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## Exploring the connection between science and business: an approach from the Institute of Physics

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Physics and business are renowned subjects in their own right, but when combined have the potential to achieve extraordinary things. This concept is something the Institute of Physics (IOP) believes in and has dedicated over a decade to programmes within this area, including a series of entrepreneurship training courses for hundreds of scientists and engineers around the world.

For many years the training focused on university students who were studying a STEM subject, and scientists and engineers with commercially viable inventions or ideas. However, upon reflection, research and conversations with in-country partners, we questioned what happened to students who did not attend university. Through that we came to the realisation that with our experience, along with our partners and volunteers, we could work with students at a younger age and explore their interest in a STEM subject, their plans for the future and how the two might be connected. With that in mind, in 2017 the IOP, in partnership with several other organisations, initiated the Future STEM Business Leaders programme. It is specifically for final year secondary school students in Tanzania, who are studying STEM subjects in some capacity, and would like to explore what can be achieved when applying an education in science to business.

The seven month programme begins with a three day training course, which is dedicated to practical physics, how to conduct business in Tanzania and how the two are linked. This is all demonstrated through interactive workshops, sessions with business owners, and a group activity which tasks students with developing their own physics based business, based on an example that we provide. Once the students have completed this training they are then given the opportunity to apply everything they have learnt to their own business ideas, through support from business mentors and incubators in Dar es Salaam. The programme ends with students pitching their business plans, with the best plan receiving an internship with a science based business in Tanzania.

This programme is an excellent example of developing physics education and demonstrating what can be achieved with an education in a STEM subject, in this case the creation of a business. The programme is currently completing year one and year two will begin in September 2018, and as a result we will be in a good position to present the programme and findings at the conference. Our proposal is to run a 90 minute workshop; we will begin with an introduction to the programme, including its history and impact and end with our future plans. The majority of the time will be spent taking attendees through examples of the three day programme, i.e. a science communication workshop, developing a business model canvass and/or pitching skills. We hope that those who attend the workshop understand the essence of our programme but, most importantly, see the link between an education in physics and business.

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