

## Curriculum vitae for O'Brien, Charles

Email: Charles.E.O'Brien@uah.edu

### Education:

M.A. Game Design, *Lindenwood University*, Expected Date TBD

Ph.D. Microbiology and Molecular Genetics, *Rutgers University*, May 2013

B.S. Biotechnology, *Rutgers University*, October 2002

### Work Experience:

*Principle Research Scientist I* 02/2020 - Present

*University of Alabama Huntsville, Huntsville, AL*

- Created educational apps for grant funded research in the department of Nursing
- Created VR simulations for the department of Rotorcraft Systems Engineering
- Consulted on documentation for budgets, contracts and grants
- Worked with the art team for overall design and layout of the apps/programs

*Adjunct Professor* 01/2018 - Present

*University of Alabama Huntsville, Huntsville, AL*

- Taught various courses in the Art, Art History, and Design department
  - Game Design: Introduction
  - Studio: Game Design and Prototyping
  - Studio: Game Scripting
  - Animation: Team Game Design II
  - Graphic Design: Senior Project Management
- Performed all administrative functions for the courses: creating a course website, syllabus and grading
- Created hybrid and online versions of courses in response to the COVID-19 pandemic

*Freelance Contractor in Game/App Development* 01/2015 - Present

*Madison, AL*

- Completed around fifty contracts related to the game/app industry
- Contracted to write and edit four game design documents for other developers
- Wrote three game design documents that also led to contracts for developing the full versions of the games
- Tutored four clients (from children to adults) in game design and development
  - Created a curriculum for initial training in video game design
  - Met once a week for scheduled meetings
  - Recorded tutorial videos when clients could not meet
  - Have assisted two of the clients in publishing their games

- Taught clients how to write design documents and helped modify their current game mechanics
- Trained two of the clients in the art of quickly prototyping their ideas
- Wrote one SBIR grant regarding gamification of prescription drug compliance
- Published around forty client games/apps in total across flash, html5, iOS, Android, Mac and PC

*Independent Game Designer and Developer*

09/2014 - 08/2019

*Sole Proprietor of Ceosol, Madison, AL*

- Created three games released on Steam (Mac and PC), one of which has over 250,000 downloads
- Released four games on mobile (iOS and Android)
- Ran one successful Kickstarter campaign
- Designed and wrote game design documents for personal and collaboration projects

*Adjunct Professor*

06/2013 - 08/2013

*Rutgers U., Department of Microbiology and Biochemistry, New Brunswick, NJ*

- Was member of a team of three adjunct professors for the course
- Presented lectures for RNA transcription and protein synthesis
- Trained the new TA's for the upcoming year
- Acted as liaison between hands-on lab work and lecture materials

*Teaching Assistant*

09/2010 - 05/2013

*Rutgers U., New Brunswick, NJ*

- Taught three semesters of General Microbiology Lab, one semester of Experimental Biochemistry Lab, two semesters of Applied Microbiology Lab, and one semester of Microbial Ecology Lab
- Taught over one hundred and fifty students in total
- Developed most of the curriculum and was responsible for all lectures, assignments and evaluation of the students in the Microbial Ecology course
- Maintained websites for communicating with students through SAKAI

*Graduate Research Assistant*

09/2005 - 05/2013

*Rutgers U., New Brunswick, NJ*

- Studied bacterial communities at deep-sea hydrothermal vents
- Screened for bacterial resistance to antibiotics
- Supervised and trained eleven students (high school, undergraduate and graduate)

*Quality Assurance Technician*

10/2003 - 05/2005

*Golden State Foods, Conyers, GA*

- Performed all hazard analysis and critical control protocols in compliance with USDA
- Calibrated and maintained all of the computer equipment and devices
- Trained all new hires in proper standard operating procedures

*Research Assistant*

06/2002 - 12/2002

*Emory University Hospital, Atlanta, GA*

- Created methodology for detecting galactosemia in infants

**Consultant**

01/2002 - 05/2002

*Research Proteins Incorporated, New Brunswick, NJ Atlanta, GA*

- Created gene libraries for mass production of proteins of interest

**Lab Technician**

01/2000 - 12/2001

*Rutgers U., New Brunswick, NJ*

- Prepared lectures for Animal Science related courses
- Managed the online course website (WebCT)
- Assembled and printed posters for the department for use in conference presentations

**Software Skills:**

- Expert with Stencyl Engine Development Tools
- Advanced with Unreal Engine 4 (UE4) Development Tools
- Intermediate with Unity Development Tools
- Intermediate with Multiplayer Server Development in PHP and MySQL
- Intermediate with Poser Animation Toolset
- Novice with Adobe Photoshop and Adobe Illustrator
- Novice with QBASIC and C++ Programming Languages
- Novice with Blacksmith 3D Animation Toolset

**Professional Development:**

- Was scheduled for a presentation about gamification at ECGC 2020 (rescheduled due to COVID pandemic), Raleigh NC
- Active member of After Hours Game Developers, Huntsville AL
- Showcased games at Gameacon in Atlantic City NJ at the end of October 2017
- Gave two talks: March 2017 titled "Game Design Documents" and June 2017 titled "Giving a Pitch", at After Hours Game Developers meetings in Huntsville, AL
- Gave a tutorial on creating games without code in Stencyl in May 2017
- Attended East Coast Games Conference in Raleigh, NC in 2017, 2018 and 2019

**Accreditation Coursework:**

Level Design, Concept Design, Game Development I, Projects and Portfolios I, 3D Animation

## Publications:

L Smith, V Argentina, J Price & C O'Brien. *The Mobile Physical Activity and Cognitive Training App for Older Adults: A Pilot Study*. CIN: Computers, Informatics, Nursing (2020) 38(11):537-542

CE O'Brien, D Giovannelli, B Govenar, GW Luther, RA Lutz, TM Shank & C Vetriana. *Microbial biofilms associated with fluid chemistry and megafaunal colonization at post-eruptive deep-sea hydrothermal vents*. Deep Sea Research Part II (2015) 121:31-40

C Vetriani, JW Voordeckers, M Crespo-Medina, CE O'Brien, D Giovannelli & RA Lutz. *Deep-sea hydrothermal vent Epsilonproteobacteria encode a conserved and widespread nitrate reduction pathway (Nap)*. The ISME Journal (2014) 8:1510–1521

D Giovannelli, J Ricci, I Pérez-Rodríguez, M Hügler, C O'Brien, R Keddiss, A Grosche, L Goodwin, D Bruce, KW Davenport, C Detter, J Han, S Han, N Ivanova, ML Land, N Mikhailova, M Nolan, S Pitluck, R Tapia, T Woyke & C Vetriani. *Complete genome sequence of Thermovibrio ammonificans HB-1T, a thermophilic, chemolithoautotrophic bacterium isolated from a deep-sea hydrothermal vent*. Standards in Genomic Sciences (2012) 7:82–90

D Giovannelli, S Ferriera, J Johnson, S Kravitz, I Pérez-Rodríguez, J Ricci, C O'Brien, JW. Voordeckers, E Bini & C Vetriani. *Draft genome sequence of Caminibacter mediatlanticus strain TB-2T, an epsilonproteobacterium isolated from a deep-sea hydrothermal vent*. Standards in Genomic Sciences (2011) 5:135–143

JK McCarthy, C O'Brien & DE Eveleigh. *Thermostable continuous coupled assay for measuring glucose using glucokinase and glucose-6-phosphate dehydrogenase from the marine hyperthermophile Thermotoga maritima*. Analytical Biochemistry (2003) 318(2):196-203

## Partial List of Game Projects:

**Advanced Training Apps - Memory Games, by Ron White** Completed 05/2015  
<http://brainathlete.com/ultimate-memory-matching-game/>  
<https://itunes.apple.com/us/app/ron-whites-facematch/id993494592?ls=1&mt=8>

- Worked with 2-time US Memory Champion, Ron White
- Trained Mr. White for Fox's game show called Super Humans (aired June 2017)
- Designed the games around what the TV producers were going to require Mr. White to perform live, in front of a studio audience

**Action Platformer** - *Radical Spectrum 2, Autonomic Interactive* Published 08/2017  
[http://store.steampowered.com/app/661300/Radical\\_Spectrum\\_Volume\\_2/](http://store.steampowered.com/app/661300/Radical_Spectrum_Volume_2/)

- Programmed the entire game
- Designed roughly half of the procedural level generation (over 10,000 possible levels)
- Designed all of the enemy AI

**Action Platformer** - *SEO Battle Kingdom, by Go Fish Digital* Completed 08/2015  
<https://gofishdigital.com/seo-game/> (broken link)  
<http://www.stencyl.com/game/play/31518> (with permission by the client)

- Programmed the entire game
- Designed the entire world
- Created and implemented all enemy AI

**Action Shooter** - *Radical Spectrum I, by Autonomic Interactive* Published 08/2016  
<http://store.steampowered.com/app/486150/>

- Programmed the entire game
- Designed all of the enemy and radiation AI

**Arcade Shooter** - *Squirrels Gone Wild, by Big Hoss Games* Published 09/2017  
<https://itunes.apple.com/us/app/squirrels-gone-wild/id1269976597?ls=1&mt=8>

- Programmed the entire game
- Designed all of the physics, speeds and progression
- Assisted in creating the game design document
- Working with the client on designing holiday events for the game

**Board Games** - *TowerRTS, by Bruno Broicher* Completed 12/2017  
(game under NDA and not released)

- Designed the video game based on tabletop board game mechanics
- Programmed the entire game
- Designed around half of the playthrough progression
- Created multiple game modes for different user experience

**Brick Breaker** - *Game in the style of Break-Out, by Jon Muskin* Completed 02/2016  
(game under NDA and not released)

- Programmed the entire game
- Designed all of the levels
- Created all of the mechanics and AI for obstacles and boosts

**Card Games** - *Dangerous Dungeons, by William Brundage* Published 10/2015  
<https://velluminformation.com/2015/07/31/daring-adventures-free-version-for-ios-and-android>

- Designed the video game based on tabletop collectible card game mechanics
- Programmed the entire game
- Designed the UI, scoring and progression elements
- Designed methods for obtaining new cards and building decks
- Created the AI for turn based card drawing and dice rolling events

**Clicker/Frantic Tapper - Asteroid BLAST!** by 9FFGames *Unpublished*  
<https://play.google.com/store/apps/developer?id=9FFGames&hl=en> (current release of game)

- Programmed versions in 2D and 3D holographic (for the Red Hydrogen One phone)
- Wrote around half of the storyline
- Created two of the main characters and their personalities
- Designed all difficulty progression and levels of the game

**Education Games - Ear Trainer Pro**, by Lutz Academy *Completed 05/2016*  
 (Game is under NDA and never published by client)

<http://www.stencyl.com/game/play/32858> (initial prototype sent to the client)

- Adapted musical theory with game design
- Created multiple game modes including reading, writing and listening to musical notes
- Programmed all of the games
- Designed half of the games

**Kids Games - Popcorn Maker**, by Dario Lessa *Published 08/2015*

<https://play.google.com/store/apps/details?id=com.djlessa.popcornmaker>

- Programmed the entire game
- Adapted designs and mechanics from other similar children's games

**MMORPG - Realms of Kesmai**, by Owen Chanovich *Unpublished*

<http://www.stencyl.com/game/play/37345> (current build, approved for distribution by client)

- Recreating various elements of the 1996 AOL multiplayer game Islands of Kesmai
- Programming the entire game
- Redesigning the game for mobile devices
- Have been taking part in designing new areas of the world
- Have begun creating a multiplayer server for the game
- Shown at the Gameacon convention, Atlantic City in October 2017

**MUD/Text Adventure - StencylMUD**, by Charles O'Brien *Unpublished*

<http://www.stencyl.com/game/play/36957> (current build)

- Programming the entire game
- Writing all of the dialog
- Creating all of the artwork
- Creating the entire game world
- Designing the server for massive multiplayer capabilities (currently the server is down)

**Productivity Apps - Obama Llama App**, by Big Potato *Published 10/2015*

<https://itunes.apple.com/us/app/obama-llama-app/id1038500531?ls=1&mt=8>

- App is a companion to the board game named Obama Llama
- Programmed the entire app
- Created a simple server for user idea submission within the app
- Communicated with Apple tech support to bypass normal app store policies

**Productivity Apps - Weekly Checklist for Destiny, by Adhikari** *Published 04/2015*

<https://play.google.com/store/apps/details?id=com.adhikari.destinyapp>

- App is a companion to the hit massive multiplayer game Destiny
- Programmed the entire app
- Designed the app to give daily or weekly lists of game events

**Puzzle Games - Tethers!, by Charles O'Brien** *Unpublished*

<http://www.stencyl.com/game/play/36784> (current build)

- Programming all of the game
- Wrote the entire game concept and game design document
- Contracted former UAH student, Ryan Kline, to do most of the level design

**Sandbox RPG - Jacbil Gobbet, by Charles O'Brien** *Unpublished*

<https://www.kickstarter.com/projects/ceosol/jacbil-gobbet> (game is too big for a link)

- Have designed both versions of the game and all storylines (pre and post Kickstarter)
- Created a unique mechanic for the game using a painting based world as opposed to physics and collisions
- Contracted former UAB student, David Zagardo, for music composition
- Will be showing the game at Gameacon, Atlantic City in October 2017

**Shmup - Dead6hot, by Charles O'Brien and Ridhwaan Patel** *Published 01/2016*

<http://store.steampowered.com/app/438030>

- Programmed the entire game
- Created all of the enemy AI and single player Versus Mode opponents
- Designed all of the levels and around one quarter of the overall concept
- Found and negotiated a deal with a publisher (New Reality Games) for the team

**Side-Scroller - Arctic Offensive, by Matti Junila** *Published 02/2018*

<https://appadvice.com/app/arctic-offensive/1275270332>

- Programming the entire game
- Designed around half to three quarters of the concept and gameplay
- Designed the difficulty progression
- Created modular game mechanics for the client to test different physics

**Space Shooter - Game in the style of Galaga, by Jon Muskin** *Completed 11/2015*  
(game under NDA and not released)

- Programmed the entire game
- Created all enemy and boss AI
- Designed all levels, boosts and progression

**Sports Games - Power Spikes re-make, by Federico Bigliocca** *Unpublished*

<http://www.stencyl.com/game/play/37358> (initial prototype sent to client)

- Recreating the classic 1994 Neo-Geo game
- Programming the entire game
- Assisting the client in determining the proper physics

- Redesigning the game specifications for a modern audiences

**Sports Games** - Soccer Headz, by Andy Pineda

Published 05/2016

<https://itunes.apple.com/us/app/soccer-headz-free/id1109201485?mt=8>

- Programmed the entire game
- Created responsive AI opponents
- Assisted client in designing the overall concept and mechanics

**Strategy Game** - Castle Woodwarf, by Domogames

Published 10/2019

[https://store.steampowered.com/app/1123300/Castle\\_Woodwarf/](https://store.steampowered.com/app/1123300/Castle_Woodwarf/)

- Programmed the conversion from flash to mobile release
- Assisted on achievements and Steam publication

**Strategy Game** - Castle Woodwarf II, by Domogames

Published 10/2019

[https://store.steampowered.com/app/1065580/Castle\\_Woodwarf\\_2/](https://store.steampowered.com/app/1065580/Castle_Woodwarf_2/)

- Developed the back-end code for release on Steam
- Worked with the publisher on early-alpha publication
- Developed the achievements and updated