

# Barry Matthew Kudrowitz

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## Education

### Ph.D. in Mechanical Engineering, MIT, Anticipated Graduation June 2010

*Dissertation: A Product Design Perspective on the Relationships between and Evaluation of Humor and Creativity*  
*Committee:* David Wallace (Chair), Woodie Flowers, Maria Yang, Doris Bergen, and Nicola Senin  
*Minor:* Comparative Media Studies

### Visiting Researcher and “Free Mover” Student in Industrial Design Engineering, TU Delft, ID Studio Lab, 2006

*Research: Designing Surprises, Multisensory Incongruity, and (In)Appropriateness*  
*Advisors:* Paul Hekkert, Rick Schifferstein, and Geke Ludden

### M.S. in Mechanical Engineering, MIT, 2006

*Thesis: An Exploration of Concepts for Projectile Toys*  
*Advisor:* David Wallace

### B.S. in Mechanical Engineering, University of Central Florida, 2004

*Thesis: The Application of Pneumatic Capsule Pipelines in Conjunction with Linear Induction Motors towards the Enhancement of the Thrill Ride Industry*  
*Advisor:* Eric Petersen

## Selected Awards

### Teaching

Goodwin Medal for Conspicuously Effective Teaching, MIT Institute Award (2009)  
Department Service Award for Outstanding Service to the Mechanical Engineering Department, MIT (2009)

### Academic

Rohsenow Graduate Fellowship at the Massachusetts Institute of Technology (2004-2005)  
Top Honors Graduate/*summa cum laude* at the University of Central Florida (2004)  
Order of Pegasus - Highest award offered to a student at the University of Central Florida (2004)  
Founders' Day Award - Outstanding ability and performance, College of Engineering/Computer Science, UCF (2004)

### Extracurricular

1st Place in MIT's First Annual Unuseful Competition for the “Catsup Crapper” (2005)  
“The Orlando Grand Slam Master” - Highest Ranked Slam Poet in Orlando (2003-2004)  
20 Coolest People in Orlando 2004 (*Axis Magazine* November 2004; [www.axismag.com](http://www.axismag.com))

## Research Interests

Product Design  
Design Creativity  
Idea Generation and Concept Visualization  
Design Education  
Design Aesthetics and User Experience  
Design for Play and Entertainment  
Humor

## Scholarship

### Publications

Kudrowitz, Barry and Wallace, David. "The Play Pyramid: A Play Classification and Ideation Tool for Toy Design." *The Journal of Arts and Technology*. In Press.

Ludden, Geke; Kudrowitz, Barry; Schifferstein, Hendrick; and Hekkert, Paul. "Surprise and Humor in Product Design." *Humor: The International Journal of Humor*. In Press

Gutowski, Timothy; Taplett, Amanda; Kudrowitz, Barry; et al. "Environmental Life Style Analysis (ELSA)." *IEEE International Symposium on Electronics and the Environment*. May 2008.

### Invited Talks

"Design for Play. Play for Design." International Conference on Toys and Children's Products. Alicante, Spain. May 14-15, 2009.

"The Play Pyramid: A Play Classification and Ideation Tool for Toy Design." International Toy Research Association 5th World Congress 'Toys and Culture'. Napflion, Greece. July 9 -11, 2008.

"Gathering Ideas: Product Design and Innovation." Design Cork Seminar. Lisbon, Portugal. May 16, 2008.

## Teaching Experience

Semester	Course	Title	Role	Supervised Students	Instructor Rating
2009 Fall	2.009	Product Engineering Processes	Lab Instructor	32	-
2009 Fall	SP.779	Advanced Toy Design	Lead Instructor	10	-
2009 Spring	2.00b	Toy Product Design	Lead Instructor	75	6.68 / 7.0
2008 Fall	2.009	Product Engineering Processes	Lab Instructor	28	6.54 / 7.0
2008 Fall	SP.779	Advanced Toy Design	Lead Instructor	6	-
2008 Spring	2.00b	Toy Product Design	Lead Instructor	46	6.69 / 7.0
2008 Spring	2.744	Product Design	Teaching Assistant	-	-
2007 Fall	2.009	Product Engineering Processes	Team Mentor	28	-
2007 Spring	SP.778	Toy Product Design	Lead Instructor	32	-
2007 Spring	2.00b	Solving Real Problems	Teaching Assistant	13	-
2006 Spring	SP.778	Toy Product Design	Lead Instructor	23	-
2006 Spring	2.744	Product Design	Teaching Assistant	-	-
2005 Fall	2.009	Product Engineering Processes	Team Mentor	13	-
2005 Spring	SP.770	Toy Product Design	Lead Instructor	11	-

### Toy Product Design (2.00b/SP.778)

Co-Creator and Course Instructor, 2005, 2006, 2007, 2008, 2009

*Description:* project-based course that introduces undergraduates to product design process and techniques

*Roles:* develop and teach lecture content, assist in fund raising, maintain a machine shop, supervise lab sections and staff, website design and maintenance, community and industry contact  
<http://web.mit.edu/2.00b/www>

### Advanced Toy Product Design (SP.779)

Co-Creator and Course Instructor, 2008, 2009

*Description:* continuation of Toy Product Design, students take designs to a more advanced prototype stage

*Roles:* supervise shop and advise in design, scheduling, and prototyping

### Product Engineering Processes (2.009)

Lab Instructor, Mentor, and Teaching Assistant, 2005, 2007, 2008, 2009

*Description:* mechanical engineering capstone undergraduate design course

*Lab Instructor Roles:* supervise a team of students, facilitate organization, and assist in design and build

*Mentor Roles:* meet with a team weekly and assist in design process and prototyping

*Teaching Assistant:* prepare lecture material, photo and video documentation of the course, lecture assistance  
<http://web.mit.edu/2.009/www>

### Product Design (2.744)

Teaching Assistant, 2006, 2008

*Description:* graduate project-based course emphasizing user experience, product form, and human factors

*Roles:* preparing lecture material, photo and video documenting, quiz grading, assisting in prototyping

<http://web.mit.edu/2.744/www>

## Selected Design Work

The following design projects and more can be found in my online portfolio: [www.wonderbarry.com](http://www.wonderbarry.com)

### Product Design

#### Hasbro Toy Research (2004-2006)

- Design and fabrication of Super Soaker and Nerf projectile toys
- Design of the Nerf Atom Blaster currently on the market
- US Patent Application US20080078366: Toy Projectile Launching Device, 2007
- Research performed with William Fienup and Advisor David Wallace

#### 5-Wits Interactive Entertainment (2005-2006)

- Co-Design of an elevator simulator for interactive show installed at the Spy Museum in Washington DC
- Group project for MIT course 2.744 Product Design
- Storyboarding, set design, and animatronics for interactive "*Tomb*" show in Boston (2005)
- <http://www.5-wits.com> and <http://www.spymuseum.org/operationspy/index.php>

#### The Catsup Crapper or AuTomato (2005)

- Design of a catsup bottle that roller skates to a plate and dispenses catsup
- First place recipient in the first annual MIT Unuseless Competition
- Featured on *The Martha Stewart Show* (2008)
- <http://www.catsupcrapper.com> and <http://www.automato57.com>

#### *Enscribe* Whiteboard Table (2005)

- A conference table with removable whiteboard surface for group brainstorm
- Group project for MIT Course 2.739J Product Design and Development

#### Endoscopic Biopsy Needle Design (2004)

- Coring needle design that preserves tissue histology
- US Patent Application US20080300507: Biopsy Needle, 2008
- Group Project for MIT Course 2.75 Precision Machine Design
- Advised by Dr. William Brugge, and Alex Slocum

### Creativity Tools

#### Cross Products (2007)

- Card game that promotes innovation by mixing elements of existing products

#### Association Mapping (2007)

- Mind mapping technique specific to product design that allows designers to make non-obvious connections

### Entertainment Design

#### MIT Musical Theatre Guild (2007)

- Set design and build
- Publicity and graphic design
- Actor

#### *Design Squad* (2006)

- Consulting for PBS show targeted at high school students to promote engineering

#### *Designers! Product Design TV* (2005-2006)

- Producer and host of MIT-based product design television pilot
- Advised by Meejin Yoon (MIT) and David Wallace (MIT), co-produced with Chandler Hatton

## Selected Media Exposure

"Toy Product Design." Exhibit at the MIT Museum. 256 Massachusetts Avenue, Cambridge MA 02139. June 2008-10.

Michael Tedder. "Toy Story." *FLYP Media*. Issue 30. May 26 - June 7, 2009. <http://www.flypmedia.com/issues/30/#6/1>

"Barry Kudrowitz: Brainstorming in the MIT Toy Lab." *Imagine It! 2*. DVD. Infinite Loop Media LLC. 2009.  
<http://www.imagineitproject.com/?p=2314>

"Unuseless Inventions." *Martha Stewart Show*. Fine Living Channel. New York. Feb 15th, 2008.  
<http://www.marthastewart.com/article/unuseless-japanese-inventions>

"Rock On: Episode 2." *Design Squad*. PBS. Boston. 2007.  
[http://pbskids.org/designsquad/season1/index.html?pid=Wlx5iZxOB\\\_ZJPjQK9ri0Dpxwcpy\\\_ANtM](http://pbskids.org/designsquad/season1/index.html?pid=Wlx5iZxOB\_ZJPjQK9ri0Dpxwcpy\_ANtM)

Paul McMorrow. "Good Bostonian: Barry Kudrowitz, Product Designer." *Weekly Dig Magazine*. August 2007.  
<http://www.weeklydig.com/news-opinions/feature/200708/barry-kudrowitz>

"Archimedes Death Ray: Episode 46." *Mythbusters*. Discovery Channel. San Francisco. January 25, 2006.

## References

Dr. David Wallace, Professor of Mechanical Engineering, MIT; 617-253-2655; [drwallac@mit.edu](mailto:drwallac@mit.edu)

Dr. Woodie Flowers, Professor Emeritus of Mechanical Engineering, MIT; 617-253-6234; [flowers@mit.edu](mailto:flowers@mit.edu)

Dr. Maria Yang, Assistant Professor of Mechanical Engineering, MIT; 617-324-5592; [mcyang@mit.edu](mailto:mcyang@mit.edu)

Dr. Warren Seering, Professor of Mechanical Engineering, MIT; 617-253-8253; [seering@mit.edu](mailto:seering@mit.edu)

Dr. Kim Vandiver, Professor of Mechanical Engineering and Dean for Undergraduate Research, MIT; 617-258-0207; [kimv@mit.edu](mailto:kimv@mit.edu)