

# Kara A. Behnke

University of Colorado Boulder, ATLAS Institute, 320 UCB, Boulder, CO 80309-0320

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## **Academic Appointment**

University of Colorado: Boulder, CO

- Doctoral Candidate: [ATLAS Institute](#) (2010-present)
- Instructor: Department of Computer Science & ATLAS Institute (2014-present)

## **Education & Honors**

University of Colorado: Boulder, CO

- Ph.D.(c) in Engineering & Applied Science
- Interdisciplinary doctoral program in [Technology, Media & Society](#)
  - Advisor: [John K. Bennett](#), Associate Vice Chancellor for Innovation Initiatives, University of Colorado Denver | Anschutz Medical Campus
  - Dissertation: *Gamification in Introductory Computer Science*
- B.A. in Japanese (2010)

Michigan State University: East Lansing, MI

- M.A. in [Serious Game Design](#) (2014), Telecommunication, Information Studies & Media, Michigan State University

National Science Foundation: Arlington, VA

- GK-12 [ECSITE](#) Engineering Fellowship, Award # [DGE – 0841423](#) (2012-2014)

Cable Labs Inc.: Louisville, CO

- Doctoral [Research Fellow](#) (2010-2012)

## **Teaching Experience: Undergraduate & Graduate**

### **Instructor of Record**

ATLS-2200: Web (Fall, 2015)

- Web is a core (required) course that provides a strong foundation and overview of web technologies, including HTML5, CSS3, and JavaScript, for the Technology Arts Media (TAM) program at the University of Colorado Boulder.

#### ATLS-3100: Digital Media 1 (Spring, 2015)

- DM1 was a core (required) course that provides students with the opportunity to experience and create a variety of digital media, including HTML5, CSS3, digital image production, sound composition, and stop motion animation for the Technology Arts Media (TAM) program at the University of Colorado Boulder.

#### CSCI/ATLS-1220: Virtual Worlds - Introduction to Computer Science for Non-Majors (Fall, 2014)

- This course introduces students to the central ideas of computer science by focusing on computational thinking and the creative aspects of the field. Course topics include history and introduction to programming (Java, Processing), big data, algorithms, the Internet, and artificial intelligence.

### **Teaching Assistant**

#### CSCI/ATLS-4519/5519: Computer Game Development for the Xbox360 (Spring, 2011-2013)

- This undergraduate and graduate course introduces the fundamentals of 2D and 3D game development for the Xbox360 using the C# language. Responsible for developing course curricula (labs and assignments) grading, one-on-one student meetings, debugging, server maintenance, laboratory support.

#### ATLS-4519: Advanced Game Development (Spring, 2013)

- In this course, teams of students build a video game under realistic start-up conditions, representing the different roles and responsibilities

required for game design (software development, art and graphic design, music and audio, creative director etc.). Responsible for developing course curricula (labs and assignments) grading, one-on-one student meetings, debugging, server maintenance, laboratory support.

CSCI/ATLS-1220: Virtual Worlds - Introduction to Computer Science for Non-Majors (Fall, 2011-2013)

- Introductory undergraduate CS course using the virtual world *Second Life* as the “laboratory” for the course. Responsible for maintaining laboratory, assignment grading, one-on-one student meetings, debugging assistance, and MySQL server support.

ATLS-2000: The Meaning of Information Technology (2011)

- Surveys the history of information technologies and modern techniques of information production, storage, transmission, and retrieval. This is a core (required) course for the Technology Arts Media (TAM) program at the University of Colorado Boulder. Responsible for grading, one-on-one student meetings.

### **K-12 Teaching:**

- [Technovation](#) – Girls in Entrepreneurship Program, North High School (Spring 2015)
- CoderDojo: Modular Robotics workshop, [ideaLAB](#), Denver Public Library (Spring 2015)
- ECISTE Teaching Fellow, Monarch High School (2013-2014)
- ECSITE Teaching Fellow, Boulder High School (2013-2014)
- ECSITE Teaching Fellow, Skyline High School (2012-2013)

### **Publications & Invited Talks**

- Behnke, K. A., Kos, B. A., & Bennett, J.K. (Forthcoming). Using gamification for introductory computer science education. SIGCSE '16:

*Proceedings of the 47<sup>th</sup> ACM technical symposium on Computer Science Education*. New York: ACM.

- Behnke, K.A. (Forthcoming). Cubelets: Constructionist modular robotics for teaching computational thinking in k-12. *Computer Science Education*, 25(4).
- Behnke, K. A., Kos, B. A., Bennett, J. K., & Sieber, D. (Forthcoming). Computer Science Principles: An Introductory Computer Science Course for Non-Majors. ITiCSE'15: *Proceedings of the 20th Annual Conference on Innovation and Technology in Computer Science Education*. New York: ACM Press.
- Behnke, K. A., Ambrose M. L., & Bennett, J. K. (2014). Must be 13 to play: Addressing children participation in networked games. FDG'14: *Proceedings of the 2014 Foundations of Digital Games Conference*. New York: ACM Press.
- Behnke, K.A., & Bennett, J. K. (2013). SLASH: Side-by-side block and procedural programming in an introductory computer science course. SIGCSE'13: *Proceedings of the 44th ACM technical symposium on Computer Science Education*. New York: ACM.
- Behnke, K. A. (2013). Games for development: Using the SGDA framework to assess serious games in ICTD. GLS 9.0: *Proceedings of the International Conference in Games, Learning and Society*. Madison, WI: ETC Press.
- Behnke, K. A. (2012). Epic win: Opening doors for women in games research and development. Invited talk, "Birds of a Feather" session: *Grace Hopper Celebration of Women in Computing Conference, Baltimore, MD*. Palo Alto: Anita Borg Institute.
- Behnke, K. A. (2012). Ladies of *Warcraft*: Changing perceptions of women and technology through productive play. FDG '12: *Proceedings of the 2012 Foundations of Digital Games Conference*. New York: ACM Press.
- Behnke, K. A. (2011). Gender-inclusivity in *World of Warcraft*: Changing perceptions of women and technology in real-world and virtual communities. In *Proceedings of the Grace Hopper Celebration of Women in Computing Conference, Atlanta, GA*. Palo Alto: Anita Borg Institute.

## **Consulting & Professional Services**

### **Private Sector**

- Project Development and Game Developer for [Quarter Heart Studio](#), independent game development company, Boulder, CO

- Lead Game Coordinator for Event-Qwest, mobile gamification event services, Boulder, CO

**Member**

- Institute of Electrical & Electronics Engineering, IEEE (Computer Science Education)
- Association of Computing Machinery, ACM (USACM)
- American Association for University Women (AAUW)
- International Game Developers Association (IGDA)
- Video Game Voters Network (VGVN)