

# Human Biology Newsletter

The Program in Human Biology | Stanford University

Spring 2012

## Reaching out for learning Cathy Heaney shares her thoughts



Cathy Heaney in Saudi Arabia (Fall 2011).

For years, Cathy Heaney, Associate Professor (Teaching) of Psychology and of Medicine, has been inspiring HumBio students to reach out into local, Bay Area communities and try to change things for the better. Heaney's courses in Human Biology include HumBio 128: Community Health Psychology and HumBio 127 A&B: Community Health Assessment. They focus on promoting an understanding of the psychosocial factors that are associated with health and disease within various communities. Her students gain exposure to local community-based interventions and see real-world examples of the principles they're learning in the classroom. Through service learning and carefully guided reflection, they learn how to identify and overcome barriers to health promotion strategies while interacting with people and organizations from diverse backgrounds.

Photo courtesy of Cathy Heaney

continued on page 2

### INSIDE THIS EDITION

HEANEY AT STANFORD .....	1-2
JOHNSON IN CAPE TOWN .....	3-4
SEMPASA IN GUATEMALA .....	5
ALUMNI NEWS .....	6
ODDS AND ENDS .....	7

### DIRECTOR'S MESSAGE

*The Program in Human Biology has a long history of reaching out. For the past four decades, faculty, students and graduates of our program have invested impressive amounts of their time and energy trying to change the world around them for the better. In the true spirit of our program, they have found ways to employ interdisciplinary solutions to society's most pressing problems – whether locally or halfway around the World. From medical clinics in East Palo Alto to preschools in South Africa, HumBio students, faculty and alumni are there, trying to make a sustainable difference and gaining valuable skills in the process. What better way to learn about the world in which we live than to apply ourselves to the real-life challenges of others? We salute these efforts and thank all of you for honoring the HumBio tradition of sharing your talents and energy with those who need them.*



Professor Carol Boggs

Questions or comments for Professor Boggs? Contact her at [cboggs@stanford.edu](mailto:cboggs@stanford.edu).

FEATURES

**Cathy Heaney, cont'd**

“It’s not just about getting out there,” she says in a recent interview, “it’s about making connections between the real world and what we’re learning in the classroom. In so doing, students gain a deeper understanding of the complex issues contributing to health outcomes in different communities.”

Heaney’s training in public health and health promotion fueled a passion for understanding health behavior and what factors can influence behavior at the community level. In Med 157: Foundations for Community Health Engagement, a course that she

co-teaches with Professor Gabriel Garcia, Professor of Medicine and Associate Dean For Medical School Admissions at the Stanford University School of Medicine, students are introduced to community partners from a variety of community-based organizations, many of which have cultural backgrounds that are unfamiliar to many Stanford students. This challenges the students by confronting them with a variety of new agendas and unexpected constraints. It also allows them to recognize and value the diversity of skills these partners bring with them.

It’s clear that Heaney knows her students well. “On one hand, they come to me with a great deal of confidence,” she says of the students she works with, “but sometimes, they feel distinctly uncomfortable dealing with real-world issues outside of the Stanford bubble.” One of the major goals of her teaching here at Stanford is to change that. “The students need to be supported in order to build confidence in these kinds of endeavors,” she says.



Cathy Heaney mentoring medical students in Saudi Arabia

When asked how she manages to give her students this sense of empowerment, Heaney describes a “graded exposure” approach. First, students are introduced to community partners who give them a sense of the rhythm of their work and the challenges they face on a day-to-day basis. Then students go out into the field and observe

these partners at work. Simultaneous skill-building exercises in the classroom are also an important part of the process. Students learn to conduct “key-informant interviews” and practice these skills with the opportunity to reflect on their own performance and get feedback from their peers and instructors. The final

step is the brainstorming of potential interventions, solutions that are both beneficial and sustainable for any given community. Through this process, the students are practicing critical reflection in a supported environment that ultimately leads to a rewarding experience. “Baby steps,” Heaney says “can often be the best way to enhance a student’s efficacy – to give them a sense that they have the capacity to go out into different communities and make a difference. It’s not just about getting the work done. I want them to develop a willingness to push the envelope.”

With goals like this for her students, it’s easy to understand why Cathy Heaney is such an invaluable part of the Program in Human Biology. Step by baby step, she is teaching these future leaders exactly what it means to reach out.



## Allie Johnson: Service learning in Cape Town

The Cape Town campus of the Bing Overseas Program welcomed its first students in 2010. For two consecutive quarters in 2012, HumBio student Allie Johnson is studying in the program as well. Through service learning and community-based research, students who spend time in Cape Town gain a unique understanding of the challenges facing underprivileged communities.



Allie Johnson in Cape Town

Allie worked at a South African preschool and nutrition clinic with Maya Adam, Lecturer in Human Biology, to explore cultural attitudes towards fruits and vegetables in the diets of underprivileged children. Before the Apartheid regime ended in 1994, the major concern for children in these communities was lack of adequate caloric intake. In recent years, a new problem has emerged among many South African children. While their caloric intake may be adequate, many of them are not consuming a balanced diet.



Miss Thandi talks about vegetables



Children in the Philani Educare Program

### **An Excerpt from Allie's Journal:**

*"Sho! The food here is so unhealthy!" exclaims a taxi driver one morning as he drives me through Khayelitsha. I ask him to elaborate and he tells me: "Just look at the food here. It's unclean and it's unhealthy. I wouldn't eat any of the food you see here. Would you?"*

*I've only spent a few days in Khayelitsha, so I'm loath to pass judgment, yet I know the taxi driver is right. While there is food available on every street corner, it all appears to be either packaged and processed or dirty and rotting. Nonetheless, the food businesses here seem to be thriving: every time I drive through the township, I see people gathered in the corner shops (all branded with Coca-Cola logos), fires springing up at the end of the day to grill meat (fattening, cheap meat, like chicken feet), and grubby children wandering down the road with candy bars in their hands (also readily available at the corner shops). This is the contradiction of the township: food, it seems, is everywhere – and yet none of it is healthy, none of it is providing the community with what they need to thrive.*

*Later that day, I am going over case files with coordinators from Philani's community outreach program. While our goal is simply to identify and count the many at-risk mothers and children that the community outreach workers will visit the next day, I can't help but become immersed in the story that each file holds. Common threads run through these stories: noticing a space in which the outreach workers record the*

children's diets, I am struck by the monotony of these entries. It appears that almost all the mothers' and children's diets are the same and, once again, few of the diets are healthy. Mothers and children in these communities tend to eat the same carbohydrate-rich meals: bread, rice, and pap, a porridge made from cornmeal. A few of the mothers add meat to this diet; very few include vegetables or fruits. Infants eat the same unhealthy foods as their mothers as soon as they are weaned, and many of them are weaned far too early or never breastfed at all. The backs of the forms contain outreach workers' narratives, almost all of which include repeated exhortations to the mothers to eat more fruits and vegetables and to feed their children more healthily. I ask one of the outreach coordinators about the effects of these conversations, and she is optimistic: she believes that most of the mothers take her advice to heart. Given the paucity of healthy foods available in the township, though, I wonder if even the most dedicated mother could put together a nutritious meal for her children here. I am not alone in these observations: academics are beginning to take note of this nutrition crisis in South Africa's townships as well. A recent study reported that almost none of the country's children under five years of age are eating

diets that meet the South African government's own nutritional guidelines. Pap is by far the most widely eaten food, but it is almost entirely starch and lacks most of the vitamins and nutrients that growing children need. The consensus is that South Africa is straddling an insidious nutritional transition, particularly with regard to its children. The conventional form of child malnutrition still exists here: children whose families simply cannot afford to provide them with adequate caloric intake to sustain their growth. Yet other families are also confronting the nutritional battle plaguing industrialized nations: the over-availability of unhealthy, calorie-rich foods, leading to vitamin malnutrition that is often masked by obesity.

Nowhere is this dichotomy clearer than in the townships like Khayelitsha, where many families are poor and the only food available is unhealthy and fattening. The result is that children are either skinny from not eating at enough, or chubby from eating unhealthily. And Khayelitsha is not unique: recent data

shows that about 20% of South African schoolchildren are stunted from inadequate nutrition, while 25% are obese. So, in both Khayelitsha and in South Africa as a whole, we must be as concerned about the children who weigh too much as those who weigh too little.

Identifying the issue of malnutrition in the townships is tricky; addressing it will be equally complex. As Bronfenbrenner reminds us, each individual child inhabits a set of broader contexts, and each of these contexts may contribute uniquely to that child's nutrition and overall health. In Khayelitsha, two of the most im-

portant contexts are socioeconomic status and culture. Clearly, poverty is a key barrier that prevents many of Khayelitsha's children from eating healthily, yet the question of how best to address this poverty is hotly contested. Additionally, the culture of the townships plays a role: pap is a traditional food of the Xhosa culture, to which most of Khayelitsha's community belongs. In order to address the question of children's nutrition in the community, then, we must disentangle these two often overlapping contexts: to what extent is malnutrition in Khayelitsha a result of inadequate access to food due to poverty, and to

what extent is it driven by overconsumption of culturally significant though unhealthy foods? The answer to this question will guide the strategies that policy makers, community organizations, and even volunteers like me will use to promote health among this vibrant and vulnerable population.

My first days here in Khayelitsha have shown me how important it is to keep my eyes open. Evidence about the nature of health and nutrition is everywhere: from archived files in Philani's store-rooms to the billboards I see out on the street. It is this constant dialogue, this flow of thoughts, opinions, and information that continues to inspire me: just as it has brought me face-to-face with one of the many complex issues this community faces, I hope and believe that it will lead me to a solution. If I keep my eyes open, each day I spend in Khayelitsha is transformed into an opportunity to learn from what I see and to use what I learn to create lasting change.



Exploring vegetable colors with the children at Philani Nutrition

FEATURES

## Doris Sempasa takes part in the FSI Fellowship Program

During the Summer of 2011, Doris Sempasa (HB '11) travelled to Guatemala as part of the Freeman-Spogli Institute's Children in Crisis Fellowship Program. Her faculty mentor and guide was Paul Wise, Richard E. Behrman Professor in Child Health, and Senior Fellow at FSI, who has worked extensively in the developing world to improve the lives of children growing up there. The following are excerpts from Doris's summer reflections:



Doris Sempasa with Eduardo and family

with his family. Through an activity that Dr. Wise and another Stanford student had devised, Eduardo began to communicate basic sentences and ideas to his mother and brothers with his body. Using his arms and head to point to different words and phrases, Eduardo

*I couldn't get over the depth of experiences that I had in Guatemala and how much I had learned. Our group of doctors and students was greeted upon arrival by active volcanoes, scenic mountains and even a couple of ostriches at a local gas station! We immediately began exploring what would be our new home for the next two weeks.*



Paul Wise examines a young child

*Our work with Dr. Wise and the local health promoters began soon thereafter. Having devoted*

*many years of his life to improving the health of children and families in the highland areas of Guatemala, Dr. Wise works with local community members, many with only a 3rd grade education, to reach out to families within these rural areas. We were privileged to be a part of that outreach project.*

*Mostly living in indigenous farming regions, these communities deal with issues of severe poverty, lack of jobs and access to health care, as well as alcoholism among many of the men. All too commonly, children suffer from preventable illnesses like diarrhea, malnutrition, and preventable infections.*

*On this trip, I was able to witness firsthand the true resilience of children living in these harsh circumstances. But the most profound experience during my time with Dr. Wise was witnessing a young boy named Eduardo with cerebral palsy, learn to communicate*

*learned to say things like, "Yo quiero mas pan." (I want more bread), and "Yo quiero un brazo" (I want a hug) for the first time. Seeing Eduardo able to interact with his family in this way is something I will never forget. Watching his mother's face light up and seeing her excitement, was so profound... It made me realize how creative solutions can make a difference even when resources are limited. Beyond that, it gave me an even greater appreciation for the work that people like Dr. Wise are doing within communities like this one. I left Guatemala with a deep sense of gratitude. More than anything that I had done or given while I was there, I learned so much from the people I met and my encounters with this beautiful country. This was an experience that opened my eyes to an unfamiliar culture and people. It gave me new perspective on what I aspire to do in the future as a physician and deeply shaped my own understanding of what global health really looks like.*



Eduardo communicates with his brother

ALUMNI NEWS AND PUBLICATIONS

### Michelle Neely: exploring the acquisition of humor in children

HBREX and Human Biology honors graduate Michelle Neely (HB '11) is first author on a recent paper published in the Journal of Neuroscience, February 2012. The study explores the brain regions in children that are activated as their sense of humor develops. Neely, now a medical student at Cornell University conducted this research as an undergraduate under the guidance of Allan Reiss, MD, who directs the Center for Interdisciplinary Brain Sciences Research at Stanford. The researchers hope to better understand how positive emotions, like humor, could enhance well-being in children.



Photo courtesy of Sampa.com



Sarah Mummah, photo courtesy of Stanford University News

### Sarah Mummah wins a Gates Scholarship

Sarah Mummah, (HB '10), and winner of a Fulbright in 2010 is one of forty US recipients of the Gates Cambridge Trust scholarship. The scholarship allows foreign students to pursue graduate studies at the University of Cambridge in England. Mummah plans to pursue a master's degree in public health while conducting research into health behavior changes through Cambridge's recently established Behavior and Health Research Unit.

In 2008, Mummah founded a nonprofit organization called DreamCatchers, which aims to improve the health and education of low-income middle school students.

Her area of concentration in Human Biology helped focus her efforts on addressing inequities in health and education through social interventions.

### Lauren Wood on the effects of stress and motivation

Firestone Award winner and Human Biology alumnus Lauren Wood (HB '09) is first author on a recent study published in the journal Neurobiology of Learning and Memory. Wood worked on this study under the guidance of Russ Fernald, Benjamin Scott Crocker Professor of Human Biology, to explore the effects of stress and motivation on performance, using the male African cichlid fish to understand how immediate early gene and hormone expression profiles were related to successful learning of a relevant spatial task.



photo courtesy of Open Cage



photo courtesy of Tanya Luhrmann

### Tanya Luhrmann's new book

*When God Talks Back: Understanding the American Evangelical Relationship with God.* (Alfred A Knopf, March 27.)

Luhrmann, the Howard H. and Jessie T. Watkins University Professor in Anthropology and Professor, by courtesy, of Psychology, teaches in Human Biology. In her most recent book, she explores how rational, sensible people of faith are able to experience the presence of a powerful yet invisible being and sustain that belief in an environment of doubt. Through interviews, participant observation and experiments on prayer, she tries to understand how God can be experienced as an actual social relationship for those who have trained themselves to concentrate on their inner experiences by engaging in prayer.

SAVE THE DATE!

MESSAGE FROM THE EDITOR

**Upcoming Events - not to be missed!**

HumBio Reunion: October 5th, 2012



The Stanford Historical Society will feature the Program in Human Biology as part of our extended 40th anniversary celebration! The program will include excerpts from the documentary, Human Biology at 40, as well as a panel discussion with founders and early faculty, (including Donald Kennedy, Sandy Dornbusch, Herant Katchedourian and Shirley Feldman), moderated by director Carol Boggs. **Date: Nov 8th, 2012.** Time and place to be announced.



Donald Kennedy

**Annual Boething Lecture**

David Bruce Lindenmayer, Professor at the Fenner School for Environment and Society at the Australian National University will deliver this year's Boething Lecture on May 17th, 4:00pm - 5:00pm followed by a reception. Location: Braun Auditorium and Courtyard (Mudd Chemistry Bldg). The seminar is a synthesis of the past 29 years of detailed work in Mountain Ash forests. Key topics covered will include a discussion of recently discovered "landscape traps" that threaten to prevent the existing 98.9% of young Mountain Ash forest from ever becoming old forest.



Photo courtesy of Ern Mainka



Maya Adam at Philani Nutrition in Cape Town

Working with an outstanding HumBio student on a community-based service-learning project in Cape Town, South Africa this Winter reminded me of the enormous educational value of reaching out to communities outside our own. Through outreach collaborations, our students have the opportunity to stand on their own and decide exactly who they want to be as they transition from the role of student to that of community educator, researcher, activist or (in our project) school cook!

These experiences are unforgettable and they make all of us grow and overcome our fears. I will never forget one morning in Khayelitsha township: As we scrubbed carrots in the corner kitchen of the pre-school classroom, with the children doing crafts around us, I looked down at the worn linoleum floor to see a small, grey mouse staring up at me. I was acutely aware of the fact that I could not shriek, so I took a deep breath, raised my gaze back to the countertop and continued to chop. I only looked down two or three times after that and by the end of the morning, I think we had an unspoken agreement, that mouse and I: "I'll overcome my rodent phobia and you stay away from my shoes..."

Please send comments to:

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