Thesis, May 2017
- **Timothy Gerstner**: Pixelated Image Abstraction. Rutgers University, M.Sc. Thesis, March 2013 (now at Google)
- **Reid Howard**: Hybrid Mesh Editing. Rutgers University, M.Sc. Thesis, March 2011

- **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 Committees

- **Adam Mechtley**: Epistemic or Logistic? The Effects of Designed Constraints on Players' Epistemic Practices in a Science-Based Game, Ph.D. Thesis, University of Wisconsin-Madison, 2019, Advisor: Kurt Squire
- **Xiaofeng Mi**: Robust, Representation and Depiction of 2D Shapes using Parts, Ph.D. Thesis, Rutgers University, 2010, Advisor: Doug DeCarlo
- **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)

- *IEEE Transactions on Games*, `http://transactions.games/`, Associate Editor, 2017–2021
- *Society for the Advancement of the Science of Digital Games (SASDG)*, organizers of the *Foundations of Digital Games* (FDG) conference, Board Member, March 2017–today

Conference Program Co-Chair (7)

- IEEE Conference on Games 2019 – Graphics and Animations Track Chair
- IEEE Computational Intelligence in Games 2017, General co-chair
- 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 (35)

- DiGRA 2019 – Computer games and artistic expression track
- Eurographics Symposium on Geometry Processing 2018
- ACM SIGGRAPH/Eurographics Symposium on Computer Animation 2018
- SIGGRAPH Asia 2017 Technical Briefs and Posters
- Eurographics Symposium on Geometry Processing 2017
- ACM SIGGRAPH/Eurographics Symposium on Computer Animation 2017
- SIGGRAPH 2016 Technical Papers
- Eurographics 2016 Papers
- ACM SIGGRAPH/Eurographics 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 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 (46)

- ◇ Simulating Strategy and Dexterity for Puzzle Games, *IEEE Conference on Computational Intelligence and Games*, New York City, August 2017
- ◇ Animation and Games: Emergent vs. Scripted, Freedom vs. Control, Ludology vs. Narratology, and Other Fun Culture Wars, *ACM SIGGRAPH/Eurographics Symposium on Computer Animation* (**Invited Talk**), LA, August 2017
- ◇ Computational Exploration of Shape, Animation, and Game Design Spaces, *Game Technology Seminar*, Utrecht University, May 2017
- ◇ Indie Soapbox: Tools and Creativity, *Game Developers Conference (GDC)*, March 2016, `http://www.gdcvault.com/play/1023540/Indie`
- ◇ Exploring Game Space using Survival Analysis, *Computer Graphics Symposium*, The University of Tokyo, October 2015
- ◇ Exploring Game Space using Survival Analysis, *Tri-State Workshop on Imaging and Graphics* (**Invited Talk**), 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, `http://www.gdcvault.com/play/1022280/Teaching-Games-with-Games-2`
- ◇ Game Design 101, *30 Weeks*, A Founders Program for Designers, `https://www.30weeks.com/#collaborators`, NYC, October 2014
- ◇ Graphics & Games: Learning from and Contributing to Disjoint Communities, *Tri-State Workshop on Imaging and Graphics* (**Invited Talk**), 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 (**Invited Talk**), *Tri-State Workshop on Imaging and Graphics*, MIT, 2013
- ◇ RigMesh: Automatic Rigging for Part-Based Shape Modeling and Deformation, *The University of Tokyo*, December 2012
- ◇ Inspiration, Introspection, Depth, Critique, and Insight (**Invited Talk**) *ArtsTech @ EYEBEAM*, `http://www.meetup.com/Arts-Culture-and-Technology/events/76664642/`, 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, `http://www.gdcvault.com/play/1015535/Minimal-vs-Elaborate-Simple-vs`

- ◇ Games as Space: A dialogue between Casey Reas and Andrew Nealen (**Invited Talk**), *New Museum*, New York, December 2011, `http://archive.newmuseum.org/index.php/Detail/Occurrence/Show/occurrence_id/1440`
- ◇ Towards Minimalist Game Design, *Foundations of Digital Games*, Bordeaux, France, June 2011
- ◇ Minimalist Game Design (**Invited Talk**), *TEDx Rutgers*, April 2011
- ◇ Minimalism and Osmos: A Postmortem (**Invited Talk**), *Game Developers Conference China (GDC China)*, Shanghai, December 2010, `http://www.gdcvault.com/play/1013999/Minimalism-and-OSMOS-a-Post`
- ◇ 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, *USC*, August 2010
- ◇ Minimalist Game Design: Growing Osmos, *Game Developers Conference (GDC)*, March 2010, `http://www.gdcvault.com/play/1012298/Minimalist-Game-Design-Growing`
- ◇ 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 Percpetual Science Seminar*, September 2009
- ◇ Contemporary Video Game Design Challenges: Visualization, Interaction and Simulation, *DIMACS Workshop on Algorithmic Mathematical Art* (**Invited Talk**), June 2009, `https://www.youtube.com/watch?v=5nfUA2eEeTY`
- ◇ Simple 3D Content Creation Tools (**Invited Talk**), *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 (**Invited Talk**), *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=6cItzLFOBeg`, 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 Cibele's 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=t0ihl0A8JH0`, 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/4I7l5`, 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=PBbZQSlK0jQ`, 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=lvT7PnjFLw0`, January 2013
- ◇ Indie Tech Talk 04: Engines, Frameworks and means of Production, *with Ivan Safrin*, `https://www.youtube.com/watch?v=mZ0SOmfkAjA`, 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 Abe*, `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=DXFEOI2SsNY`, April 2012

Co-host of *Eggplant: The Secret Lives of Games* (formerly *The Spelunky Showlike*) podcast series on iTunes `https://itunes.apple.com/us/podcast/the-spelunky-showlike/id1435365252` (116)

116 main episodes (plus game design deep dive episodes) as of summer 2023 with a collective 650,000+ individual downloads. Episode guide `https://eggplant.show/`

Internal Service

University of Southern California

- ◇ Head of the faculty search committee, USC Games, January 2023–August 2023
- ◇ Director of the CS Games (BS) program for USC Games, 2019–
- ◇ Member of the IMGD MFA admissions committee, 2018–

New York University

- ◇ Member of the CSE undergraduate committee, 2016–2018
- ◇ Director of the NYU Game Innovation Lab, 2015–2018
- ◇ Director, CSE Game Engineering undergraduate minor, 2014–2018
- ◇ Member of the media and games network (MAGNET) presidium, 2014–2018
- ◇ Member of the NYU Game Center game programming committee, 2014–2018
- ◇ Member of the Game Engineering undergraduate major committee, 2014–2018
- ◇ 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 NYU PRACTICE game design conference, 2012–2018

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

- ◇ EDGE Magazine: "Shared Space–The similarities are many: why don't games and architecture work more closely together?" (Print Edition, July 2018)
- ◇ Smithsonian Magazine: "Hacking the Future of Artificial Intelligence." (Print Edition, April 2018)
- ◇ Vox Media: "How worried should we be about artificial intelligence? I asked 17 experts." (2017) `http://www.vox.com/conversations/2017/3/8/14712286/artificial-intelligence-science-technology-robots-singularity-automation`
- ◇ US Gamer: "Digital Gems: Osmos is Surreal, Soothing, Magnificent" (2017) `http://www.usgamer.net/articles/digital-gems-osmos-is-surreal-soothing-magnificent`
- ◇ Technical.ly Brooklyn: "The more you play a game, the less likely you are to get a high score" (2016) `https://technical.ly/brooklyn/2016/08/08/according-to-science/`
- ◇ Technical.ly Brooklyn: "'Flappy Bird' holds the key for figuring out the perfect difficulty in video games" (2016) `https://technical.ly/brooklyn/2016/08/30/nyu-game-center-flappy-bird-case-study/`
- ◇ Brooklyn Daily: "PC culture conquers Barclays! Stadium to host massive video game tournament" (2016) `http://www.brooklyndaily.com/stories/2016/21/dtg-video-games-barclays-2016-05-20-bk.html`

- Wheretoget.it: "What's The Future For Virtual Reality And Fashion?" (2016) http://wheretoget.it/magazine/future-of-fashion-tech
- The New Yorker: "Playdate" (2015) http://www.newyorker.com/culture/culture-desk/cover-story-playdate
- Phys.org: "New system makes 3-D animation easy" (2015) https://phys.org/news/2015-09-d-animation-easy.html
- Bloomberg: "Minecraft Fans Back Founder's Decision, Wary of Microsoft" (September 2014) https://www.bloomberg.com/news/articles/2014-09-16/minecraft-fans-back-founder-s-decision-wary-of-microft
- 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/
- Cable Magazine: "The Anti-Disciplinarian" (2014) http://engineering.nyu.edu/cable/issue/spring-2014/news/faculty/anti-disciplinarian
- PBS: "The Creativity of Indie Games" (2012) http://video.pbs.org/video/2287049951/
- Tek Syndicate: "Andy Nealen of Osmos" (2012) https://www.youtube.com/watch?v=K4aXJauSkb4
- 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/
- Another Castle: "An Interview with Andrew Nealen" (2010) http://www.another-castle.org/?p=30
- IGN.com: "Osmos iPad review" (2010). http://www.ign.com/articles/2010/07/09/osmos-ipad-review
- 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
- Gamasutra: "2011 Independent Games Festival Debuts Jury For Seumas McNally Grand Prize" (2010) http://www.gamasutra.com/view/news/122741/2011_Independent_Games_Festival_Debuts_Jury_For_Seumas_McNally_Grand_Prize.php
- 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