

# Nicholas P. Tatonetti

## Curriculum Vitae

Department of Mathematics and Statistics  
The School of Life Sciences, GWC 660  
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Education	GPA*	Year	Discipline
Arizona State University	3.99	IP 2007	B.S. Molecular Biosciences/Biotechnology
Arizona State University	3.99	IP 2007	B.S. Computational Mathematical Sciences

\*GPA is for courses required for respective major. Cumulative GPA: 3.95

### Professional Interests

Mathematical and Computational Genomics, Molecular Medicine, Bioinformatics, Computer Science

### Research Mentors

Wim Vermaas, Sc.D., Professor: Genomics, Evolution, and Bioinformatics Faculty,  
School of Life Sciences, Arizona State University

Sharon Crook, Ph.D., Assistant Professor: Department of Mathematics and Statistics,  
School of Life Sciences, Arizona State University

### Research Appointments

*Arizona State University* – Undergraduate Researcher 2005 – Present  
*Beckman Scholars Program* May 2006 – Aug 2008

Optimization of in-vitro kinetic rate coefficients in biochemical reaction pathways.

Leading a project to design and develop a software package to derive the rate coefficients in biochemical reaction pathways. My responsibilities include the design, programming, and testing of the software as well as maintenance and distribution. Additionally I will apply the software to experimental data collected from labeling *cyanobacteria* with carbon isotopes in the form of labeled glucose and carbon dioxide to derive the rate coefficients for the glycolysis, pentose phosphate pathway, and Calvin cycle pathways. Project utilizes C, Fortran, and Python programming languages.

### Presentations

*Frontiers in Applied and Computational Mathematics NJIT* May 2007  
MetabolODE: Optimization software for determining kinetic rate coefficients for biochemical pathways of metabolic isotopomers.

*School of Life Sciences Undergraduate Research Symposium* March 2007  
Optimization of in-vitro kinetic rate coefficients in biochemical reaction pathways.

## Organization/Honor Society Membership

*Phi Beta Kappa* – Lifetime Member in Course

Nov 2007

Phi Beta Kappa is our nation's oldest and most widely known academic honor society. Founded in 1776, during the American Revolution, it seeks to honor only the top 10% of students from the top 10% of universities for excellence in and commitment to the liberal arts and sciences.

*The Triple Helix, Inc.* – Chief Technical Officer

May 2006 – Oct 2007

At The Triple Helix, a student-run international undergraduate publication with over 1,000 members on four continents, I am responsible for the maintenance and development of the website as well as communications tools, such as a software system that controls the publishing of content, management of article submissions, human resources management and recruitment, and mailing list management. In addition, as a member of the Executive Management Team I am responsible for guiding the organization on an international level. It is also my responsibility to manage the Global Technical Team (GTT) which is composed of programmers and website developers to further the organization's goals. ([www.thetriplehelix.org](http://www.thetriplehelix.org))

*CHERUB Foundation* – Co-Director

Aug 2006 – Present

The CHERUB Foundation (Children's Healthcare, Enrichment, Rehabilitation, and Unity in Brazil) is raising funds to aid the mission by The Catholic Church in Sergipe, Brazil. To further this goal I provide my technical and management experience to manage the organization's website and guide fundraising initiatives. ([www.childrenofbrazil.org](http://www.childrenofbrazil.org))

*Mindful Meditation and Yoga* – Technical Director

Aug 2006 – May 2007

Mindful Meditation and Yoga is an ASU student organization that provides free meditation and yoga classes on campus every week. It was my responsibility to construct the website and then look after the maintenance of the site. ([www.mindfulmeditation.org](http://www.mindfulmeditation.org))

*The Triple Helix at ASU* – Vice President / Co-Founder

Jan 2006 – Dec 2006

The Triple Helix at Arizona State University is the local chapter of the international journal. I aided the ascension process as well as recruitment of writers, editors, and executive board officers. In addition I built and maintained the chapter's website. ([asu.thetriplehelix.org](http://asu.thetriplehelix.org))

## Professional Experience

*Tatonetti Web\_Construction* – Founder

2003 – Present

Tatonetti Web\_Construction ([tatonetti.com](http://tatonetti.com)) is a computer programming and design firm that has been operating in the Phoenix metro area for over four years. The firm has been contracted by a variety of clients, from large franchising companies to local chocolate shops. It is my specialty to design and develop dynamic applications that are easy for the client to maintain and use, thus reducing cost and increasing profits. Applications are programmed in a variety of languages and architectures utilizing C, Objective-C, Python, PHP, MySQL, Linux, and OS X.

## Awards & Honors

*Beckman Scholar*

May 2007

The Beckman Scholars Program "provides scholarships that contribute significantly in advancing the education, research training and personal development of select students in chemistry, biochemistry, and the biological and medical sciences. The sustained, in-depth undergraduate research experiences and comprehensive faculty mentoring are unique in terms of program scope, content and level of scholarship awards."

*Goldwater Scholar Honorable Mention*

April 2007

The Barry M. Goldwater Foundation seeks to provide a continuing source of highly qualified scientists, mathematicians, and engineers by awarding scholarships to exceptional college students.

*ASU SOLUR Researcher Award*

May 2006

School of Life Sciences Undergraduate Research (SOLUR) Researcher Grant is an award provided to students to fund research for one academic year. The grant covers wages as well as travel and presentation expenses.

*Molecular Biosciences/Biotechnology Outstanding Student Award*

May 2006

Each year this award is given to one student who is nominated by the faculty and serves as a role model to other students.

*Dean's Honor List* Spring 2005, Fall 2005, Spring 2006, Fall 2006, Spring 2007

### **Community Service / Volunteer Work**

*Tatonetti Web\_Construction*

2003 – Present

As the owner/operator of a computer programming firm I have the opportunity to often provide web development and programming services to non-profit organizations at no charge. The firm has built websites for charter schools like Shiva Mountain Academy in Colorado ([shivamountain.org](http://shivamountain.org)), non-project dance troupes ([shivasdances.org](http://shivasdances.org)), as well as local collegiate clubs and organizations.