

The next Einstein will come from Africa

The Robert Bosch Stiftung highlights Africa's research potential for the first time with the **Next Einstein Forum**.

Young Kenyan researcher Evelyn Gitau summarizes her goal succinctly: to improve the welfare of those who have not had much luck in life. The pharmacologist focuses on issues that often get short-changed in the research world. She spends a great deal of time in African hospitals with children suffering from malaria. Gitau is a promising young researcher from Africa, which is why she was chosen as the new fellow for the Next Einstein Forum (NEF). The new forum is an initiative of the Robert Bosch Stiftung, in partnership with the African Institute for Mathematical Science. Its intention is to promote and strengthen Africa as a location for research.

As an NEF fellow, Gitau will have the opportunity to appear at the Next Einstein Forum in Dakar and make contact with top researchers from around the globe, which will help advance her research on the immune reactions of cells to serious illnesses. To what extent can changes in cells be used as markers to diagnose serious illnesses? According to researchers' estimates, approximately half of all serious infectious diseases, such as malaria, are not properly diagnosed at hospitals in Sub-Saharan Africa. Gitau returned to Kenya in 2007 after completing her doctorate in Liverpool. She made a number of other unsettling discoveries once in Kenya. For instance, her research indicates a close correlation between severe cases of malaria and severe malnutrition. Attending the forum will increase her chances of tackling a major challenge: she hopes to develop affordable diagnostic tools that

African clinics can use on a daily basis, which could save countless lives.

However, the Next Einstein Forum does more than just help individual researchers. It also provides a new perspective on the entire continent. Africa, which is generally associated with war, chaos, and starving children, actually has a rapidly growing community of researchers and an enormous number of young people with great potential. For now, the best and brightest still tend to move abroad, where they receive more funding for their research. As a result, the exceptional researchers in Africa and their potential solutions to humanity's biggest problems often have no voice on the international stage. The Next Einstein Forum wants to change that. "We hope to integrate Africa into the global research and development community and to help it become a new center for research and technology," says Ingrid Wüning Tschol from the Robert Bosch Stiftung, one of the forum's initiators. "We tell stories that haven't been told yet."

The first Global Gathering in Dakar, Senegal, will bring the best researchers together with the most important decision-makers to discuss solutions for the future. Among the attendees there will be 500 invited guests from the fields of science, politics, and civil society, including heads of state, Nobel Prize winners, and research directors from major companies – to discuss solutions for the future. The fellows, who represent the young generation of African researchers, contribute their ideas to the international research community. All of this is part of a greater goal, says Wüning Tschol. "We are convinced that the next Einstein will come from Africa!" ew



NEF fellow Evelyn Gitau:
Identifying malaria earlier
and saving lives.



Antoine Tambue is
working in Africa
again, thanks to
ARETE.

Independently conducting world-class research

Interview with the **first ARETE Junior Chair** Antoine Tambue in Cape Town

Mathematician and computer scientist Antoine Tambue is recipient of the first-ever ARETE Junior Chair: a grant offered by the Robert Bosch Stiftung and the African Institute for Mathematical Science to support exceptional African researchers who return to their home countries. The Junior Chairs have five years to set up their own research groups. Tambue, from Cameroon, studied in South Africa, earned his doctorate in Scotland, and, until recently, worked as a post-doctoral researcher at the University of Bergen in Norway.

What does this Junior Chair mean to you?

It provides me with an excellent opportunity to share my international experience with other young African researchers. I can conduct world-class research independently, while attracting greater international recognition for research in Africa.

Many African researchers are apparently leaving their home countries due to a lack of grants. Have you seen that as well?

Yes, in many African countries, there are no research grants available at all. That makes it difficult to retain good researchers. I hope that the ARETE Junior Chair will serve as a model for the future, and that things will change.

You previously worked in Norway. Would you have returned to Africa without the grant?

Honestly, no! The grant was the reason I left my position in Norway.

How did the grant change your work?

I am actually more independent now, despite the fact that my previous position in Norway was also very well funded. My leadership skills are growing, because I'm currently heading a team of eight researchers. I'm also developing new projects, applying for additional grants, and making more contacts within the international research community. My previous position was much more tightly tied to special projects.

What are your plans for the next five years? What are you researching?

My main area of interest within the next five years will be numerical analysis, from developing new algorithms to effectively implementing them in numerous important applications. These applications include oil production from hydrocarbon deposits, energy production from geothermal reservoirs, and the calculation of risks in Computational Finance.

What are the biggest challenges that you are currently facing?

As you can see, my research is highly interdisciplinary and requires a range of different skills in applied mathematics, physics, computer science, and finance. My latest challenge is teaching these skills to the young researchers in my group.