

# Carlos Chiquete

*University of Arizona - Program in  
Applied Mathematics*

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Mathematics  
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<http://math.arizona.edu/~chiquete>

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## PERSONAL INFORMATION

Date of Birth May 13, 1982  
Place of Birth San Luis Rio Colorado, Sonora, Mexico  
Nationality United States  
Marital Status Married

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## SCIENTIFIC INTERESTS

- Detonation stability
- Fluid mechanics
- Partial differential equations

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## Honors and Awards

- 2009 Galileo Circle Scholar, College of Science, University of Arizona
- 2008 Department of Mathematics: NSF VIGRE Fellowship
- 2007 Department of Mathematics: NSF VIGRE Travel Grant
- 2006 Department of Mathematics: NSF VIGRE Travel Grant
- 2006 American Physical Society Division of Fluid Dynamics: Travel Subsidy Grant
- 2005 University of Arizona: Magna Cum Laude
- 2005 Phi Beta Kappa Honor Society

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## EDUCATION

- 2006 – present **Ph.D. candidate in Applied Mathematics**, *Program in Applied Mathematics*, University of Arizona, USA.  
Home: <http://appliedmath.arizona.edu/>.  
GPA: 4.0 out of 4.0
- 2006 – 2007 **M.Sc. in Applied Mathematics**, *Program in Applied Mathematics*, University of Arizona, USA.  
Home: <http://appliedmath.arizona.edu/>.  
GPA: 4.0 out of 4.0
- 2000 – 2005 **BS in Mathematics and Physics**, *Department of Mathematics and Department of Physics*, University of Arizona, USA.  
Home: <http://math.arizona.edu>, <http://www.physics.arizona.edu>.  
GPA: 3.8 out of 4.0

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## ACADEMIC AND RESEARCH EXPERIENCE

### Graduate

- Fall 2009 **Graduate Teaching Assistant**, *University of Arizona, Tucson, AZ, USA*,  
Instructor of a pre-calculus course, responsible for all grading and teaching.
- Summer 2009 **Summer Research Intern**, *Los Alamos National Laboratory, Los Alamos, NM, USA*,  
Conducted summer research project in detonation stability with Dr. Mark Short.
- Spring 2008 **Graduate Teaching Assistant**, *University of Arizona, Tucson, AZ, USA*,  
Instructor of a calculus course, responsible for all grading and teaching.
- Spring 2006 -  
Fall 2008 **Graduate Research Assistant**, *University of Arizona, Tucson, AZ, USA*,  
Performed research in hydrodynamic stability with Dr. Anatoli Tumin in the Department  
of Aerospace and Mechanical Engineering.
- ### Undergraduate
- Summer 2005 **Student Researcher**, *Mathematical and Theoretical Biology Institute, Los Alamos, NM, USA*,  
Research into influenza spread in interconnected network of nodes representing the borough  
of Manhattan.
- Spring 2005 **Student Researcher**, *NSF VIGRE Undergraduate Research Assistantship, Department of  
Mathematics, University of Arizona, Tucson, AZ 85721*,  
Undergraduate research in mathematical optics.

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## LEADERSHIP

- Graduate Student Representative* **Fall 2008 - Spring 2009**  
Graduate student representative in the Program in Applied Mathematics.
- SIAM student chapter president* **Fall 2008 - Spring 2009**  
President of the student chapter of the Society of Industrial and Applied Mathematics  
(SIAM) at the University of Arizona.
- SIAM student chapter vice-president* **Fall 2007 - Fall 2008**  
Vice-president of the student chapter of the Society of Industrial and Applied Mathematics  
(SIAM) at the University of Arizona.

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## OUTREACH ACTIVITY

- Arizona Assurance Scholar mentor* **Fall 2009 - Spring 2010**  
Mentored two undergraduates throughout the academic year to promote the success of  
low-income students at the University of Arizona.
- Calculus Scholars Tutor* **Summer 2008**  
Tutored in a intensive pre-semester week-long workshop for undergraduates in calculus  
courses at the University of Arizona. This is aimed to improve the success rate of minority  
students in calculus.
- Undergraduate research project mentor* **Spring 2008**  
As part of a mathematical modeling course at the University of Arizona, I mentored a  
group of undergraduates in a semester long research project.
- MARC Mathematics Tutor* **Fall 2007 - present**  
Tutor undergraduates in calculus and pre-calculus in the Minority Access to Research Car-  
reers (MARC) center in the University of Arizona.
- Mathematics and Physics Tutor* **Fall 2005 - Spring 2007**  
Tutored undergraduate students at the Chicano-Hispanic Student Affairs center in the  
University of Arizona.

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## PUBLICATIONS

2009

Chiquete, C., and A. Tumin. 2009. Multidomain spectral collocation method for three-dimensional perturbations in idealized CJ detonations. *Proceedings of the Western States Sections of the Combustion Institute*, Irvine, California, October, 2009. Paper # 09F-41

Chiquete, C., and A. Tumin. 2009. Initial value problem for small perturbations in an idealized CJ detonation. *Proceedings of the 6th U.S. National Combustion Meeting*, Ann Arbor, Michigan, May, 2009. Paper # 32F1.

2008

Chiquete, C., Shalae, I. and A. Tumin. 2008. Receptivity of plane idealized one-reaction detonation to three-dimensional perturbations. *46th American Institute of Aeronautics and Astronautics Aerospace Sciences Meeting and Exhibit*, Reno, Nevada, January, 2008. Paper # AIAA-2008-1038.

2007

Chiquete, C., and A. Tumin. 2007. Receptivity of a Supersonic Inviscid Flow to Periodic-in-time Perturbations Emanating from a Wall. *37th American Institute of Aeronautics and Astronautics Fluid Dynamics Annual Meeting*, Miami, Florida, June, 2007. Paper # AIAA-2007-3982.

2005

Chiquete, C., J. Blackwood, R. Latterman, and S.A. Small. 2005. Disease Spread as a Function of Socioeconomic Status in Manhattan, MTBI 2005 Technical Report :1-28.

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## PRESENTATIONS

2009

Chiquete, C., and A. Tumin. 2009. Multidomain spectral collocation method for three-dimensional perturbations in idealized CJ detonations. *Proceedings of the Western States Sections of the Combustion Institute*, Irvine, California, October, 2009.

Chiquete, C., and A. Tumin. 2009. Initial value problem for small perturbations in an idealized CJ detonation. *Proceedings of the 6th U.S. National Combustion Meeting*, Ann Arbor, Michigan, May, 2009.

2008

Chiquete, C., Shalae, I. and A. Tumin. 2008. Initial-value problem for small perturbations in an idealized CJ detonation. *American Physical Society Division of Fluid Dynamics 61st Annual Meeting*, San Antonio, Texas, November, 2008.

Chiquete, C., Shalae, I. and A. Tumin. 2008. Receptivity of plane idealized one-reaction detonation to three-dimensional perturbations. *Program in Applied Mathematics Brown Bag Colloquium*, Tucson, Arizona, March, 2008.

Chiquete, C., Shalae, I. and A. Tumin. 2008. Receptivity of plane idealized one-reaction detonation to three-dimensional perturbations. *LAAZ ASUNM Daze 2008*. Albuquerque, New Mexico, March 2008.

Chiquete, C., Shalae, I. and A. Tumin. 2008. Receptivity of plane idealized one-reaction detonation to three-dimensional perturbations. *46th American Institute of Aeronautics and Astronautics Aerospace Sciences Meeting and Exhibit*, Reno, Nevada, January, 2008.

2007

Chiquete, C., and A. Tumin. 2007. Receptivity of a Supersonic Inviscid Flow to Periodic-in-time Perturbations Emanating from a Wall. *37th American Institute of Aeronautics and Astronautics Fluid Dynamics Annual Meeting*, Miami, Florida, June, 2007.

Chiquete, C., and A. Tumin. 2007. Biorthogonal Eigenfunction Expansion: a Study Case. *Program in Applied Mathematics Brown Bag Colloquium*, Tucson, Arizona, March, 2007.

2006

Chiquete, C., and A. Tumin. 2006. Receptivity of a Supersonic Inviscid Flow to Periodic-in-time Perturbations Emanating from a Wall. *American Physical Society Division of Fluid Dynamics 59th Annual Meeting*, Tampa, Florida, November, 2006.

Chiquete, C., and A. Tumin. 2006. Receptivity of a Supersonic Inviscid Flow to Periodic-in-Time Perturbations Emanating from a Wall - A Study Case. *44th American Institute of Aeronautics and Astronautics Aerospace Sciences Meeting and Exhibit*, Reno, Nevada, January, 2006.

2005

Chiquete, C., 2005. Undergraduate Poster Session : Disease Spread as a Function of Socioeconomic Status in Manhattan. *Society for Advancement of Chicanos and Native Americans in Science Conference*, Denver, Colorado, October, 2005.

Chiquete, C., J. Blackwood, R. Latterman, and S.A. Small. 2005. Disease Spread as a Function of Socioeconomic Status in Manhattan. *Mathematical Association of America MathFest*, Albuquerque, New Mexico, August, 2005.

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## COMPUTATIONAL EXPERIENCE

### Operating Systems

All Microsoft™ operating systems, Solaris™ Unix, MacOS™, Linux  
cvtitem

### Programming Languages

Procedural	C, Perl, Fortran
Object-Oriented	Python
Web	HTML
Scientific	Maple™, MatLab™, Mathematica™, GNUPlot

### Office Automation

TEX, LATEX, Microsoft Office™

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## REFERENCES

These persons are familiar with my professional qualifications and my character:

### Professor Anatoli Tumin

PhD thesis supervisor  
Dept. of Aerospace and Mechanical Engineering  
University of Arizona  
Tucson, AZ 85719, USA

Phone: +01-520-621.4254  
Fax: +01-520-621-8191  
Email: tumin [AT] email.arizona.edu

### Professor Moysey Brio

Professor and committee member  
Dept. of Mathematics  
University of Arizona  
Tucson, AZ 85719, USA

Phone: +01-520-621-4582  
Fax: +01-520-621-8322  
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### Professor Alain Goriely

Professor and committee member  
Dept. of Mathematics  
University of Arizona  
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## UPDATED

November 12, 2009