





### **CENTER**FOR WOOD SCIENCE

# RESEARCH DRIVEN EDUCATION

#### TRILATERAL RESEARCH TEAMS

The research works will mainly be performed by three multinational PhD student groups. They will be qualified to multiply their versatile know-how via innovative e-learning tools. The project joins educational modules (capacity building) and research modules together with our partner universities in South Africa and Ethiopia.

### **POSTGRADUATE TRAINING MEASURESCHEME**

The research-driven postgraduate training system in BioHome enables the PhD students to mutually interact in a trans-disciplinary manner. Extra-curricular activities will foster each PhD and ensure sound academic output with direct link to application. As one of the key outcomes, the academic curriculum at the partner universities will be enriched in the fields of forest product utilization and composite technologies:

#### **FAKULTÄT**

FÜR MATHEMATIK, INFORMATIK UND NATURWISSENSCHAFTEN

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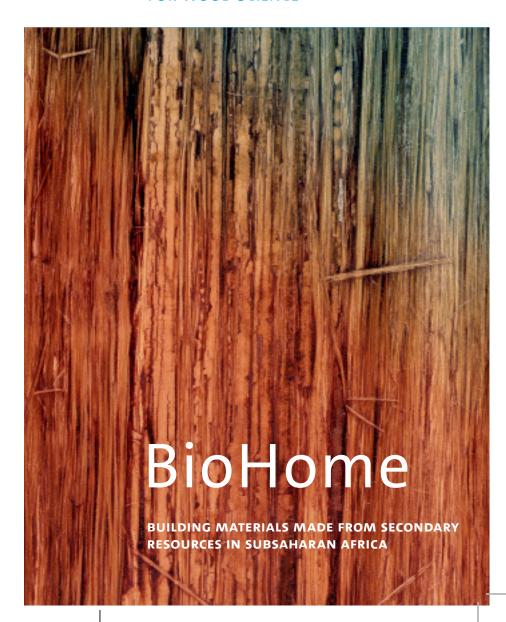
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## BUILDING MATERIALS FROM BIO-BASED AND RECYCLING RESOURCES



### **APPLY FOR A PHD POSITION TODAY!**

### **CANDIDATES**

Starting in QII/2017 we are looking for suitable candidates at our partner institutions in Ethiopia, Germany and South Africa as well as interested contributors, public and private decision makers. Our partners: Hawassa University (Ethiopia), the Thünen Institute (Germany) and University Stellenbosch (South Africa).



### **HOW TO APPLY?**

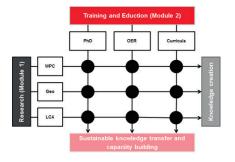
See our news section at www.holz.uni-hamburg.de and contact us via e-mail.

### **PROJECT CONTEXT**

The BioHome project at Universität Hamburg is part of the program "Partnerships for Sustainable Solutions with Sub-Saharan Africa: Measures for Research and Integrated postgraduate training and continuing training". It is funded by the BMBF (German Ministry of Education and Research). BioHome aims to combine secondary resources with lignocellulosic feed-stocks to produce valuable composite materials.

### **PARTICIPATORY DEVELOPMENT SCHEME**

The BioHome technology transfer happens through the development of appropriate technologies. The added value to waste materials will sustainably benefit the emerging recycling infrastructure in Ethiopia and South Africa. BioHome will incorporate SMEs and governmental organizations as well as expert groups by a participatory development scheme.



### REINFORCING RECYCLED PLASTICS WITH LOCAL FIBRE PLANTS

In combination with recycled post-consumer polymers (PE, PP, ABS, etc.), a new generation of African wood-polymer-composites (WPC) and a appropriate production technology will be developed. BioHome uses feedstocks like invasive plants, agricultural residues, fibre plants and burned plantation wood.

### **UPCYCLING INDUSTRIAL RESIDUES**

On the other hand, geopolymers (e.g. fly-ash, slag) will be used as matrix material to produce geopolymer-wood-composites (GWC) with application potentials in concrete and cement construction.

### **ECO-BALANCED AFRICAN COMPOSITES**

The raw material availability and quality (material flow analysis - MFA) for those composites will be analysed and the resulting products will be evaluated by life-cycle-assessments (LCA).



GEFÖRDERT VOM

