

# MATTHEW SISUL

Gallatin School of Individualized Study

Master of Arts, May 2010

Concentration: Practical International Development



Matt Sisul is expanding his understanding of the role that physical infrastructure plays in international development and poverty alleviation by engaging in coursework and on-site experience focused on economic development and public health.

Matt started his academic career studying Engineering at Columbia University. Benefiting from a program that emphasized the liberal arts, he quickly learned the value of breadth of knowledge. He found that a minor in Architecture complemented his Civil Engineering major perfectly.

After graduating, Matt began working for the engineering firm Parsons Brinckerhoff. Engaged in large-scale public infrastructure projects like bridges, tunnels and subways, Matt was given the opportunity to learn first hand how projects are managed and how infrastructures are created and maintained in the developed world. Looking to apply his skills for those who needed them more, Matt was drawn into the newly formed New York Professional Chapter of Engineers Without Borders (EWB-NY). He became the chapter president in August of 2006 and continues to hold the position, developing the chapter, introducing new projects, and increasing membership.

At EWB-NY, Matt started with a role on the first project team, a potable water source for a village in Kenya. After a number of successful experiences, he began to see the limitations of the EWB model. He saw that engineers were able to alleviate suffering, but they could not lift communities out of poverty alone. In order to truly succeed, he realized, a multidisciplinary approach was needed.

Through his studies at Gallatin and as a Reynolds Fellow, Matt has been increasing his knowledge base in a variety of areas beyond those of traditional engineering. In so doing, he hopes to be better prepared to draw in experts from other fields that will maximize his efforts to alleviate poverty in the developing world.

In the summer of 2009, Matt travelled to Honduras to pursue the link between technical assistance organizations, local NGOs, and government organizations as they provided infrastructure services and delivery in developing countries. He advised the construction of a foot bridge in a remote village in the south of the country, teaming with an American NGO, an American university, Ayuda en Accion and the local community. He is also planning the construction of a library in Usalama, Kenya, and teaming up with Reynolds Fellow Lauren Servin to investigate and assess the potential for developing a secondary school in Southern Sudan.

# MATTHEW SISUL

## **WORK EXPERIENCE**

### **Parsons Brickerhoff, New York, NY**

#### **Structural Engineer, Oct. 2004 – Present**

- Analysis of Structural Systems: Fixed span and movable bridges, tunnel liners, underpinning, and steel frame systems
- Design of Structural Systems: Concrete and steel design according to ACI, AASHTO, AREMA, AISC, and NYCT DG
- Contract Documents: Preparation of drawings, cost estimates, & specifications
- Document and Drawing Preparation: Concern for overall finished product, key attention to detail, ability to take in and organize large quantities of information and data
- Report Writing: Conceptual reports, calculation reports, life cycle cost analysis, inspection reports
- Client interactions: Coordinating with contractors, manufacturers, architects and government agencies
- Inspection work: Segmental Box Girder, Suspension Bridge, NYCT Subways and Facilities, and Movable Bridges

### **Columbia University, New York, NY**

#### **Teaching Fellow, Oct. 2004 – Present**

- Course: Energy Sources and Conversion, Prof. Modi
- Role: Course is organized by weekly lectures given by Prof. Modi and semester long research projects. Students are to select a research project to work on alone or in teams. Two Teaching Fellows work with students to determine scope of projects and to aid students in developing the projects. The projects generally relate to sustainable initiatives in developing communities or in New York City.

## **VOLUNTEER EXPERIENCE**

### **Engineers Without Borders:New York Professional Chapter (EWB-NY), New York, NY**

#### **EWB-NY President, Aug. 2006 – Present**

- Oversee general operations of the organization with over 50 engineer and non-engineer volunteers and four projects: two in Kenya, a clean water source for a medical clinic and a school, a dam in Cambodia, and a medical facility in Peru
- Duties include organizing meetings, building public support, fundraising, developing new projects, overseeing project schedules and developing operating procedures of chapter

### **EWB – Usalama, Kenya Project**

#### **Team Member, Nov. 2005 – Sept. 2006**

- Goal: To deliver potable water to Usalama, Kenya midway between Nairobi and Mombassa
- Work included treasurer of project, fundraising for project, two-week site assessment in Usalama, aid in design of pipeline, and drafting of project drawings
- Project has expanded to include renovations and additions to the existing school
- Work to include rainwater harvesting

### **EWB – Belen, Peru Project**

#### **Team Member, June 2007 – Present**

- Goal: To construct a medical facility in Belen, outside of Iquitos, Peru
- Belen is on a flood plain and the facility must be design on stilts to sit above the high water mark
- The concrete structure will have offices for on-staff physicians and be outfitted to support the medical needs of the residents
- This project is in conjunction with Amazon Promise, an NGO based in Iquitos, Peru
- Member of the structures, fundraising, and management teams

### **DISTINCTIONS AND AFFILIATIONS**

- NYU Reynolds Graduate Fellowship in Social Entrepreneurship, 2008
- Magna cum Laude
- Deans List: Fall 2000, Spring 2001, Fall 2001, Fall 2002, Spring 2003, Fall 2003.
- Member Golden Key International Honor Society
- Member Tau Beta Pi, Engineering Honor Society
- President of ASCE, Columbia University Chapter
- ASCE Younger Member Forum Award Recipient
- Tullio J. Borri '51 Award in Civil Engineering Recipient

### **PUBLICATIONS**

- Sisul, Matt, "Engineers Without Borders – New York: Destination Kenya," NYWEA Clearwaters, Fall 2006

### **SKILLS**

- Proficiency with Windows Office Suite, Word, Excel, Access, Powerpoint.
- Experience using MathCAD, AutoCAD, Microstation, Larsa, SAP2000, STAAD.pro, GT Strudl, 3-DStudio, HTML, Visual Basic