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
jnfoba@yahoo.com

Dr. Eva-Maria Schoetz, Princeton University
eschoetz@princeton.edu
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
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 Wiser 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**

<table>
<thead>
<tr>
<th></th>
<th><strong>Mornings</strong></th>
<th><strong>Afternoons</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>Sunday</td>
<td>Final preparation &amp; Arrivals</td>
<td>Registration, settling in, dinner</td>
</tr>
<tr>
<td>Monday</td>
<td>Talk*</td>
<td>Hands-on experiments*</td>
</tr>
<tr>
<td>Tuesday</td>
<td>Talk</td>
<td>Tutorial on programming I</td>
</tr>
<tr>
<td>Wednesday</td>
<td>Hands-on experiments</td>
<td>Talk</td>
</tr>
<tr>
<td>Thursday</td>
<td>Talk</td>
<td>Life skills; public talking, problem solving etc</td>
</tr>
<tr>
<td>Friday</td>
<td>Talk</td>
<td>Excursion: sea-side</td>
</tr>
<tr>
<td>Saturday</td>
<td>Talk</td>
<td>Hands-on experiments</td>
</tr>
<tr>
<td>Sunday</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**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 Role model mentors: 4  
No. of Instructors: 8 No. of student facilitators: 6 to 7

*Explanatory notes

<table>
<thead>
<tr>
<th>ITEM</th>
<th>JUSTIFICATION</th>
<th>QUANTITY</th>
<th>UNIT COST</th>
<th>TOTAL COST</th>
<th>USD</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lodging of participants</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Hostel for 50 girls*¹</td>
<td>lodging</td>
<td>2 dormitories</td>
<td>50,000 per dormitory/day</td>
<td>100,000×7 = 700,000</td>
<td>1400</td>
</tr>
<tr>
<td>Hotel (out of town mentors)*²</td>
<td>Mentors (4) I day appearance (role models)</td>
<td>1 room</td>
<td>10,000</td>
<td>40,000</td>
<td>80</td>
</tr>
<tr>
<td>Hotel for instructors (8) (May 20-28)</td>
<td></td>
<td>8 rooms x 9 nights</td>
<td>10.000 per instructor</td>
<td>80,000×9 = 720,000</td>
<td>1440</td>
</tr>
<tr>
<td>Sub-total</td>
<td></td>
<td></td>
<td></td>
<td>1,460,000</td>
<td>2920</td>
</tr>
</tbody>
</table>

Transportation

<table>
<thead>
<tr>
<th>ITEM</th>
<th>JUSTIFICATION</th>
<th>QUANTITY</th>
<th>UNIT COST</th>
<th>TOTAL COST</th>
<th>USD</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fare to &amp; fro</td>
<td>Meme &amp; Fako division</td>
<td>50 girls</td>
<td>5000</td>
<td>250,000</td>
<td>500</td>
</tr>
<tr>
<td>Description</td>
<td>Quantity</td>
<td>Unit Price</td>
<td>Total Cost</td>
<td>Notes</td>
<td></td>
</tr>
<tr>
<td>--------------------------------------------------</td>
<td>----------</td>
<td>------------</td>
<td>------------</td>
<td>-------</td>
<td></td>
</tr>
<tr>
<td>Air fare &amp; visa US instructors (3)</td>
<td></td>
<td></td>
<td>4,500,000</td>
<td>9000</td>
<td></td>
</tr>
<tr>
<td><strong>Sub-total</strong></td>
<td></td>
<td></td>
<td>4,770,000</td>
<td>9540</td>
<td></td>
</tr>
<tr>
<td><strong>Food</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Breakfast</td>
<td>50</td>
<td>700</td>
<td>35,000 x 7 = 245,000</td>
<td>490</td>
<td></td>
</tr>
<tr>
<td>Lunch</td>
<td>For girls, instructors &amp; Local organisers</td>
<td>70</td>
<td>2000</td>
<td>140,000 x 7 = 980,000</td>
<td>1,960</td>
</tr>
<tr>
<td>Dinner</td>
<td>For girls, instructors &amp; Local organisers</td>
<td>70</td>
<td>2000</td>
<td>140,000 x 7 = 980,000</td>
<td>1,960</td>
</tr>
<tr>
<td>snacks</td>
<td>50</td>
<td></td>
<td>25,000 x 7 = 175,000</td>
<td>350</td>
<td></td>
</tr>
<tr>
<td><strong>Sub-total</strong></td>
<td></td>
<td></td>
<td>2,380,000</td>
<td>4,760</td>
<td></td>
</tr>
<tr>
<td><strong>Medical coverage</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>First aid Plus</td>
<td></td>
<td></td>
<td>10,000</td>
<td>70,000</td>
<td>140</td>
</tr>
<tr>
<td><strong>Equipment and material for demos</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Training kits and course material</td>
<td></td>
<td></td>
<td>5 sessions</td>
<td>80,000</td>
<td>400</td>
</tr>
<tr>
<td>Development of training manual, purchase of small items and building of small training units</td>
<td></td>
<td></td>
<td>5 sessions</td>
<td>80,000</td>
<td>400</td>
</tr>
<tr>
<td><strong>Secretariat</strong></td>
<td></td>
<td></td>
<td>100,000</td>
<td>200</td>
<td></td>
</tr>
<tr>
<td>Ink, papers, pens, pencils, staplers, files, cardboards, markers, flipboards, etc <strong>3</strong></td>
<td></td>
<td></td>
<td>150,000</td>
<td>300</td>
<td></td>
</tr>
<tr>
<td>Production of lecture notes etc</td>
<td></td>
<td></td>
<td>200,000</td>
<td>400</td>
<td></td>
</tr>
<tr>
<td>Communication &amp; publicity</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Banners, badges, brochures etc</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Sub-total</strong></td>
<td></td>
<td></td>
<td>450,000</td>
<td>900</td>
<td></td>
</tr>
<tr>
<td><strong>Logistics and over-head cost</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Recording</td>
<td></td>
<td></td>
<td>200,000</td>
<td>400</td>
<td></td>
</tr>
<tr>
<td>Transportation</td>
<td></td>
<td></td>
<td>100,000</td>
<td>200</td>
<td></td>
</tr>
<tr>
<td>Pre-camp preparation</td>
<td></td>
<td></td>
<td>200,000</td>
<td>400</td>
<td></td>
</tr>
<tr>
<td>Post-camp reporting**</td>
<td></td>
<td></td>
<td>200,000</td>
<td>400</td>
<td></td>
</tr>
</tbody>
</table>

**Notes:**
- **3** includes materials and equipment required for the workshop.
- **4** includes preparation, dissemination, and follow-up activities.
### Recreational activities\(^5\)

<table>
<thead>
<tr>
<th></th>
<th>Financial, historical, Environmental, Agricultural etc</th>
<th>3 field trips</th>
<th>300,000 Per field visit</th>
<th>600,000</th>
<th>1200</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Site visits</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Fun activities</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cultural evening</td>
<td></td>
<td>1</td>
<td>150,000</td>
<td>300</td>
<td></td>
</tr>
<tr>
<td>Sea-side visit</td>
<td></td>
<td>1</td>
<td>150,000</td>
<td>300</td>
<td></td>
</tr>
<tr>
<td><strong>Sub-total</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### Honorarium for local resource persons

<table>
<thead>
<tr>
<th>Subject</th>
<th># of person/sub</th>
<th>Perdiems/day/person</th>
<th>Daily cost</th>
<th># of days</th>
<th>Total cost (x 8 days)</th>
<th>USD</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sub-total:</td>
<td>5</td>
<td>10,000</td>
<td>50,000</td>
<td>8</td>
<td>400,000</td>
<td>800</td>
</tr>
</tbody>
</table>

### Honorarium for Mentors

| 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 |

| Total            | 11,430,000       | 22,860           |
| Contingency (5% of total cost) | 571,500 | 1143 |
| Grand total      | 12,000,000       | 24,003           |

**Explanatory Notes**

\(^1\) Two furnished dormitories will be rented for the 50 girls

\(^2\) Funds for recreational activities will be raised locally from companies

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

NGENEFE ME JOSEPHA FOBA

DEPARTMENT OF CHEMISTRY
UNIVERSITY OF BUEA

TEL: (237) 7984 6415
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.

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


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\textsuperscript{st} 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

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).

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

Outreach Experience

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

Fellowships and Awards

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

Publications


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)


### Invited Talks 2008–2010

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

### 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).
Ordinary and Partial Differential Equations, Numerical Partial Differential Equations, Numerical Linear Algebra, Applications to Medical Sciences, Immunology and Cancer.

**Education and Skills**

- **Ph. D., Applied Mathematics**
  University of Maryland, College Park, MD, USA
  Advisor: Prof. Doron Levy
  Expected 2011

- **M. S., Applied Mathematics**
  University of Maryland, College Park, MD, USA
  Advisor: Prof. Doron Levy
  Aug 2010

- **B. S., Mathematics**, Summa Cum Laude
  Spelman College, Atlanta, GA, USA
  Advisor: Prof. Jeffrey Ehme
  May 2006

- **B. S., Computer Science**, Summa Cum Laude
  Spelman College, Atlanta, GA, USA
  Advisor: Prof. Jeffrey Ehme
  May 2006

- Proficient in Matlab, C++, Python

**Projects and Professional Presentations**


**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
Research Assistantship
Prof. Doron Levy, University of Maryland
Jul 2009 - Present

Teaching Assistantship
Mathematics Department, University of Maryland
May 2008 - May 2009

LSAMP Bridge to the Doctorate Fellowship
National Science Foundation
Aug 2006 - May 2008

Phi Beta Kappa Society

Hands-On Research in Complex Systems School
Buea, Cameroon
Aug 2-13, 2010
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.

Enhancing Diversity in Graduate Education, Mentor
Atlanta, GA
Jun 2009
Teaching assistant/mentor in Real Analysis and Algebra to women entering graduate school in the mathematical sciences.

University of Maryland, Teaching Assistant
College Park, MD
Jun 2007 - Jul 2008
Grader. AMSC 667 and AMSC 661 Numerical Analysis II and Scientific Computing.
Primary lecturer. MATH110 Elementary Mathematical Models.

Summer Program In Research And Learning, Mentor
Summer 2007 & 2008
Teaching assistant/mentor. Program is designed to enhance the professional development (research and academics) of minority students in mathematics.

Spelman College Mathematics Laboratory
Mathematics tutor.

Society of Mathematical Biology
2009 - present
Society for Industrial and Applied Mathematics
2008 - present
American Mathematical Society
2006 - present

Applied Mathematics & Statistics, and Scientific Computation
Aug 2010 - Present
Student Council Member
Women in Math, University of Maryland
2008 - Present
Pi Mu Epsilon, Mathematics Honor Society
2004-2006