

# Summer STEM Camp 4 Girls

Join us to learn about the STEM disciplines - Science, Technology, Engineering and Mathematics - through hands-on experiments and mentoring in an all-girls summer camp!

**University of Buea**

**May 22-28, 2011**

**Application Deadline: March 1, 2011**



The aim of this camp is to engage teenage girls in a hands-on experience in the STEM disciplines, combining lectures, tutorials, experiments and field activities in an environment designed to be supportive, enriching and most importantly – fun! The topics covered in the week-long school will span mathematics, engineering and technology as well as environmental science and health science, which will educate about local environmental issues, personal health and hygiene.

Instructors will be faculty and graduate students from the University of Buea and from the USA. The female mentors will be professional women from the Buea area.

## Participation Requirements

- *Participants must stay full week*
- *Girls from Form 4 to Upper Sixth*
- *Limited to 50 participants*
- *Transport, Lodging, and Food will be covered by the school*

## Session Leaders

- *Dr. Josepha Foba (Material Science)*
- *Mrs Renata Foncham (Mechanical Engineering)*
- *Mrs Zita Ndieshi (Geography)*
- *Mrs Susan Ndi Samba (Nuclear Science)*
- *Mrs Ali Joan Wacka (Computer Science)*
- *Miss Shelby Wilson (Mathematics)*
- *Dr. Eva-Maria Schoetz (Biophysics)*

## Organizers



Dr. Josepha Foba,  
University of Buea  
[jfofa@yahoo.com](mailto:jfofa@yahoo.com)



Dr. Eva-Maria Schoetz,  
Princeton University  
[eschoetz@princeton.edu](mailto:eschoetz@princeton.edu)



## **Proposal**

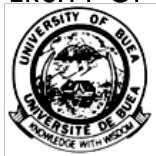
### **Summer STEM Camp 4 Girls**

#### **Executive Summary**

Science, Technology, Engineering and Mathematics (STEM disciplines) in Cameroon have always been dominated by boys. While boys are generally supported by their families and teachers to pursue natural sciences at the university level, girls are not encouraged enough to study a STEM discipline. The percentage of teenage girls pursuing sciences in college is typically less than 30% of total admissions (gender disaggregated admission statistics from the University of Buea). Therefore, there is a need to provide extra-curricular activities to increase the interest of girls for the natural sciences and support those girls that are already strongly interested, but lack support from their families and teachers. An important component is the availability of female role models to give a perspective that a successful career in the natural sciences for girls is possible; this perspective is needed for both, the girls themselves and their families. The all-girls camp will provide a unique atmosphere of this kind, as it will combine lectures and tutorials with hands-on experiments to strengthen the girls' confidence, all of which will be facilitated by successful female scientists from Cameroon and the USA who will be both, teachers and mentors, for the girls.

#### **Aim**

The aim of the camp is to engage teenage girls in a hands-on experience in the STEM disciplines, combining lectures, tutorials, experiments and field activities in an environment designed to be supportive, enriching and most importantly – fun! The idea of having an out-of-classroom environment with exclusively female participants and instructors is based on the observation that girls become insecure about their STEM skills and thus underperform when mixed with boys, supporting the stereotype that boys, not girls, are good at math and the hard sciences. The topics covered in the week-long school will span mathematics, engineering and technology as well as environmental science and health science, which will educate them about local environmental issues, personal health and hygiene.



## Resource persons

The facilitators and instructors at the camp will be 5 female scientists from Cameroon and 3 female scientists from the USA, with experience in outreach teaching and creative education (see appendix for the curriculum vitae of the organizers and US instructors). 4 students of the Faculty of Education, in the final year of training as science teachers for secondary schools will participate in the running of the hands-on sessions. The co-organizer of this camp, Dr. Eva-Maria Schoetz, who is a researcher at Princeton University in biophysics, will bring 1 female undergraduate students from the integrated science program (<http://www.princeton.edu/integratedscience/>) with special interest in outreach teaching to help with the teaching at the camp. The training provided by these instructors would be supported by coaching interactions with 4 role models, who will be local females working in professions requiring training in the STEMs.

## About the organizers:



### **Dr. Josepha Foba (University of Buea)**

Dr. Foba is a Material scientist, committed to promoting the education of girls and women. She served as the president of the University of Buea womens' social group for 4 years and as the partner in the implementation of the US-sponsored AGSP-EDDI programme project to support the education of girls in the South West Region of Cameroon. Last august, Dr. Foba was one of the local directors of the Hands-on School 2010 at the University of Buea.

For info see: [http://www.handsonresearch.org/cameroon\\_2010.html](http://www.handsonresearch.org/cameroon_2010.html)



**Dr. Eva-Maria Schoetz (Princeton University)**

Dr. Schoetz is a Lewis-Sigler Fellow working on the biophysics of embryogenesis and regeneration at Princeton University, USA. Her educational role is in the participation of the design and teaching of lab modules for an interdisciplinary undergraduate program in the natural sciences. Last August, Dr. Schötz was an instructor at the Hands-On-School 2010 at the University of Buea. She strongly believes in the promotion of an interdisciplinary science education and spoke about this at the recent TEDx conference Wisser U in Beijing. For more info, see: <http://www.genomics.princeton.edu/schoetzlab/Outreach.html>

**About the local instructors:**

**Mrs Zita Ndieshi:** Geographer, presently a high school teacher in the Buea area.

**Mrs Renata Foncham:** Mechanical engineer, presently a secondary school teacher in the Buea area. Renata Foncham was a participant in the Hands-on School, Buea 2010.

**Mrs Susan Ndi Samba:** Nuclear scientist, presently working at National Laboratory for Nuclear techniques and previously an instructor at the Department of Chemistry, University of Buea.

**Mrs Ali Joan Wacka:** Computer scientist and lecturer at the University of Buea. Mrs Ali Joan Wacka is responsible for training for IT literacy amongst staff of the University of Buea and served as a resource person for a science camp for girls organized in 2003 as part of an EDDI sponsored project to support the education of girls in Cameroon.

**About the US instructors:**

**Shelby Wilson (University of Maryland)**



Shelby Wilson is a PhD student in Mathematics at the University of Maryland. Shelby has experience in teaching teenage girls and was a co-instructor at the Hands-On-School 2010 at the University of Buea.

### **Sofia Quinodoz (Princeton University)**

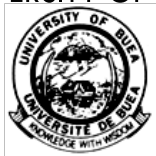
Sofia is a sophomore student in Integrated Science at Princeton University, and also works in Eva-Maria's lab since her freshman year. Sofia has a great interest in teaching and has experience in doing experiments with high school students .

### **Strategy**

Learning at the camp will be a combination of lectures, tutorials, workshops, experiments, 1 field trip (which includes excursions to any of these sites; industrial (an oil refinery in Limbe), financial (selected local banks), agricultural (a local agro-industrial complex), environmental, ecological (Geohazards monitoring facilities around Buea, Limbe botanic garden and Wild Life Conservation projects) and historical (sites of archeological interest around Buea). Emphasis will be on doing science, trying one's skills at various problems, leading to a hopefully strong interactive participation. Learning at the camp will also include role model mentoring and coaching by successful females from the world of work, in particular from STEM professions. The planned tutorials will focus on life skills (problem solving, public speaking, poster presentation, etc) and career counseling. Recreational activities will include a cultural evening and a seaside visit. These will give the girls an opportunity to open up and get connected with the instructors and mentors in an informal setting.

The demonstration and hands-on activities will be organized in five parallel sessions around topical issues as follows:

1. Climate change, biodiversity and industrial ecology
2. Green living: Focus on water and energy
3. Disease, Health and well-being
4. Communication and networks/networking
5. Computer skills and programming



The demonstrations seek to expose the inter-relatedness of the science disciplines, the concept and importance of science consciousness as well as the scientific approach, and encourage a problem solving approach to the teaching and learning of the STEMs.

### Tentative Schedule

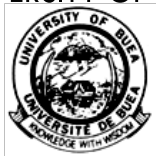
	Mornings		Afternoons	
<b>Sunday</b>	Final preparation & Arrivals		Registration, settling in, dinner	
<b>Monday</b>	Talk*	Hands-on experiments*	Hands-on experiments	Talk
<b>Tuesday</b>	Talk	Tutorial on programming I	Hands-on experiments	Talk
<b>Wednesday</b>	Hands-on experiments	Talk	Field trip; 3 groups, 3 sites	
<b>Thursday</b>	Talk	Life skills; public talking, problem solving etc	Career counseling and Mentoring with role models	Cultural Evening; presentations, fun activities etc
<b>Friday</b>	Talk	Excursion: sea-side	Excursion: sea-side	
<b>Saturday</b>	Talk	Hands-on experiments	Tutorial on programming II	Closing dinner/ Gala
<b>Sunday</b>	<b>Closure &amp; Departure</b>			

Talk\* - 1hour

Hands-on experiments\* - 3-4 hours

### Camp science and non-science courses

Biology, physics, chemistry, mathematics & modeling, environmental science, micro-biology, developmental studies (population growth and its significance), sanitation/hygiene, geography, banking and finance/budgeting, IT and computer science, technology and design.



## Expected outcomes

We expect the girls that participate in the STEM camp to experience science in a unique atmosphere without external pressure, but lots of encouragement and play, to gain or strengthen their interest in the STEM disciplines, to gain self-confidence and make new friends who are in a similar situation. They will learn research as well as life skills from experienced and inspiring instructors, and gain information and perspectives on career options in the STEM disciplines from their engagement with role model mentors. The ultimate test of success will be the statistics of how many girls will be inspired enough to take up studies in the physical sciences, mathematics, engineering and information technology at the university level after this camp. To collect these data we plan to stay in close contact with the participants through the local organizers.

## Budget

Duration: 8 days/7 nights

Participants: No. of Girls: 50

No. of Instructors: 8

No. of Role model mentors: 4

No. of student facilitators: 6 to 7

\*Explanatory notes

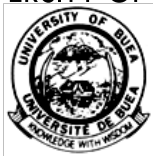
## Budget Estimates

ITEM	JUSTIFICATION	QUANTITY	UNIT COST	TOTAL COST	USD
<b>Lodging of participants</b>					
Hostel for 50 girls* <sup>1</sup>	lodging	2 dormitories	50,000 per dormitory/day	100,000×7 =700,000	1400
Hotel (out of town mentors)* <sup>2</sup>	Mentors (4) 1 day appearance (role models)	1 room	10,000	40,000	80
Hotel for instructors (8) (May 20-28)		8 rooms x 9 nights	10.000 per instructor	80,000×9 = 720,000	1440
<b>Sub-total</b>				<b>1,460,000</b>	<b>2920</b>
<b>Transportation</b>					
Fare to & fro	Meme & Fako division	50 girls	5000	250,000	500



		4 mentors	5000	20,000	40
Air fare & visa US instructors (3)				4,500,000	9000
<b>Sub-total</b>				<b>4,770,000</b>	<b>9540</b>
<b>Food</b>					
Breakfast		50	700	35,000 x 7 = 245,000	490
Lunch	For girls, instructors & Local organisers	70	2000	140,000 x7 = 980,000	1,960
Dinner	For girls, instructors & Local organisers	70	2000	140,000x7= 980,000	1,960
snacks		50		25,000 x 7= 175,000	350
<b>Sub-total</b>				<b>2,380,000</b>	<b>4,760</b>
<b>Medical coverage</b>					
First aid Plus	Medical team on standby	7days	10.000	70,000	140
<b>Equipment and material for demos</b>					
Training kits and course material	Development of training manual, purchase of small items and building of small training units	5 sessions	80,000	400,000	800
<b>Secretariat</b>					
Ink, papers, pens, pencils, staplers, files, cardboards, markers, flipboards, etc * <sup>3</sup>	Running of the secretariat			100,000	200
Production of lecture notes etc	Notes, certificate of participation etc			150,000	300
Communication & publicity	Banners, badges, brochures etc			200,000	400
<b>Sub-total</b>				<b>450,000</b>	<b>900</b>
<b>Logistics and over-head cost</b>					
Recording	Video & photographs			200,000	400
Transportation	Before & during			100,000	200
Pre-camp preparation	Overhead cost of local organizing committee/admin cost			200,000	400
Post-camp reporting* <sup>4</sup>	Preparation of report and dissemination			200,000	400





<b>Sub-total</b>				<b>700,000</b>	<b>1,400</b>	
<b>Recreational activities*<sup>5</sup></b>						
Site visits	Financial, historical, Environmental, Agricultural etc	3 field trips	300.000 Per field visit	600,000	1200	
Fun activities	Cultural evening	1		150,000	300	
	Sea-side visit	1		150,000	300	
<b>Sub-total</b>				<b>900,000</b>	<b>1800</b>	
<b>Honorarium for local resource persons</b>						
<b>subject</b>	<b># of person/sub</b>	<b>Perdiems/day /person</b>	<b>Daily cost</b>	<b># of days</b>	<b>Total cost (x 8 days)</b>	<b>USD</b>
<b>Sub-total:</b>	<b>5</b>	<b>10,000</b>	<b>50,000</b>	<b>8</b>	<b>400,000</b>	<b>800</b>
<b>Honorarium for Mentors</b>						
All disciplines	Coaching and teaching of life skills, providing information on career choices, being a practical example for the girls,	4	25.000	100,000	200	
<b>Total</b>				<b>11,430,000</b>	<b>22,860</b>	
<b>Contingency (5% of total cost)</b>				<b>571,500</b>	<b>1143</b>	
<b>Grand total</b>				<b>12,000,000</b>	<b>24,003</b>	

### Explanatory Notes

\*<sup>1</sup> Two furnished dormitories will be rented for the 50 girls

\*<sup>2</sup> Funds for recreational activities will be raised locally from companies

### Appendix: Curriculum Vitae of Organizers and US instructors

# Curriculum Vitae

**NGENEFEME JOSEPHA FOBA**

DEPARTMENT OF CHEMISTRY  
UNIVERSITY OF BUEA

TEL: (237) 7984 6415  
[jnfoba@yahoo.com](mailto:jnfoba@yahoo.com)

## **PROFILE**

Lecturer/Researcher with 16 years of University Teaching in Materials Science and Solid State Chemistry. Good knowledge of Applied Nuclear Techniques in Research. Also ten years of experience in university administration working first as a Head of the Service for university research and then as Head of Division for Research and Publications at the University of Buea.

## **CAREER SUMMARY**

**1994-2010** Lecturer of Material Science and Solid State Chemistry, University of Buea, Cameroon

**2004-2008** Research visit to the Centre for Contaminated Land Remediation of the University of Greenwich at Medwy, UK to conduct research on the treatment of acid mine drainage

**2003** Research visit to the Institute of Non-metallic materials, Clausthal University of Technology, Germany, to carry out research on alternative cement materials.

**1989-2010** Visiting Lecturer of Materials Science, Department of Mechanical Engineering, Higher Teachers, Training College for Technical Education, University of Douala, Cameroon.

**1989-1994** Research Assistant for Applied Nuclear Techniques. National Centre for Applied Nuclear Techniques, Ministry of Scientific and Technical Research Yaounde.

Duties: Advising Researchers on the use of gamma spectrometry, liquid scintillation and ionization techniques and instrumentation for isotope tracer techniques in research, providing services on analysis of labelled samples.

## **RESEARCH ACTIVITIES AND INTERESTS**

1989–1994 Soil/Plant Nutrient Interactions: Use of Nuclear Techniques.

1996–2010 Natural Resource (Geological and Biological) Evaluation and Development for use in the Construction, Agricultural and Environmental protection sectors.

## **PUBLICATIONS**

2 Publications over the past 5 years and 2 others in preparation.

## **OUTREACH ACTIVITIES**

1) President of the University of Buea Women's Group, 2000 to 2004

- 2) EDDI-AGSP of the United States Government Project executed in two divisions in the South West Province for the academic years 2002/2003 and 2003/2004 by the University of Buea  
Member of the Coordination team and activity leader for the organisation of a Science camp for girls
- 3) AEI-AGSP of the United States Government Project executed in the same project area as in 1 above and by the same team
- 4) Project leader of the Uk Foreign Office sponsored climate friendly waste management project in the oil palm sector in Fako Division, Cameroon, 2008
- 5) Local Co-Director for the ICTP Hands-On Research in Complex Systems

**Computer Skills**                      Literate; Microsoft Word, Excel, E-mail/Internet.

**Language Skills**                      English (Fluent), French (Good) – both written and oral.

**Date of Birth**                              31<sup>st</sup> December 1963.

**Status**                                        Married with 4 children, (All over age 10).

# Eva-Maria SCHÖTZ, Ph.D.

LEWIS-SIGLER FELLOW

PRINCETON UNIVERSITY, LEWIS-SIGLER INSTITUTE FOR INTEGRATIVE GENOMICS  
CARL ICAHN LABORATORY, WASHINGTON ROAD, PRINCETON, NJ 08544, USA

## PERSONAL DATA

**Citizenship** : German  
**E-mail** : eschoetz@princeton.edu  
**Lab website** : <http://www.genomics.princeton.edu/schoetzlab/>  
**Cell phone** : +1 609 937 0330

## WORK EXPERIENCE

**PRINCETON UNIVERSITY, Lewis-Sigler Institute**, Princeton, NJ, USA **2007–current**  
Lewis-Sigler Fellow, Lecturer in Physics.

## EDUCATION

**TECHNICAL UNIVERSITY, Dresden**, Germany **09/2007**  
Ph.D. in Biophysics (A). Supervisor: Prof. F. Julicher  
Ph.D. thesis: *Dynamics and Mechanics of Zebrafish Embryonic Tissues.*

**MAX-PLANCK-INSTITUTE (MPI), Dresden**, Germany **2004–2007**  
Ph.D. studies at the MPI for Molecular Cell Biology and Genetics  
and the MPI of Physics of Complex Systems.  
Advisors: Prof. C.-P. Heisenberg and Prof. F. Julicher

**UNIVERSITY OF KONSTANZ**, Germany **09/2004**  
Diploma degree in physics (A).

**PRINCETON UNIVERSITY, Diploma thesis**, Princeton, NJ, USA **2003–2004**  
supervised by Profs. P.M. Chaikin and E.F. Wieschaus.  
*In vivo manipulation of Drosophila syncytial blastoderm embryos using optical tweezers.*

**UNIVERSITY OF KONSTANZ**, Germany **2002–2003**  
Studies in physics.

**UNIVERSITE JOSEPH FOURIER, Grenoble**, France **2001–2002**  
Erasmus Exchange Student in mathematics.

**UNIVERSITY OF KONSTANZ**, Germany **09/2001**  
Bachelor (Vordiplom) in mathematics and physics.

**UNIVERSITY OF KONSTANZ**, Germany **1999–2001**  
Studies in Mathematics and Physics.

## TEACHING EXPERIENCE

**Design and Teaching** Integrated Science Laboratory Course, Princeton University **2007–2010**  
*This year-long course counts as a double course and serves as an introductory level course for chemistry, physics, molecular biology, and computer science. I was designing biophysics lab modules, which I taught together with another Lewis-Sigler fellow in two 3-hour laboratory sessions per week.*

<b>Supervised</b> two senior theses of molecular biology majors, Princeton University	<b>2009–2010</b>
<b>Supervised</b> undergraduate students (molecular biology and physics) and a postdoc, Princeton University	<b>2008–2009</b>
<b>Teaching assistant</b> , Experimental Physics (Labcourse), Technical University Dresden	<b>2005–2006</b>
<b>Teaching assistant</b> , Mathematics for Biologists, University of Konstanz	<b>2002–2003</b>

### OUTREACH EXPERIENCE

<b>Conference talk</b> Princeton Research Symposium, Princeton University, NJ, USA	<b>2010</b>
<b>Invited speaker and education workshop participant</b> TEDx Wisser-U, Beijing University, China	<b>1 wk, 2010</b>
<b>Session Leader Hands-on School</b> for Physics of Complex Systems, University of Buea, Cameroon	<b>2 wks, 2010</b>
<b>Conference poster</b> Princeton Research Symposium, Princeton University, NJ, USA	<b>2009</b>

### FELLOWSHIPS AND AWARDS

<b>Lewis-Sigler Fellowship</b> Princeton University, Princeton, USA	<b>2007-2012</b>
<b>Poster prize (2nd)</b> , Princeton Research Symposium, Princeton, USA	<b>2009</b>
<b>ICAM/I2CAM fellowship</b> , for biophysics summer school in Cargese, Corsica, France.	<b>2006</b>
<b>Studienstiftung travel fellowship</b> , for research at Princeton University, USA	<b>2006</b>
<b>Development (COB) Travel fellowship</b> , for research at Princeton University, USA	<b>2006</b>
<b>Graduate studies stipend</b> , Studienstiftung des dt. Volkes	<b>2005–2007</b>
<b>E-fellows</b> , Internet Stipend	<b>2003–2008</b>
<b>Erasmus Tuition Waiver</b> , for studies at UJF, Grenoble, France	<b>2001</b>
<b>Studienstiftung des dt. Volkes Scholarship</b>	<b>2000–2004</b>
<b>Bavarian scholarship for excellence</b> , “Bayrische Hochbegabtenförderung”	<b>1999–2004</b>
<b>Dornier prize</b> , For report on study trip to the Star City, Moscow area, Russia	<b>2000</b>
<b>ZIS (Stiftung fuer Studienreisen e.V.)</b> , Study trip to the Star City, Moscow area, Russia	<b>1999</b>
<b>Deinger prize</b> , Valedictorian Gymnasium Neutraubling (Grammar school), Germany	<b>1998</b>

### PUBLICATIONS

1. J.A. Talbot, and **E.-M. Schoetz**. Quantitative characterization of planarian wildtype behavior as a platform for screening locomotion phenotypes (accepted for publication in the Journal of Experimental Biology, 2010)
2. J. Dunkel, J.A. Talbot, and **E.-M. Schoetz**. Memory and obesity affect the population dynamics of asexual freshwater planarians (accepted for publication in Physical Biology, 2010)
3. M.L. Manning, R.A. Foty, M.S. Steinberg, and **E.-M. Schoetz**. Coaction of intercellular adhesion and cortical tension specifies tissue surface tension. Proc Natl Acad Sci 107(28):12517-12522 (2010).
4. Dynamics and Mechanics of Zebrafish Embryonic Tissues - A study of the physical properties of zebrafish germlayer cells and tissues and cell dynamics during early embryogenesis, VDM publishing group (2008).
5. **E.-M. Schötz**, R.D. Burdine, F. Jülicher, M.S. Steinberg, C.-P. Heisenberg, and R.A.Foty. Quantitative Differences in Tissue Surface Tension Influence Zebrafish Germ Layer Positioning. HFSP Journal, Vol.2 (1), pp. 1-56 (2008).

6. F. Ulrich\*, M. Krieg\*, **E.-M. Schoetz\***, V. Link, I. Castanon, V. Schnabel, A. Taubenberger, D. Mueller, P.-H. Puech, C.-P. Heisenberg. Wnt11 Functions in Gastrulation by Controlling Cell Cohesion through Rab5c and E Cadherin, *Developmental Cell*, Vol.9, 555564 (2005). \* first author

### INVITED TALKS 2008–2010

- 2010 – University of Maryland, College Park, MD, USA (Seminar)
- 2010 – Emory University, Atlanta, GA (Biophysics Seminar)
- 2010 – University of the Saarland, Saarbrücken, Germany (Seminar)
- 2010 – Harvard University, Boston, MA (Princeton/Harvard Home and Away Seminar)
- 2010 – Buea University, Buea, Cameroon (Lecture on Biophysics and Flatworms)
- 2010 – Beijing University, Beijing, China (TEDx talk)
- 2010 – Heraeus Meeting, Bad Honnef, Germany
- 2010 – University of Texas Austin, Austin, TX (Biophysics Seminar)
- 2010 – Institute Curie, Paris, France (Seminar)
- 2010 – New York University, New York City, NY (Biophysics Seminar)
- 2010 – Vanderbilt University, Nashville, TN (Seminar)
- 2009 – MPI of Physics of Complex Systems, Dresden, Germany (Biophysics Seminar)
- 2009 – Eotvoes University, Budapest, Hungary (Biophysics Seminar)
- 2008 – University of Utah, Salt Lake City, Utah (Department talk)
- 2008 – University of Arizona, Phoenix, AZ (Biophysics Seminar series)

### MEMBERSHIPS, SCIENTIFIC SERVICES AND OTHER INTERESTS

**Referee for Scientific Journals and Grants:** HFSP Journal; Biophysical Journal; The European Physical Journal; *Developmental Dynamics*; Agence Nationale de la Recherche (France)

**Professional Affiliations:** American Physical Society; Deutsche Physikalische Gesellschaft; Biophysical Society.

**Non-scientific memberships:** Tönissteiner Kreis; ZIS Stiftung für Studienreisen (Alumni); Studienstiftung des dt. Volkes (Alumni); E-fellows (Alumni); Wiser-U.

**Languages:** German (mother tongue); English (fluent); French (very good); Russian, Farsi, Spanish (basics); Mandarin (beginner).

# Shelby N Wilson

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CONTACT INFORMATION	The University of Maryland 4116 CSIC Building #406 Paint Branch Drive College Park, MD 20742-3289 USA	Phone: (301) 405-0665 Fax: (301) 314-6674 E-mail: <a href="mailto:swilson@math.umd.edu">swilson@math.umd.edu</a>
RESEARCH INTERESTS	Ordinary and Partial Differential Equations, Numerical Partial Differential Equations, Numerical Linear Algebra, Applications to Medical Sciences, Immunology and Cancer.	
EDUCATION AND SKILLS	<b>Ph. D., Applied Mathematics</b> University of Maryland, College Park, MD, USA Advisor: Prof. Doron Levy	Expected 2011
	<b>M. S., Applied Mathematics</b> University of Maryland, College Park, MD, USA <i>Mathematical Models of Immune Regulation and Immunodnanance</i> Advisor: Prof. Doron Levy	Aug 2010
	<b>B. S., Mathematics</b> , Summa Cum Laude	May 2006
	<b>B. S., Computer Science</b> , Summa Cum Laude Spelman College, Atlanta, GA, USA Advisor: Prof. Jeffrey Ehme	May 2006
	Proficient in Matlab, C++, Python	
PROJECTS AND PROFESSIONAL PRESENTATIONS	Paper. S N Wilson, P Lee, D Levy. <i>A Mathematical Model of the Primary T Cell Response with Contraction Governed by Adaptive Regulatory T Cells</i> . Proceedings of the 26th Southern Biomedical Engineering Conference. College Park, MD.	Oct 2010
	Poster Session. "A Mathematica Model of Immune Regulation by Adaptive T Cells." NCI-UMD Cancer Technology Partnership Workshop. Bethesda, MD.	Jun 2010
	Presentation. "To Catch a Hacker: Protecting a Computer Network from Randomly Arriving Hackers." INFORMS Computing Society Conference. Charelston, SC.	Jan 2009
CONFERENCES & SEMINARS ATTENDED	Mathematical Modelling of Cancer Growth and Treatment Summer School, Dundee, Scotland	Aug 14-28 2010
	Frontiers in Mathematical Biology: NSF-NIH PIs Meeting University of Maryland, College Park	Apr 26-27 2010
	Enhancing Diversity in Graduate Education, New College of Florida	Summer 2006



HONORS, AWARDS, GRANTS AND SCHOLARSHIPS	<b>Research Assistantship</b> Prof. Doron Levy, University of Maryland	Jul 2009 - Present
	<b>Teaching Assistantship</b> Mathematics Department, University of Maryland	May 2008 - May 2009
	<b>LSAMP Bridge to the Doctorate Fellowship</b> National Science Foundation	Aug 2006 - May 2008
	<b>Phi Beta Kappa Society</b>	
ACADEMIC EXPERIENCE	<b>Hands-On Research in Complex Systems School</b> Buea, Cameroon	Aug 2-13, 2010
	<ul style="list-style-type: none"> <li>Teaching Assistant. Mathematical modeling session: Introduction to Matlab and Dynamical Systems. Program designed to introduce researchers from developing countries to scientific research on problems at the frontiers of science.</li> </ul>	
	<b>Enhancing Diversity in Graduate Education, Mentor</b> Atlanta, GA	Jun 2009
	<ul style="list-style-type: none"> <li>Teaching assistant/mentor in Real Analysis and Algebra to women entering graduate school in the mathematical sciences.</li> </ul>	
	<b>University of Maryland, Teaching Assistant</b> College Park, MD	Jun 2007 - Jul 2008
	<ul style="list-style-type: none"> <li>Grader. AMSC 667 and AMSC 661 Numerical Analysis II and Scientific Computing.</li> <li>Primary lecturer. MATH110 Elementary Mathematical Models.</li> </ul>	
	<b>Summer Program In Research And Learning, Mentor</b>	Summer 2007 & 2008
	<ul style="list-style-type: none"> <li>Grader, discussion leader and undergraduate research mentor. Program is designed to enhance the professional development (research and academics) of minority students in mathematics.</li> </ul>	
	<b>Spelman College Mathematics Laboratory</b>	Aug 2004 - May 2006
<ul style="list-style-type: none"> <li>Mathematics tutor.</li> </ul>		
PROFESSIONAL ORGANIZATIONS	Society of Mathematical Biology	2009 - present
	Society for Industrial and Applied Mathematics	2008 - present
	American Mathematical Society	2006 - present
OTHER ACTIVITIES	Applied Mathematics & Statistics, and Scientific Computation Student Council Member	Aug 2010 - Present
	Women in Math, University of Maryland	2008 - Present
	Pi Mu Epsilon, Mathematics Honor Society	2004-2006