

## CURRICULUM VITAE OF CHIA-YU HSU

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Mathematics, Tulane University  
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### **Education**

Doctor of Philosophy, August 2007

Washington State University, Mathematics

Advisor: Professor Robert Dillon

Ph.D Dissertation: A 3D Bacteria Swimming Model Coupled with External Fluid Mechanics Using the Immersed Boundary Method

Master of Science, June 1993

Fu-Jen Catholic University, Taiwan, Mathematics

Adivisor: Professor Tsing-Jen Ho

Master Thesis: Relationship Among  $k$ -UR,  $k$ -NUC and  $k$ -R

Bachelor of Science, June 1991

Fu-Jen Catholic University, Taiwan, Mathematics

### **Professional Experiences**

#### **• Research experiences**

Sep. 2007-	Postdoc	Prof. Lisa Fauci	CCS. Math. Tulane U. USA
2002-2007	Research Assistant	Prof. Robert Dillon	Dept. of Math. WSU. USA
1991-1992	Research Assistant	Prof. Tsing-Jen Ho	Dept of Math. FJU. Taiwan

#### **• Teaching experiences**

Summer 2006	Math202	Lecturer	Dept. of Math. WSU
Summer 2005	Math540/440	Teaching Assistant	Dept. of Math. WSU
Summer 2004	Math 172 II	Teaching Assistant	Dept. of Math. WSU

Summer 2003	Math 202	Teaching Assistant	Dept. of Math. WSU
Summer 2002	Math 107	Teaching Assistant	Dept. of Math. WSU
Spring 2002	Math202	Teaching Assistant	Dept. of Math. WSU
Fall 2001	Math201	Teaching Assistant	Dept. of Math. WSU
09/93-01/01	Complex Analysis	Teaching Assistant	Dept. of Math. FJU. TW
	Advanced Calculus, Modern Abstract Algebra, Different Equations, Real Analysis		
09/94-01/95	Calculus for life Sci.	Lecturer	Dept. of Life Science, FJU. TW
09/93-06/01	Vector Analysis	Lecturer	Dept. of Math. Night Division. FJU, TW
	Diff. Equations, Linear Programming, Special Topics on Linear Algebra		
09/91-06/93	Administer Official	Teaching Assistant	Dept. of Math. Night Division. FJU, TW

• **Working experiences**

11/97-08/00	Programs coordinate	Administer official	FJU, Extension, TW
12/97-08/00	Lead Teacher of The Oversea Language Study Groups, (Visiting Australia, Europe and USA.)		FJU, Extension, TW

• **Extra-curriculum activity experiences**

Vice President	The Mathematics Students' Club, Dept. of Math. FJU, Night Div.		
Present	The Financial Committee of The Mathematics Students' Club		
Chairman	The Mathematical Alumni Association		

• **Computer training / abilities**

Fortran	UNIX	NCAR GRAPHICS	Matlab
Maple	C-language	Word /Excel	Webpage

• **Scholarship award**

2001-2002	Teaching Assistantship	Dept. of Math. WSU
2002-Now	Research Assistantship	Dept. of Math. WSU
2002.2003	Sidney G. and Evelny Hacker Scholarship (Outstanding Math. Graduate Student)	Dept. of Math. WSU

• **Publications**

Motility simulations of a 3D Bacteria Swimming Model Coupled with External Fluid Dynamics Using the Immersed Boundary Method

• **Talks in applied mathematics seminar, Dept. of Math. WSU**

Fall 2003 A Projection Method for Solving the Navier-Stokes Equations  
 Spring 2004 Projection Methods for the Incompressible Navier-Stokes Equations  
 Spring 2005 Simulation of Motility of Flagellar Bacteria  
 Fall 2005 The Motility of a 3D Rod-Shaped bacterium Model  
 Spring 2006 The Propulsion and Rotation in the Swimming of a 3D Rod Shaped Bacterium Model  
 Fall 2006 A 3D-Bacterial Swimming Model

• **Conferences/Workshop/Summer school**

July, 2006	7 <sup>th</sup> World Congress -on Computational Mechanics	Los Angeles, CA
May, 2005	Microorganism Motility Workshop	Dept. of Math, Tulane Univ., New Orleans, Louisiana
Sum, 2004	MITACS-MSRI-PIMS Summer School -Special Program on Infectious Diseases	Banff. Calgary, Canada
July, 2003	7 <sup>th</sup> US National Congress -on Computational Mechanics	Albuquerque, New Mexico
2002	Computational Workshop	Dept.of Math, Univ. of Washington, Seattle, WA