

# Joseph Angus Corneli

## Curriculum Vitæ

### Contact Information

Joseph Corneli  
Postgraduate Research Student  
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### Education

#### New College of Florida

Bachelor of Arts (Mathematics), 2002

Completed additional advanced undergraduate and graduate courses in mathematics, anthropology, and computer science at the Massachusetts Institute of Technology, the University of Minnesota, and the University of Texas. Thesis: *Double bubbles in spaces of constant curvature* (Advisor: Patrick T. McDonald, McDonald@ncf.edu).

### Research Experience

#### Hyperreal Dictionary of Mathematics

Contact: <http://wiki.planetmath.org/AsteroidMeta/HDM>

Maintainer of a collection of documents describing an ambitious and broad-ranging research program in computer mathematics. Developed of an open source semantic hypertext platform, Arxana, written in Lisp. (2002-ongoing)

#### Williams College

Contact: Prof. Frank Morgan, Frank.Morgan@williams.edu, +1-413-597-2438

Co-authored several published peer reviewed papers on constrained optimization problems in nonstandard geometries, using a combination of pure and computational techniques. (2001-2002)

#### University of Washington-Seattle

Contact: Prof. James Morrow, morrow@math.washington.edu, +1-206-543-1150

Studied boundary value problems on graphs; contributed a research report entitled "An extension of the class of recoverable resistor networks". (2000)

## Teaching Experience

### Academic Testing and Tutoring

Contact: Elaine Engler, +1-952-591-9437

Taught second semester AP Calculus to a “home-schooled” student; miscellaneous tutoring assignments with grade schoolers. (2/2005-4/2005)

### University of Texas-Austin

Contact: Kathy Davis, Genevieve Walsh, +1-512-471-7711

Teaching Assistant for Calculus I and II; Facilitated weekly problem sessions, graded papers, and held office hours. (6/2002-8/2002, 2/2003-5/2003)

### New College of Florida

Contact: Eirini Poimenidou, +1-941-487-4379

Teaching Assistant for Abstract Algebra; graded papers, and held office hours. (2000)

## Publications

### Digital Libraries

1. Joseph Corneli and Aaron Krowne, *A Scholia-based Document Model for Commons-based Peer Production* in M. Halbert (Ed.): Free Culture and the Digital Library Symposium Proceedings. Atlanta, Georgia: MetaScholar Initiative at Emory University (2005). pp. 240-25

### Mathematics

4. Corneli, J.; Corwin, I.; Hurder, S.; Sesum, V.; Xu, Y.; Adams, E.; Davis, D.; Lee, M.; Visocchi, R.; Hoffman, N. *Double bubbles in Gauss space and spheres*. Houston J. Math. **34** (2008), no. 1, 181–204.
3. Corneli, Joseph; Hoffman, Neil; Holt, Paul; Lee, George; Leger, Nicholas; Moseley, Stephen; Schoenfeld, Eric. *Double bubbles in  $S^3$  and  $H^3$* . J. Geom. Anal. **17** (2007), no. 2, 189–212.
2. Corneli, Joseph; Holt, Paul; Lee, George; Leger, Nicholas; Schoenfeld, Eric; Steinhurst, Benjamin. *The double bubble problem on the flat two-torus*. Trans. Amer. Math. Soc. **356** (2004), no. 9, 3769–3820.
1. Carrión Álvarez, Miguel; Corneli, Joseph; Walsh, Genevieve; Beheshti, Shabnam. *Double bubbles in the three-torus*. Experiment. Math. **12** (2003), no. 1, 79–89.

## Related Professional Experience

### **PlanetMath.org, Ltd.**

Contact: Aaron Krowne, akrowne@gmail.com, +1-404-405-5766

Member of the Board of Directors of the nonprofit PlanetMath, which runs a popular community-produced mathematics website serving learners at all levels. Key accomplishments include strategic planning for the organization, negotiating partnerships, prototyping new features for the website, and collaboration in technical editing work that resulted in a printable version of PlanetMath's encyclopedia. (2002-ongoing)

### **Cycorp, Inc.**

Contact: Michael Witbrock, witbrock@cyc.com, +1-512-342-4000

Devised automated methods for cleaning a large artificial intelligence knowledge base. (6/2003-8/2003)

## Representative Elective Coursework

- Introduction to Cultural Anthropology (Honors section)
- Ecological Anthropology
- Intermediate Microeconomic Theory
- Tutorial on "Origins of Order"
- Multidisciplinary (Mathematics, Psychology, Philosophy) Discussion Group
- J-term project on Scattering Theory
- J-term project on Combinatorial Optimization
- Differential Manifolds
- Programming Languages
- Knowledge Representation and Reasoning