

Division for Social Impact



Initiative by Faculty

Date: 2 November 2018

Number of Initiatives: 23

Initiative Title	Initiative Description	Initiative Owner
Mathematics Olympiad Training	The aim of this initiative is to expose high school learners to interesting mathematical topics and problem solving strategies and to show them that mathematics can be an exciting and enjoyable subject. In addition, it prepares learners for their participation in mathematical competitions, such as the South African Mathematics Olympiad and the South African Mathematics Team Competition.	Basson, DJ, Dr [djbasson@sun.ac.za]
limbovane: Exploring South African Biodiversity and Change Outreach Initiative	limbovane is a curriculum-based education initiative focused towards Grade 10 life science learners at 18 schools across the Western Cape Province. Learners investigate the diversity and distribution of ants species in pristine (usually nature reserves) and modified landscapes (their school grounds). The hands-on nature of the project learners enables the learners to turn the abstract theory of biodiversity and how it changes over time into a well understood reality.	Du Plessis, D, Me <dorette@sun.ac.za>
Science Café Stellenbosch	Science Café Stellenbosch is an initiative of the Faculty of Science at Stellenbosch University to promote the public discussion of science issues in a language that everyone can understand.	Fourie-Basson, WE, Mev <sciencecafe@sun.ac.za>
ESII (Earth Sciences Introduction-Inspiration)	The department of Earth Sciences has in 2017 set up an initiative to introduce primary school learners to various aspects of geology. Topics range from minerals and rock types to fossils, from ore to metal, and environmental geology. Visits to the department give the pupils a feeling of what it is like to be at a university. They include a lecture as well as a tour or quiz related to our rock, mineral and fossil exhibition. The learners have the chance to gain hands-on experience with an exercise they work on. With this initiative we want to: enhance the awareness of the geological aspects of the nature around us; emphasise how crucial resources and their respectful use is for the societies wellbeing; create awareness how environmental geology can influence our daily lives.	Frei, M, Dr [mfrei@sun.ac.za]
Warwick in Africa Project	This is a partnership with Warwick University in Africa. Through interventions in schools, the project aims to improve education and therefore the life chances for children in some of Africa's poorest schools. Volunteer teachers teach in secondary schools and offer high-quality professional development for local teachers.	Howell, K-T, Dr <kthowell@sun.ac.za>
Briding the gap between school and university mathematics	The project aims to assist in bridging the gap between school and university mathematics through school visits and workshops with teachers.	Howell, K-T, Dr <kthowell@sun.ac.za>
Microbiology: Public Lectures	Scientific lectures presented to the broader public community	Khan, W, Prof <wesaal@sun.ac.za>

Mediaskakeling en popularisering van die wetenskap - Mikrobiologie	Bevordering van mikrobiologie in die nuus - radio, TV, koerantberigte en populêre tydskrifte.	Khan, W, Prof <wesaal@sun.ac.za>
Microbiology: Professional Services	Microbiology staff participation in professional bodies and other community spheres.	Khan, W, Prof <wesaal@sun.ac.za>
Training Sessions in Water conservation for Schools	Training sessions for learners from local schools on the current water shortage and drought in the Western Cape region. Information on water conservation and alternative water sources is also provided.	Khan, W, Prof <wesaal@sun.ac.za>
Contributions towards the secondary school system	Eskom Expo for Young Scientists (Microbiology) - Staff and Students of the Microbiology department provide assistance to learners with high school research projects.	Khan, W, Prof <wesaal@sun.ac.za>
Basic Molecular Biology - Bloemhof High School	Postgraduate students from the Department of Microbiology present basic molecular biology concepts to grade 12 learners from Bloemhof High School.	Khan, W, Prof <wesaal@sun.ac.za>
The SUN Chemistry Outreach Initiative	The department of Chemistry and Polymer Science aims to assist disadvantaged high schools with their prescribed chemistry practicals by inviting students to do their experimental work in one of the university's fully equipped laboratories, particularly at times when these are not utilised. The primary goals of this outreach program are three-fold: firstly, to provide much needed infrastructure support by offering students and their teachers the necessary laboratory environment to work in; secondly, to develop a deeper understanding of the conceptually challenging topics of their prescribed syllabus (SUNCOI Practical with Purpose) and thirdly, to collaborate with the education faculty through involvement of pre-service teacher education students in practical work with in-service teachers and their learners as well as post-graduate chemistry students and chemistry lecturer/researchers (SUNCOI Teaching the Teacher the Nuts and Bolts of Chemistry).	Malgas-Enus, R, Dr <rehana@sun.ac.za>
Chemistry Dept: Guidance to learners and popularisation of science	Special lectures, judging panel, workshop presentations, consultations (paid or unpaid), community support (i.e. CAPS content monitoring).	May, SYLETTE <smay@sun.ac.za>
Physics Department Annual Road Trip	Every year post graduate students from the Physics department go on a road trip during the September university holidays. During this week they visit schools (up to 10 different schools), promoting science to the senior learners through Physics demonstrations and discussions. Each year a different region is targeted.	Neethling, PH, Dr <pietern@sun.ac.za>
Metabolic Syndrome and Cancer	The metabolic syndrome is a cluster of metabolic risk factors that predispose to future onset of diabetes, heart diseases and cancer. This includes both developed and developing nations and is projected to significantly increase the burden of disease of especially poorer countries. The metabolic syndrome typically consists of any three of the following risk factors: abdominal obesity, hypertension, raised triglycerides, reduced high density lipoprotein cholesterol, and elevated blood glucose levels. However, despite these alarming projections, very limited evidence exists for developing nations during urbanisation, especially within sub-Saharan Africa. The study (ongoing) will undertake a comprehensive investigation into an under-studied urbanisation trends and risk for developing associated diseases of lifestyle in a Western Cape population. Two publications (one published) and one in process of review have so far originated from this study.	Nell, Theo, Dr <tnell@sun.ac.za>
The Ingcungcu Initiative: Restoring migration routes for	The City of Cape Town combines high human density with exceptionally high biological diversity. An ongoing challenge for the City is how to mitigate the impacts of the expanding city on its natural environment, while at	Pauw, Anton <apauw@sun.ac.za>

nectar feeding birds, building biodiversity leadership.	the same time harness the benefits that biodiversity brings. A unique aspect of the Fynbos vegetation that surrounds the city is that the dominant shrubs depend on birds for pollination and subsequent seed production. However, the city is a barrier to the migration of these birds. The Ingcungcu Initiative tackles this problem by reopening a migration corridor for nectar-feeding birds across the City by planting gardens of bird-pollinated plants on school grounds. The corridor relinks isolated urban conservation areas, including the Table Mountain National Park, with the extensive Boland mountains around Stellenbosch. Simultaneously, the corridor connects urban school children to the wider natural world that surrounds them, making them active players in the creation of a more sustainable future. The Municipality is directly involved in the initiative through the involvement of team member Bongani Mnisi (head of Nature Conservation, City of Cape Town).	
TSEC: Transatlantic Science Educational Cooperative	This initiative focuses on three objectives, namely: 1) Scientific skill set and literacy development among R-12 students within the Western Cape and in collaboration with the Western Cape Education District, 2) Establishment of collaboration between Stellenbosch University, North Carolina State University, and the Western Cape Education District and 3) Capacity building for teachers to develop in-class experimental and observation learning projects.	Tucker, R, Dr <tucker@sun.ac.za>
BotZoo Bafunde iLanga (BotZoo Sun Learn)	The Botany and Zoology Department's social outreach initiative (BotZoo Bafunde iLanga/BotZoo Sun Learn) is aimed at providing support for schools which do not have access to resources in order to teach Biology. We have identified a school (Floreat Primary School) on the Cape Flats, whose science laboratory serves as a focal point for several other schools in the area (Sullivan Primary School, Steenberg Primary School, Delta Primary School). Since the launch of Bafunde iLanga in 2016, we have contributed books to the school's library and equipment to their science laboratory. Moreover, we have also been engaging with the science teachers and learners, via visits to the school and hosting the learners at the Botany and Zoology Department.	Valentine, AJ, Prof <ajv@sun.ac.za>
Maties Science Winter week	Om 'n diens te lewer aan voornemende studente om meer oor die kursusse en beroepe in die natuurwetenskappe te bekom.	Van den Worm, M <mvdworm@sun.ac.za>
Teaching the blind	Cooperation between the School for the Blind in Worcester and Computer Science at Stellenbosch, for automating some of the time-consuming manual processes currently in place in their classrooms. Computer Science (CS) and the school collaborates in finding software projects that are implemented by Honours students as part of their curriculum. The school provides the ideas for the projects, and provide data and time as needed - the vice-principal regularly visits the CS department. After completion of the software by an Honours student, we implement the software on at least one school computer. There is currently one such software program used by the school, namely, a program that takes an Afrikaans text file and produces a file that can be sent directly to a Braille printer. There is an existing commercial module that can translate from Afrikaans text to Braille, but it does not satisfy the needs of the school. The grammar rules that it uses are outdated, it cannot handle contractions per the South African curriculum, and it is a closed system. Our software allows the school to change existing rules, or add additional rules in a user-friendly way. It also allows for various levels of contractions, according to the school curriculum. For 2018, Mr Cameron Raven (Hons student) will implement	Van Zijl, L, Prof <lvzijl@sun.ac.za>

	a system that takes a picture of sheet music, and produces in real time a file that is readable by blind students during music classes.	
Biochemistry: Transfer of expertise to the public	Handling of telephonic or email inquiries from the public as well as giving publicity talks on invitation from the public regarding specialist or other topical topics relevant to the sciences. Radio talks on actuality programs and newspaper or magazine articles in popular daily newspapers and agricultural journals. Here, either expert opinions are provided to the public, or general questions about natural science are answered / Hantering van telefoniese of epos navrae vanaf publiek asook die gee van voorligtingspraatjies op uitnodiging van die publiek oor spesialis of ander aktuele onderwerpe van toepassing op die wetenskappe. Radiopraatjies op aktualiteitsprogramme en koerant of tydskrif artikels in populêre dagblaai en landbou tydskrifte. Hier tydens word òf spesialismenings aan die publiek verskaf, òf algemene vrae oor die natuurwetenskap beantwoord.	Verhoog, NJD, Dr <nverhoog@sun.ac.za>
Biochemistry: Supply of Services (Peptides)	Production of high quality peptides which gives reliable and consistent results for use in diagnostic test kits / Produksie van hoë gehalte peptiede wat betroubare en konsekwente resultate vir gebruik in diagnostiese toetsstelle verskaf	Verhoog, NJD, Dr <nverhoog@sun.ac.za>