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STELLENBOSCH INSTITUTE FOR ADVANCED STUDY  
STELLENBOSSE INSTITUUT VIR GEVORDERDE NAVORSING

ANNUAL  
REPORT

20  
22



**NOBEL  
IN AFRICA**  
A STIAS INITIATIVE



# About Nobel in Africa

Nobel in Africa is a STIAS Initiative in partnership with Stellenbosch University, under the auspices of the Nobel Foundation and the Royal Swedish Academy of Sciences with funding from the Knut & Alice Wallenberg Foundation.

Nobel Symposia have been held under the auspices of the Nobel Foundation since 1965 with the aim to provide an opportunity for the international academic community to organise conferences at the highest scientific level.

All these Nobel Symposia have taken place in Scandinavia until October 2022 when STIAS launched the Nobel in Africa Initiative and hosted the Nobel Symposium in Physics. Over the coming few years, STIAS will host a series of Nobel in Africa Nobel Symposia which will bring a select group of the world's top scientists to meet with their counterparts from South Africa and the African continent around topics and fields where important scientific advances and breakthroughs are being made.

The Nobel in Africa Nobel Symposia follow the thematic areas of the Nobel Prize, namely Physics, Chemistry, Physiology/Medicine, and Economic Sciences.

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**Desmond Smith**  
Chairperson of the Board

# Chairperson's Foreword

Warm greetings from the members of the STIAS Board of Directors. It is with great joy and pride to report that after several postponements, STIAS successfully launched the Nobel in Africa Initiative through which a series of Nobel Symposia will be held in the coming years. This is truly a significant Initiative and a first for South Africa and the continent. Given that it is co-hosted with Stellenbosch University and funded by a generous grant from the Knut and Alice Wallenberg Foundation, the Initiative further consolidates the healthy relationship STIAS continues to have with its two major donors.

The Board of Directors, Management, and staff of STIAS see the Nobel in Africa Initiative as one of the vehicles to further cement the relationship STIAS has with the local, regional and international scholarly environments. Such relations are important in attracting more partners to broaden the Institute's fellowship and research programme as well as the financial base for institutional sustainability. For this, we are truly grateful. We are equally grateful to all our donors whose support has kept STIAS on a healthy financial standing to carry out its mission of advancing cross-disciplinary research at the highest level.

I wish to thank members of the STIAS Board of Directors' Sub-Committee which was established to oversee the strategic direction of the Initiative and members of the Scientific and Local Organising Committees who worked tirelessly to ensure the success of the launch events as well as the inaugural Nobel in Africa Nobel Symposium in Physics. We can all look back at this year with pride.

To top the year's monumental achievements, plans are at an advanced stage to conduct a feasibility study into the expansion and upgrade of the STIAS Wallenberg Research Centre building. We look forward to additional facilities for Fellows and staff as well as space for other scholarly and public engagement activities. The building extension is possible thanks to financial support from the Marianne and Marcus Wallenberg Foundation.

May the coming year 2023 be even greater.





**Edward K Kirumira**  
Director of STIAS

# Director's Overview

2022 marked the return to full operation and near-full residency capacity of the STIAS Fellowship and Research Programme following the end of the SARS-CoV-2 pandemic travel restrictions. Overall, STIAS hosted 77 Fellows, Artists-in-residence, and Visiting Scholars from 25 different countries.

Many Fellows who had been prohibited from travelling during the pandemic were finally able to take up residence during 2022, providing for a sense of delight and appreciation among both semester cohorts. Significantly, fewer disruptions than in the previous two years resulted in some withdrawals and shortened residencies due to the lingering effects of the COVID-19 pandemic.

Seminars and Public Lectures continued in hybrid format, with Fellows in residence attending in person while invited guests and members of the public could attend either in person or join via video-link.

The presence of Fellows based in – or originally from – African countries remains one of the important objectives and 2022 again proved successful in this regard with 28 Fellows representing 9 countries in Africa. This included 15 Iso Lomso Fellows/Visiting Scholars and 14 fellows based in South Africa. Efforts to attract more applications from leading universities across the continent continue, principally via the African

Research Universities Alliance (ARUA), the Academy of Science of South Africa, the African Academy of Sciences, the Network Point Sud, the Science for Africa Foundation, and several other continental research-intensive bodies.

The Iso Lomso Fellowship Programme continues to provide breakthrough opportunities in the career paths of early to mid-career African scholars and is setting a distinctive benchmark model for the advancement of young scholars in general. Member Institutes of the Some Institutes for Advanced Study (SIAS) Consortium, which STIAS is a part of, continue to provide residency opportunities to Iso Lomso Fellows with Fellows hosted at the Wissenschaftskolleg (Wiko - Berlin) and the National Humanities Center (North Carolina, USA) in 2022. Residencies at other Institutes and Research Centres were also supported, including at Hamburg IAS and Jacobs University in Germany. Seven Iso Lomso Fellows took up international residencies during 2022.

We are particularly pleased that our Iso Lomso Fellows are being sought after for residencies abroad as leaders in their scholarly career on the continent. We plan to expand the concept of residency abroad to residency in active environments to allow for Iso Lomso Fellows to be attached in varied contexts on the continent and abroad.



The year 2022 will be remembered for the launch of the STIAS Nobel in Africa Initiative and the inaugural Nobel Symposium in Physics under the theme, **Predictability in Science in the age of AI**. It was an honour to host some of the best physicists in the world in conversation with their colleagues on the continent. We were also thrilled by the success of the 2022 Physics Symposium Outreach Programme.

The Physics Outreach included lectures by 10 symposium participants on the campuses of eight universities countrywide, covering topics from cosmology and the quantum universe to the protein universe, complexity in science, and predicting the future. Going forward, the outreach programme shall be an integral part of the Nobel in Africa Nobel Symposia Series and seeks to broaden the reach of the discussions of the respective symposia to include the local and continental scholarly environments including early career scholars.

We do not take lightly the confidence placed on STIAS by the Nobel Foundation and the Royal Swedish Academy of Sciences in granting us the permission to organise a series of Nobel Symposia, in the Nobel Prize categories, under the Nobel in Africa Initiative. We appreciate Stellenbosch University for co-hosting with us the Initiative, and the Knut and Alice Wallenberg Foundation for the generous funding.

The adjustment of the programme structure to classify STIAS Initiatives alongside the STIAS Fellowship Programme has started to bear fruit, not least as the avenue by which to organise and host the Nobel Symposia series. It has also allowed

a clear home for other annual seminars, the STIAS lecture series, and several envisaged future engagements with partnering organisations.

On a more internal note, we bid farewell to Professor Jannie Hofmeyr, who has served the STIAS Fellowship and Research Programme Committee (FRPC) since its inception as he retires from this role. Jannie's long and important history in the establishment and growth of STIAS is deeply appreciated and we look forward to continuing meeting him at STIAS events.

We welcome Professor Nokwanda Makunga from the Department of Botany and Zoology at Stellenbosch University to the Fellowship and Research Programme Committee (FRPC), and we look forward to her valued inputs.

The membership of the Academic Advisory Board (AAB) has also changed in the course of the year with the retirement of Professor Daya Reddy and the appointment of former Iso Lomso Fellow, Professor Malebogo Ngoepe, who is the Director of the Centre for Research in Computational and Applied Mechanics at the University of Cape Town.

As we look forward to a productive 2023, I once again invite the past and present STIAS Fellows to celebrate with us the past year's achievements and to support Management and staff to reach the STIAS greater vision and mission. I appreciate the support of the STIAS Board of Directors, our donors, partnering institutions and friends of STIAS.





# 2022 Highlights

April



STIAS Fellow, Thomas Hylland Eriksen is awarded the Swedish Society for Anthropology and Geography Gold Medal at the Swedish Royal Palace, for his contribution to the field of Anthropology.

July



The South African Institute of Physics (SAIP) awards STIAS former Director, Hendrik Geyer the 2022 De Beers Gold Medal in recognition of his fundamental and novel contributions in the field of non-Hermitian quantum mechanics, leadership in building the field of Theoretical Physics in South Africa, and significant contributions to the education and training of students.

May



The sixth STIAS Newsletter is published featuring interviews with some Fellows and latest developments in their careers.

## August



Soft launch and brand reveal of the Nobel in Africa Initiative.

## October



The official launch of the Nobel in Africa Initiative through which a series of Nobel Symposia will be held at STIAS. The Nobel Symposium in Physics was the first in the series and was held from 24 to 28 October under the theme “Predictability in Science in the Age of AI”.

## November



The Academy of Science of South Africa (ASSAf) Humanities Lecture in partnership with STIAS, by 2021 Literature Nobel Laureate and STIAS Fellow, Abdulrazak Gurnah with the title Rereading.

## December



The seventh STIAS Newsletter is published featuring interviews with some Fellows and latest developments in their careers.

# 2022 in numbers

The STIAS Fellowship programme continues to reflect an emphasis on projects which draw on or benefit from an interdisciplinary basis, are considered relevant to the broader African context, and often address topical issues. The programme includes artists-in-residence and public opinion makers. The three categories of Individual Fellowships, Team Fellowships, and Iso Lomso Fellowships are now well established.

247

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Fellowship  
months

12

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Iso Lomso Fellows  
in residence

69

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Fellows  
in residence

8

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Visiting Scholars  
in residence



**9**

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African countries represented  
in the Fellowship Programme

**16**

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Books  
published

**16**

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Fellows based  
in South Africa

**87**

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Journal articles  
published



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**STIAS**

**INITIATIVES**



# Nobel in Africa Launch

STIAS successfully launched the Nobel in Africa Nobel Symposia Series on 25 October. The launch coincided with the first symposium of the series, which was in Physics (NS 183) under the topic: Predictability in Science in the Age of AI, from 24 to 28 October. We acknowledge, with gratitude the first grant from the Knut and Alice Wallenberg Foundation (KAW) in 2021 that will support the first four symposia. And a further commitment to support the second series under the Nobel in Africa Initiative.

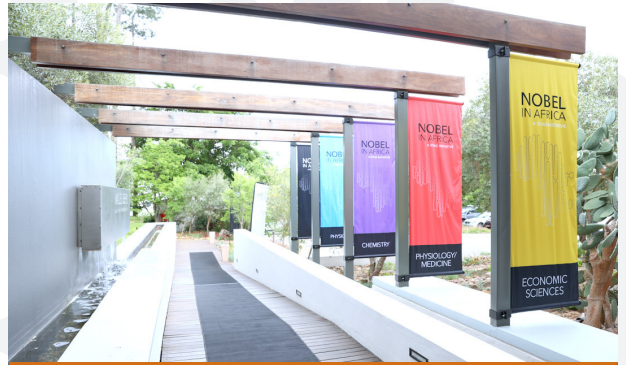


Soft Launch: Brand Reveal





Attending the soft launch event, STIAS Founding Director Bernard Lategan; STIAS Director Edward K Kirumira; Stellenbosch University Rector and Vice-Chancellor Wim de Villiers and Chairperson of the STIAS Board of Directors, Desmond Smith.



Flags: During each symposium in the Nobel in Africa series, flags representing the fields of the Nobel Prize will be hoisted at the entrance to the Wallenberg Research Centre and in the Fellows Atrium.



Attending the official launch event, STIAS Board member and Executive Director of the Marcus and Amalia Wallenberg Foundation, Ingrid Sundström; Wallenberg Foundations Chairperson, Peter Wallenberg Jr and Nobel Foundation Executive Director, Vidar Helgesen



The Master of Ceremonies of the official launch morning event, Claire Mawisa in conversation with Symposium convenors Erik Aurell (Physics), Fredrik Almqvist (Chemistry) and Jakob Svensson (Economic Sciences).



World renowned musician Nduduzo Makhathini and his band performed at the evening official launch event



The Master of Ceremonies of the official launch evening event, Tracey Lange with Vidar Helgesen and Ingrid Sundström (back row) Edward K Kirumira, Rose Kirumira, Peter Wallenberg Jr and member of the STIAS Board of Directors, Mosibudi Mangena.

# Nobel Symposium in Physics - Predictability in Science in the age of AI

By Erik Aurell and Francesco Petruccione

“Prediction is difficult, especially about the future.”

The above quotation is often attributed to Niels Bohr, a Danish physicist who made groundbreaking contributions to understanding the structure of atoms. His achievements were recognised with the Nobel Prize in 1922. Finding a mathematical model that adequately fits historical data is comparatively easy. It is way more challenging to find a mathematical model that accurately predicts which aspects of the historical data will be repeated in the future.

One hundred years later, in the age of Artificial Intelligence (AI), we are confronted daily with predictions that stem from numerical algorithms. Whether it is predicting the weather or stock prices, algorithms have proven time and time again that they can be incredibly accurate. And as we continue to develop new and improved AI technology, there's no telling what else these amazing tools will be able to do.

STIAS hosted the first Nobel Symposium on the African continent, under the Nobel in Africa Initiative in October 2022. Nobel Symposia are gatherings of scientists in various fields and have been held in Scandinavia since 1965. The authors, Aurell and Petruccione are the convenors of the Nobel Symposium in Physics which took place from 24 to 28 October 2022 in Stellenbosch. The outreach element of the symposium saw public lectures held in universities and research institutes countrywide.

The Physics Nobel Symposium attracted world-leading experts to discuss “Predictability in Science in the Age of AI”. Symposium participants discussed the limits and advantages of Big Data and AI for scientific discovery.

The pervasive analysis of Big Data with the help of AI tools motivated the Symposium. The extraction of commercially and industrially valuable information from large data sets is well established. The web economy makes intensive use of machine learning algorithms to tailor (or influence) product offerings to our needs. Similarly, the use of machine learning in science has skyrocketed in recent years. As witnessed by the exponential increase of scientific publications on the topic, fascinating questions arise about the use of AI in Science.

Usually, large scientific data sets, as collected, for example, at the Square Kilometer Array (SKA), are used to verify scientific theories. The radio telescopes being constructed in the Karoo Astronomy Reserve will produce vast amounts of data at a rate of about 1TB/s. These data will be used to answer some of the most fundamental questions of science and to confirm the laws of Nature: How did the Universe form and evolve? Is Einstein's Theory of Gravitation, correct?

The advent of Big Data and AI suggests that another approach to science might be possible. Is it possible to bypass the formulation of a scientific theory and its experimental verification and go directly to the AI analysis of the Big Data sets to gain valuable insights? Are those insights everything we want and hope that science can do for us? Will AI be able to find new Laws of Nature?

To advance science, researchers developed the scientific method in the 1600s. It entails creating hypotheses through induction based on observations, verifying the hypotheses' deductions statistically and experimentally, and then revising (or discarding) the hypotheses depending on the experimental results.

Nicolaus Copernicus (1473-1543) proposed from his observations that the solar system's planets revolve around the Sun, not the Earth. Copernicus' theory not only changed how we viewed the world but also paved the way for a new scientific revolution that culminated with Isaac Newton (1642-1727) and the definition of the laws of motion and gravitation. Newton's extraordinary ability to create a few very straightforward concepts and equations that carried great predictive potential was a recurring element in his work. Scientists can still investigate unsolved problems in physics and astronomy thanks to Newton's unified principles, which have held up to centuries of testing and inspection.

The scientific method got significantly more sophisticated over the centuries as science began to separate into its basic disciplines namely, chemistry, physics, and biology. It underwent a significant transformation in the 20th century as philosophers of science started to address this. The most well-known of these was perhaps Karl Popper, whose philosophy is built on invention (of new theories) and falsification (of false theories). In this perspective, science never holds the final truth, only the present best guess.

In 2021 Hiroaki Kitano, a Japanese scientist, proposed the Nobel Turing Challenge, whose goal is to create a highly autonomous AI system that can perform top-notch science that is on par with the best research produced by human scientists, with some discoveries that may be deserving of Nobel Prize-level acclaim. Will this "AI Science" develop into an alternate approach to science that will help us accelerate new scientific discoveries?

Current AI can "re-discover" well-known physical laws. For example, a few years ago, Renato Renner, a physicist at the ETH (Zurich) and his team proposed an artificial neural network architecture that was able to assist scientific discovery from experimental data without prejudging the system. The idea was to minimize the use of prior assumptions about physical systems that might influence the structure of the machine learning algorithm. Renner and his colleagues chose to model the physical reasoning process instead. Their approach determined physically important parameters, using conservation laws to forecast outcomes, and rediscovered, 500 years after Copernicus, that the solar system is heliocentric.

The most recent AI algorithms can calculate quantum wave functions, study the evolution of galaxies, and

find novel chemical compounds for accelerated drug discovery. They have successfully demonstrated to be precious tools of scientific discovery. But are they tools of scientific understanding?

The jury is still out on whether we are at the dawn of a new scientific revolution. Scientists are increasingly preoccupied with understanding how machine learning algorithms make their predictions. More importantly, will AI tools help discover new scientific principles and theories? To date, AI has not yet been able to "explain" new science.

The world is grappling with complex issues that test conventional approaches and ideologies. The brightest minds on the planet are needed to meet these challenges. Fortunately, they now have artificial tools to assist them in this endeavor. But perhaps human ingenuity is also required – we will see.

Good science starts with asking good questions and the overall aim of the five-day symposium in Stellenbosch was to stimulate discussions into posing the right questions. Some preliminary conclusions were nevertheless arrived at, which we summarize as follows.

First, several contributions highlighted that AI methods can help circumvent the bottleneck in simulating high-dimensional partial differential equations. Examples include the equations of turbulence (Navier-Stokes equations), of probability (Kolmogorov equation), and of quantum theory (Lindblad equations). These are phenomena understood (or assumed to be understood) as to their basic ingredients, but where the global behaviour arising from the interactions between these ingredients has been beyond the capabilities of mathematical analysis or numerical simulation, and hence out of reach. New AI methods hold the promise to make such simulations feasible, for the first time.

Second, many contributions touched upon the distinction "the known, the known unknown, and the unknown unknown". AI is for the most part concerned with the second, which can be said to do known things better and faster, perhaps so much better and faster that doing them becomes realistic possibilities. Among the sciences at least physics is however fundamentally about the third, which means how to bring qualitatively new things into the world. In this aspect AI hence perhaps does not have much to offer science – and vice versa.



Third, several talks addressed epidemiology motivated by the COVID pandemic in which several of the participants had been active. Here we were thrilled by a presentation by South Africa's own Tulio de Oliveira who outlined all the world-leading results achieved by him and his large team of collaborators, but also emphasized that the goal of all research in the end is to serve people, and to improve people's lives and health in concrete and practical ways.

Erik Aurell is professor of Theoretical Biological Physics at the Royal Institute of Technology in Stockholm, Sweden.

Francesco Petruccione is professor of Quantum Computing at the School of Data Science and Computational Thinking at Stellenbosch University. He is also interim director at the National Institute for Theoretical and Computational Sciences (NiTheCS).



Erik Aurell is Professor of Theoretical Biological Physics at the Royal Institute of Technology in Stockholm, Sweden.



Francesco Petruccione is Professor of Quantum Computing at the School of Data Science and Computational Thinking at Stellenbosch University. He is also interim director at the National Institute for Theoretical and Computational Sciences (NiTheCS).



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**FELLOWS**

# Iso lomso Fellowship

The sixth cohort of seven Iso Lomso Fellows and a further three Iso Lomso Visiting Scholars was selected in May 2022. The seven new fellows are from Benin (1), South Africa (1), Cameroon (2), Malawi (1), Uganda (1), and Nigeria (1). The gender and disciplinary diversity of the programme remains healthy.

The Iso Lomso Fellowship programme continues to provide breakthrough opportunities in the career paths of early to mid-career African scholars and is setting a benchmark model for the advancement of young scholars in Africa in general.

The SIAS consortium partners continue to host Iso Lomso Fellows for residencies abroad. During the past year, Fellows were hosted at the Centre for Advanced Study in the Behavioural Sciences (CASBS) at Stanford, the National Humanities Center, (USA), the Wissenschaftskolleg (Berlin). The Netherlands Institute for Advanced Study (NIAS), the Swedish Collegium for Advanced Study (SCAS) and Nantes Institute for Advanced Study have expressed interest to host an Iso Lomso fellow during 2023/2024.

Residencies at other institutes and centres were also supported.





# He who wires the world, controls the digital infrastructure

**Jess Auerbach**

Graduate School of Business  
University of Cape Town

Who gets to lay and maintain the cables and control the technology and intellectual property is part of a shifting global power game. Jess Auerbach is in her first year of the Iso Lomso fellowship.

Who is connected and who is not to the ever-expanding global knowledge infrastructure?

Jess Auerbach seeks to address this and other related questions in her book project *Capricious Connections: the politics of knowledge in the South Atlantic and Indian Ocean islands*, which explores how southern Africa plugs into and shapes the global knowledge infrastructure.

The work begins an ethnography of an undersea internet cable system stretching from Brazil to Africa to India and Malaysia, enabling the internet to reach across and around Africa. Simultaneously, it shapes what is known, by whom, and how, and contributing to the development of highly contested knowledge systems which Auerbach theorises as 'knowledge mobilities'.

The work combines anthropology, science and technology, communications and engineering, and builds on her research in Angola, Brazil, Mozambique and Mauritius.

The topics include the linkages between land, sea and sky; data and the right to know; data as a human right; management of personal data and data surveillance; intersections between maritime and international law; governing the cables, the dynamics of their maintenance and potential interception; and imagined futures.

During her time at STIAS, Auerbach completed the literature review and steps needed for ethics approval

for the book. She also began discussions with hydraulic surveyors and internet providers. The book proposal was refined, and Auerbach is currently in negotiation with a publisher for the final manuscript.

During her residency, she also:

- published articles in *Comparative Education Review*, *The Canadian Journal of African Studies*, and the *South African Journal of Higher Education*.
- wrote a chapter on the Angolan middle class for an edited volume.
- co-authored a paper on high-functioning autistic adults in the South African workplace for *Business and Society Review*; a paper on Mauritius for *Africa*; a chapter for Jonathan Jansen's recent handbook for new academics; and a proposal for a chapter in a book on higher education and social activism.

Auerbach ran a workshop with Jonathan Jansen on the politics of knowledge in medical curricula; attended the Regions2050 Research Group; participated in the HSRC conference on transformative leadership in higher education; attended the African Studies Association of Africa's biannual conference; and gave invited lectures to the Ethics Association of South Africa and other national and international bodies.

During this period, Auerbach joined a project run by fellow Knut Nustad on environmental anthropology. She took up a position at the University of Cape Town and received a P-rating from the National Research Foundation.



“It is with much gratitude that I write this report for STIAS after completing my first residency. When I began in January 2022, I was disheartened and on the brink of exiting academia. I complete the residency reinvigorated and inspired, buoyed by new friendships and collaborations, and much healthier physically. I thank everyone at STIAS for the care, professionalism and enabling environment the residency provided. I feel proud to be part of this community. STIAS has certainly won my heart.”

# Enhancing the sensitivity of mass sensors

**Philippe Djorwé**

Department of Physics

University of Ngaoundéré

Philippe Djorwé is in the first year of his Iso Lomso fellowship. His work is in the field of opto-electromechanics, which has developed over the past 20 years and brings together optics, electronics and mechanics.

Opto-electromechanics brings together optics, electronics and mechanics. Electromechanics involves the act or control of mechanical motion by electrical signals, while opto-mechanics is the activation or control of mechanical motion by an optical field – usually a laser.

Sensor technology has many practical uses across science and technology, ranging from detecting diseases at the level of nanoparticles, tracing environmental pollution and measuring water salinity, to acoustics, cellphones and biosensors. However, to optimise all of this, one needs to enhance the sensitivity of sensors. Sensors are mechanisms or devices that convert chemical, physical and biological responses into electronic signals.

Along with colleagues at the University of Lille in France, Djorwé has found that an approach based on ‘exceptional points’ may lead to more sensitive sensors compared to conventional approaches. Most complex systems operate on the basis of gains and loss. Exceptional points (EPs) are singularities in systems with balanced gain and loss.

They have shown that it is possible to engineer electromechanical-based Eps, and will now focus on electromechanical systems operating both at EPs and at higher-order EPs to see whether this can further

increase sensitivity. This involves theoretical and experimental investigations.

“We know already that EP-based sensors are superior to conventional sensors – in terms of resonance and the production of more resolved peaks,” said Djorwé. “EPs make detection easier and more sensitive – even when the size of the particle is small. Higher-order EP is likely to result in higher resolution. If you can engineer it, it will be good for sensors,” he said.

EPs also exhibit other interesting properties, and quantum concepts such as heat transport, multipartite quantum entanglement, photon/phonon non-reciprocal/topological transport, and quantum synchronisation based on EPs are interesting outputs also expected from this project.

Djorwé hopes to establish a research group and build capacity in this area at his home institution in Cameroon.

During his residency, he worked on and resubmitted a paper to the *Journal of Nonlinear Dynamics* about hidden attractors in optomechanical systems. He also wrote two further papers for submission – one on sensors based on EPs and another on parity-time symmetry in dissipative optomechanical systems. He used the dedicated time for detailed planning of his research activities and to follow up with students.





“Attending seminars not in my field and talking with people from different backgrounds was a unique experience. Such an environment not only allows us to be open minded to other fields, but also stimulates multi-disciplinarity in science. I was also able to extend my research network, in particular at the Physics Department at Stellenbosch University. This initiative, while still in its infancy, would be a nice opportunity for future students from my institution.”

# Tapping into local knowledge for sustainable agriculture in Madagascar

**Nasandratra Ravonjariason**

Radio-Isotopes Laboratory  
Université d'Antananarivo

Farmers with knowledge and experience gathered over many generations are best placed to know and understand the soil with which they work daily. Iso Lomso fellow, Nasandratra Ravonjariason argues that little effort has been made to tap into this potentially more reliable and less costly local knowledge.

Madagascar is a largely agricultural country with more than 80% of its population living in rural areas. Development, therefore, depends on agriculture.

Although there are agricultural development programmes led by the government, non-governmental organisations, research programmes and foreign funders, they are not always as impactful as expected because of lack of consideration of local knowledge. Immediate needs for subsistence production also often limit the adoption of new technologies, which take time to produce tangible results. If the farmers cannot adjust the technology to real conditions, they go back to traditional methods.

Ravonjariason's project therefore aims to take into account local farmers' knowledge of soils as a tool for developing sustainable agricultural systems. The methodology is based on semi-directive surveys with farmers, and on soil sampling for chemical analyses (granulometric analyses, soil carbon, nitrogen and phosphorus content).

The aim is to describe farmers' soil knowledge and to compare it with existing international classifications; and, to study their knowledge on soil fertility to compare it with scientific concepts. The first step is to define the different soil types, describe the soil map and identify the soil. Once the soils have been classified, the farmers' practices to improve fertility using organic

fertilisers, crop rotation, as well as fallowing are analysed.

Although many farmers know how to use these methods, they often do not have the means to employ them systematically. To date the project has been conducted in the Lake Alaotra region in northern Madagascar. Ravonjariason now hopes to expand the work across the country and, particularly, to collect information from the four climate zones.

The results will serve as a guide to facilitate communication, reach agreement and strengthen the interaction between farmers, extension workers, researchers and other stakeholders, and will be combined with scientific knowledge to produce innovative and sustainable practices that are suitable for farmers and valid for scientists.

"There is an urgent need to integrate academic and non-academic knowledge to develop a common language and build on consensus innovative agricultural practices" said Ravonjariason. "This can lead to effective soil management that is socially acceptable, ecologically sustainable and economically viable."

During her first residency, Ravonjariason wrote and submitted an article on data from the Lake Alaotra region to the journal *BASE* (Biotechnology, Agronomy, Society and Environment).





“The intellectual degree of everyday conversation at STIAS is very impressive. I have never experienced this before, learning many new and interesting things from daily conversation with people from all over the world. The seminars are a real bonus to learn more in a very specific and wonderful way. I am blessed to be among those who benefit from everything offered by STIAS,” said Ravonjjarison.

# Individual Fellowship

The STIAS Fellowship programme continues to reflect an emphasis on projects which draw on or benefit from an interdisciplinary basis, are considered relevant to the broader African context, and often address topical issues.

The programme includes artists-in-residence and public opinion makers.

Our relationship with Swedish researchers remains healthy. Many Swedish scholars who had planned to travel to South Africa earlier were able to finally schedule their residencies during 2022.

The presence of Fellows based in – or originally from – African countries remains an important objective and 2022 again proved successful in this regard with a representation of 9 African countries in the cohort, excluding South Africa. Efforts to attract more applications from leading universities across the continent continue.

The emphasis on longer-term residencies is beginning to show in the fellowship composition. During 2022 the average fellowship duration was 2.7 months per fellow.





# Reconsidering our neglected sense: Smell

**Jonas Olofsson**

Department of Psychology  
Stockholm University

Jonas Olofsson's project reconsiders the cognitive sciences from the perspective of smell – olfaction – a sense that has historically been considered primitive and at odds with human intelligence.

The cognitive sciences have historically focused on domains such as language, memory and attention; and the processing of environmental stimuli presented by means of vision and sound – the so-called 'higher' senses.

By integrating cognitive research findings from olfaction, and contrasting them with those obtained from vision and sound, this project will introduce a new theoretical perspective on how 'higher' mental abilities emerge from unique interactions with sensory impressions.

"Among the five major senses, smell is the least appreciated," said Olofsson. "A 2012 survey of young adults reported that half of responders would rather lose their sense of smell than their smartphone. Despite this common disregard for smell, it is of utmost importance to human life. We need to better understand and reappraise human olfaction."

The questions Olofsson and his colleagues address include how and why smell triggers memories, how it engages with our deeper emotions and intellect, how smell has become devalued, how we can be trained to enhance our abilities to detect and identify smells, and understanding how loss of smell is a predictor of cognitive decline.

"Most of us are not conscious of how much we use smell on a daily basis," he said. "It came to the forefront during the COVID-19 pandemic when we realised that sudden smell loss was the best symptom predictor of infection and most common long-COVID symptom," he said.

This heightened interest in smell led to Olofsson and his colleagues establishing the Global Consortium for Chemosensory Research, which undertakes survey-based research, and provided early data on loss of smell due to COVID-19. They have also developed an online app (<https://smelltrainingapp.com>), which can retrain a person's sense of smell and recover smell sensitivity, as well as a Virtual Reality Nosewise Wine Game (<https://www.youtube.com/watch?v=G8ye5Npn3JU>) that can teach users to tell smells apart almost as well as a wine expert. They are looking at brain activity before and after training to further understand brain connectivity.

During his residency, Olofsson was able to revise the draft of his book on smell and cognition, which he hopes will be published in 2023. He and his team published four research papers. He also participated as a panellist in the South African Swedish University Forum online conference and made connections with researchers at Stellenbosch University.



“My STIAS experience was made particularly memorable by the presence of the many talented African scholars and the South African setting, which made my visit an especially powerful experience. I have learned so much about the complex history of South Africa and the vast African continent, and I will pay close attention to its rapid social and scientific developments. I was happy to learn that Swedish funding agencies are increasingly investing in African research, and I hope to find ways to become involved in this process in the coming years.”

“My family and I experienced STIAS as a welcoming place, free of the hierarchies and long-standing divisions that often characterise academic life at universities. It has been a uniquely wonderful and memorable experience.”



# Understanding social interactions within an evolutionary framework

**Barbara König**

Department of Evolutionary Biology and Environmental Studies  
University of Zurich

Barbara König and her group's research focuses on social interactions in an evolutionary framework, analysing how differences in the social environment lead to differences in social interactions that translate into fitness differences between individuals.

Social interactions play a crucial role in the lives of organisms, including humans, influencing nearly all aspects of life history, physiology and behaviour. Although individuals benefit from social interactions, the social environment is characterised by a high degree of flexibility and unpredictability, and is thus the most complex and fluctuating component of an individual's environment. Such interactions are therefore the focus of interest in diverse fields, including medicine, immunology, evolution, behavioural ecology, population biology and theoretical biology.

Some of the questions the group considers are: How important are social interactions for cooperation? What are the underlying endocrine and neural mechanisms of patterns of social interactions? And can neuroendocrine systems explain intra-specific individual differences in social interactions?

König and her research group aims to understand the evolution of social behaviour, as well as how interactions with conspecifics (animals that belong to the same species) structure groups and populations – , processes that are relevant for conservation. Working in the field and laboratory, they use behavioural, ecological, physiological and molecular genetic methods to understand the causes and consequences of social behaviour in mammals.

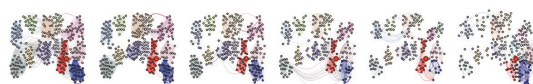
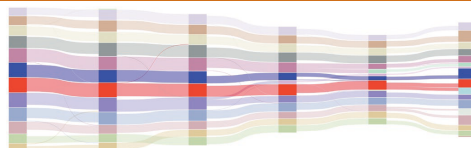
In her public lecture, König reported on findings from a long-term data set from a population of wild house mice (*Mus musculus domesticus*) her group has been following since 2003 to investigate principles underlying the evolution of sociality and its endocrine and neural mechanisms. Tissue samples taken for genetic analysis and transponders recording movements provide important information. She highlighted communal offspring care among the females to illustrate how decision making and social-partner choice affect the dynamics of social groups and the entire population. She stressed that although

they study house mice not humans, “understanding the general principles underlying social behaviour in different animal species will help to understand the evolution of human social behaviour.”

During her residency, König completed seven journal articles, of which two were published in *Trends in Ecology and Evolution* and *Communications Biology*. She met with academic contacts from Stellenbosch University and visited a research site at the Goegap Nature Reserve in the Northern Cape, run by a former postdoc in her group from over 20 years ago. With encouragement from other fellows, she started outlining the chapters for a popular science book on her house mice field study, tentatively titled *Mouse Tales*.



Wild house mice feeding



'House mouse communities': Female house mice live in social groups that are rather stable over time. Shown here is an example of networks and associated dynamics of a female that moved to a different group to breed (large node with a blue outline). The red dynamic community is the female's natal group (the large node with a red outline represents the focal female's mother), blue is the group in which the focal female was detected when breeding.



“When I arrived at STIAS, I had high expectations to meet and interact with internationally esteemed scholars and colleagues from various fields of research in humanities, social or natural sciences, but reality far exceeded my expectations. With my co-fellows (and STIAS academic staff) I experienced an atmosphere characterised by scientific curiosity, mutual respect, and generous openness to share ideas and discuss common interests, beyond the borders of our own fields. I consider such experiences not only intellectually rewarding; they broadened my personal and scientific perspectives and will continue to impact on my research and my perspectives of humans on our shared planet. I will always be grateful to STIAS for having allowed me such mind-changing experiences.”

# Asking questions about the past and future of universities in South Africa

**Saleem Badat**

Humanities Institute

University of KwaZulu-Natal

Saleem Badat was at STIAS primarily to work on a monograph on the history of universities in South Africa. He describes his project as “an historical sociological investigation” of the origins and development of universities in South Africa from colonialism to today.

Badat is interested in the idea of the university in South Africa. He thinks the critical historical scholarship that his project undertakes can show why it is proving so difficult to transform universities, and illuminate the transformation possibilities while understanding the constraints.

He seeks to analyse the purposes, functions, goals and roles that have been defined historically for specific universities, different groups of universities (‘historically white’, ‘historically black’) and for universities in South Africa more generally, as well as how and why these changed over time.

He will examine this across four periods: colonial (1652–1910), segregation (1910–1948), apartheid (1948–1994) and post-1994. In each case he will analyse the structural and conjunctural conditions in the economy, polity and society, the prevailing intellectual and scientific milieus, and the thinking, human agency, contestations and conflicts that shaped universities.

However, the book will also be forward-looking, asking questions such as: How do we become South African/African universities? What should configuration of purposes, functions, goals and roles be as appropriate to place, space and time while also being part of a global system of knowledge dissemination and creation?

During his residency, Badat produced three draft chapters of the book. His project on the histories of universities in South Africa, which seeks to produce critical histories of various universities, was

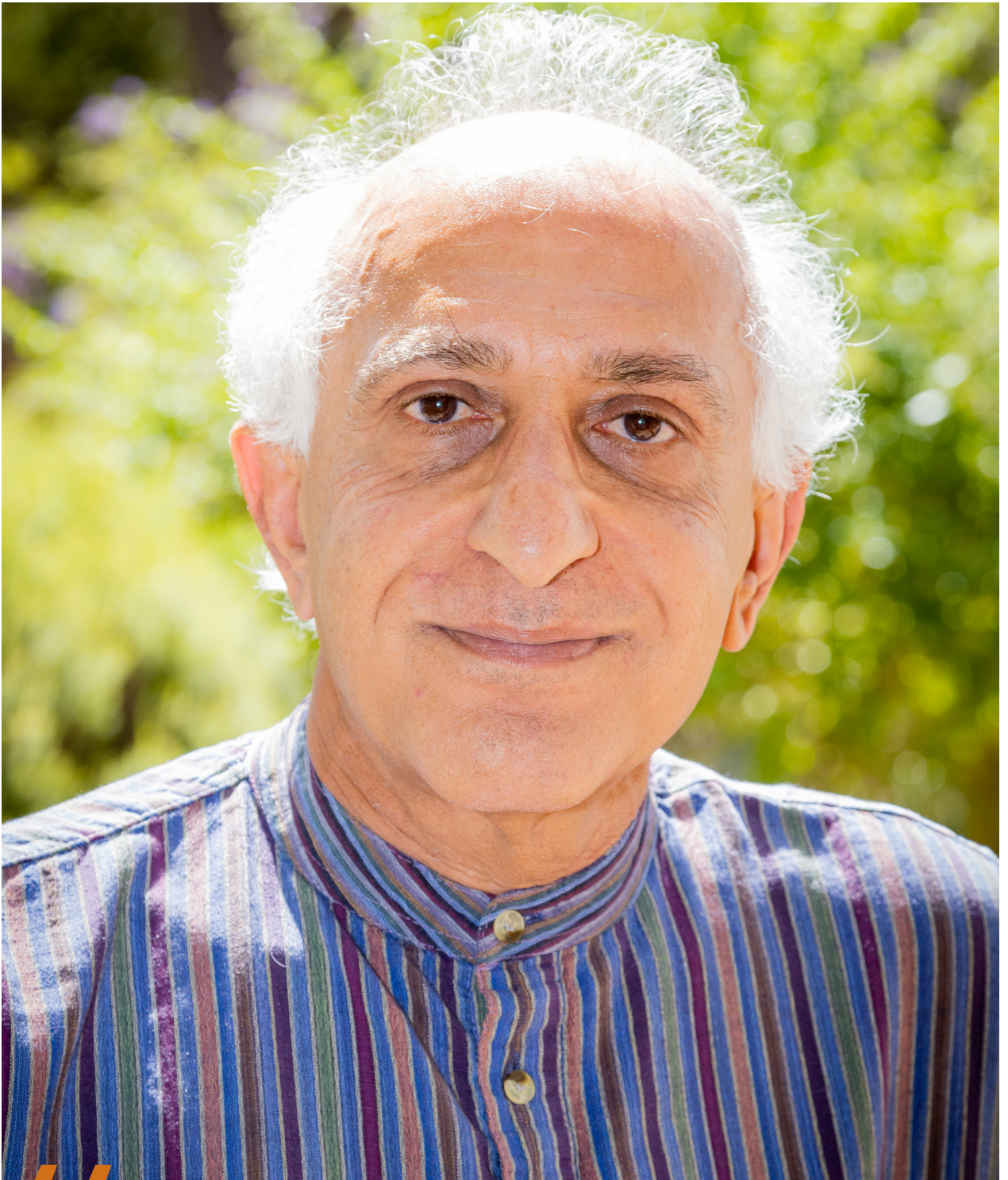
substantially advanced through a workshop funded and hosted by STIAS in May 2022 and attended by 20 national and international participants.

He also completed a monograph entitled *Tennis, Apartheid and Social Justice: The First Non-racial International Tennis Tour, 1971*, published in March 2023 by the University of KwaZulu-Natal Press. He finalised two book chapters, ‘Contesting Northern Hegemony in Knowledge Making in the Arts, Humanities, and Social Sciences’, which was published in late 2022 in *Thinking the Re-Thinking of the World* by the Leibniz Centre for the Modern Orient in Berlin.

The second chapter, ‘Re-envisioning Universities in Africa as African Universities’, will appear in the book *Creating the New African University*, by the University of Johannesburg (UJ) Ali Mazrui Centre for Higher Education Studies.

In addition, he wrote the foreword to a Human Sciences Research Council book, *In the Aftermath of #Feesmustfall: Violence, Wellbeing and the South African Student Movement*, and an obituary for Prof. Narend Baijnath, former DVC of UNISA and CEO of the Council on Higher Education. He took part in an online debate with the UJ vice-chancellor at the launch of the UJ DHET/NSF-DSI/NRF SARCHI Chair in Teaching and Learning, with his presentation subsequently being commissioned as a research report. He made four invited presentations at Stellenbosch University and participated in a workshop organised by the Centre for Research on Evaluation, Science and Technology.





“The stay at STIAS and the time in Stellenbosch was immensely pleasant, stimulating, and productive. It was a treat to be in the company of and to interact over a sustained period with outstanding local and international scholars in various disciplines and fields. STIAS is a unique endeavour, and I hope it goes from strength to strength under its very capable leadership.”

# Music theatre as comment on society

**Karmina Šilec**

Independent Artistic Director  
Slovenia

This project raises questions about choice and sexual identity in modern society by bringing to light a disappearing practice of women transforming themselves into men as a means of upholding their family honour and surviving in an isolated, dangerous, impoverished, and intensely patriarchal part of the world.

Independent Artistic Director Karmina Šilec was at STIAS to work on *Baba: The Life and Death of Stana*, a music-theatre work inspired by the real and imagined stories of Balkan women known as sworn virgins, who live as men after taking vows of chastity and celibacy.

This is a practice associated with remote Balkan areas of Kosovo, Montenegro, Serbia and Bosnia (what was formerly Yugoslavia, Šilec's former home). The practice has been around for centuries but was formally recorded from the mid-1800s.

"I have an ongoing interest in the phenomenon of virginity. Virginity is a triumph over more than just the imperatives of the body. It is, in every way, a triumph of the will. By any material recognition, virginity does not exist. But it does. It's a human concept to control bodies and minds."

This is a hybrid work that aims to break down boundaries between the disciplines. Conceiving and composing it means working on all its parameters simultaneously (concept, text, music, dramaturgy, visuals, movement, etc.), and involves research in gender studies, philosophy, anthropology, ethnology, history, visual arts, contemporary music, drama and more. The aim is to bring together Homeric and oral epic storytelling with new technologies.

Šilec also worked on a new music composition that involves manipulating and transforming sounds and the use of electronics. *Choregie* involves no narrative or defined storylines, no roles, no acting and uses extended vocal techniques and a newly constructed instrument inspired by the one-string instrument Gusle, which will be manipulated using electro-acoustic

techniques. The *Choregie* concept will bring music, movement, drama and visual elements to the stage.

"I'm trying to develop a music theatre form to comment on the world and society," said Šilec. Inspired by her surroundings, she also presented *Musica inaudita* in the STIAS gardens. This was a geolocated concert using a smartphone app, in which listeners followed a map and triggered the music content. This encompassed works by many unknown women composers from the 9th century to the present, including Kassia of Byzantium, Lombardian nuns, the prophetess Hildegard, and Mexican musicians from the Baroque period. This encompassed Gregorian chants, Baroque motets and sacred vocal-instrumental music from South America, as well as avant-garde works of the 20th century.

Her final piece highlights abortion via a sound art installation based on processes that detect slight electrical variations in plants.



Karmina Šilec in the STIAS garden as part of her sound art installation based on processes that detect electrical variations in plants





“STIAS was a wonderful experience! Thank you for providing me with the opportunity to share a few months with a uniquely interdisciplinary and creative community, and to step away from my usual routine, helping me to develop new concepts. Your hospitality, amazing working conditions, and kind and supportive staff made my fellowship unforgettable.”



# Team Fellowship

Several team projects were hosted in 2022. This new category of fellowships continues to receive much interest and is becoming consolidated as a unique feature of the STIAS Fellowship programme.

In this report, we feature three teams whose members were in residence simultaneously during 2022.



# Travelling a creative journey with broadened horizons

**Mkhululi Mabija (South Africa) & Paul Castles (USA/Australia)**  
Artists-in-residence

Librettist and composer team Mkhululi Mabija and Paul Castles spent their time at STIAS working on two projects of music theatre, *The Road Between the Desert and the Ocean* and *The Call*.

*The Road Between the Desert and the Ocean* is a long-term project which explores a trans migratory journey moving from the political to the ethereal, of a woman whose life spanned the 20th and 21st centuries.

Inspired by their grandmothers, the work is set on the Skeleton Coast of Namibia - a metaphorical landscape through which the character experiences beauty, desolation, extremeness, ecology and human tragedy as the past and possibilities of their lives. In what they describe as “a collision of old and contemporary”, the character represents the last of those born into a colonial, pre-globalist, pre-digital, unequal and unjust era, and passing into one radically transformed by technology, social and environmental change. They are guided through their journey by indigenous Gods.

Although the aim was to complete the work at STIAS, their stay led to important creative discoveries and major changes to the project including the introduction of new characters.

“We expected to be busy writing at STIAS, we didn’t expect to still be learning about a project we’ve been working on for five years,” said Mabija. “Being at STIAS has given us access to the expertise of its

scholarly community. As an artist, having 30+ highly knowledgeable individuals in a huge range of fields who are not only able, but very willing, to share their insights is extremely rare. Many of these insights have found their way directly into the writing of the piece.”

Two fellows also accompanied them on a research trip to Namibia and turned the trip “into one of the most influential experiences of our creative lives”.

“At the end of our residency, we find ourselves with a lot of work still to do, but a stronger and better sense of what that is,” said Castles.

The pair also did further background research for *The Call* expanding the concept into an exploration of male relationships as reflected in the historical and cultural specificities of three port cities in Africa - Cape Town, Dakar and Alexandria.

A new collaboration with Karmina Šilec will give them the opportunity to present their work at a festival she runs in 2023/4. Other collaborations forged may result in their participation in the Gender and Global Leadership workshop at Howard University Center for Women and either a workshop or production with Stellenbosch University’s Drama Department in 2024.





“As professional freelance artists on the ‘younger’ side, being a part of a community of such diverse, accomplished and knowledgeable people has been important for our sense of self-esteem and for broadening our horizons. Through informal and formal conversation we’ve come to see the many different pathways that individuals across all fields have travelled and the many different shapes that their lives have taken. As working artists, our options often feel limited and malnourished. As residents of STIAS, we’ve been made to feel that they are expansive, hopeful and worthwhile.”

# Compensation through expropriation without compensation? Constitutional amendment, land reform and the future of redistributive justice in South Africa.

This team project was first proposed by Olaf Zenker in 2018 and has progressed since then in collaboration with Cheryl Walker, Zsa-Zsa Boggenpoel and James Ferguson.

There are widespread perceptions that transformative constitutionalism and land reform have fallen short of their promises to bring about redistributive justice in substantive and meaningful ways in South Africa. Public discourse has been dominated by debates about the need to amend the property clause of the Constitution to allow for expropriation of land without compensation.

The idea of this group project is to take debates about the amendment of the property clause (Section 25) of the South African Constitution, allowing expropriation without compensation, as a starting point to critically interrogate developments in South African land reform in particular, and possibilities for alternative futures of redistributive justice more generally.

In 2019, an ad hoc committee was formed to initiate legislation amending Section 25 of the Constitution to allow for such expropriation. Due to the magnitude of the task and COVID-19, the Constitution 18th Amendment Bill was only introduced to Parliament in September 2021. On 7 December 2021, the National Assembly rejected the Amendment Bill. However, the Expropriation Bill, which specifies circumstances in which “nil compensation” may be just and equitable is still on the table.

In 2022, the group came together to host a conference at STIAS entitled *Compensation through expropriation without compensation? Constitutional amendment, land reform and the future of redistributive justice in South Africa*. The conference was initially planned for 2020 but postponed due to the COVID-19 pandemic, and took place as a hybrid event with 40 in-person participants plus an additional 80 online participants. The event also attracted considerable attention from the South African media.

“The timing of the conference turned out to be fortuitous given the failure of the proposed amendment to the Constitution. This meant that February 2022 was a very good time to reflect on the issues, the politics and the lessons that could be drawn, as well as to engage with the wider issues at stake in relation to the place of land reform within commitments to redistributive justice in South Africa 26 years after the ‘final’ Constitution was adopted in 1996,” said Walker.

The conference aimed to take stock of these developments and use them as a springboard to think beyond conventional forms of land reform towards alternative futures of transformative redistribution.

The conference was conducted under three sub-topics:

- the rights and wrongs of South African property law, led by Zsa-Zsa Boggenpoel
- potentials and pitfalls of land reform in the shadow of constitutional change, led by Cheryl Walker
- imagining alternative futures of redistributive justice in South Africa, led by James Ferguson.

Papers were presented by world-renowned experts on land, the constitution and law, including former Public Protector and Law Trust Chair in Social Justice at Stellenbosch University, Thuli Madonsela; Ruth Hall from the Institute for Poverty, Land and Agrarian Studies (PLAAS); Mazibuko Jara from *Amandla!*; and Head of Land Reform, Restitution and Tenure at Werksmans Attorneys, Bulelwa Mabasa.

The range of papers clearly highlighted the complex nature of the problem as well as the different perspectives, contexts and conversations required. Topics included: making sense of the expropriation without





Team leader Olaf Zenker of the Institute for Social and Cultural Anthropology, Martin Luther University Halle-Wittenberg joined the conference online due to Covid-19 related travel restrictions.

compensation debate; notions of justice; equitable compensation; socially just and people-centred land reform; the rights and wrongs of South African property law; lived reality; gendered land reform; perspectives of white commercial farmers; the entrenchment of breakdown and food security; transformative taxes; and the moral politics of land distribution.

After the conference, the group met to plan the book that will emanate from the project and conference. It is hoped the book will be published in collaboration with an international academic publisher as an open-access publication. Nearly all the presenters indicated their interest in revising their papers for inclusion. The group also invited STIAS fellow William Beinart to prepare a chapter that draws on the material and arguments covered in his STIAS public lecture in 2022.

Given the stature of the authors involved, this book will make an important contribution to moving the debate on land reform and redistributive justice in new and potentially more promising future directions.



Cherryl Walker from the Department of Sociology and Social Anthropology at Stellenbosch University addressing conference delegates while Zsa-Zsa Boggenpoel of the Department of Private Law at Stellenbosch University looks on. The fourth member of the team is James Ferguson from the Department of Anthropology at Stanford University.



“I would like to commend the STIAS team for the grace in hosting me. I have noted on a number of occasions how impressed I have been with the level of commitment and enthusiasm of the staff. Their dedication and commitment should be celebrated.” – Zsa-Zsa Boggenpoel.

“I enjoyed and really benefitted from my short stay at STIAS. It provided a very welcoming and collegial space in which to sharpen my own thoughts on land reform, hold the long-planned conference and plan for the forthcoming book. In retrospect, the quiet, collegial, creative and cosmopolitan space it offers its fellows seems even more special and important to sustain than when I was based there, before the deeply concerning global events that unfolded in 2022.” – Cherryl Walker.

“Both through my own experience and the feedback received, I got the impression that the event was a great success, as some of the most-renowned South African specialists in the fields of property law, land reform and redistributive justice productively discussed these crucially important questions about the way forward for transformative justice in South Africa. I am enormously grateful for the interest and support received from STIAS. Many thanks again for all your support and for having had me again as a fellow.” – Olaf Zenker.

# A complex solution for a complex problem

The problems of low food production in Africa and other countries with similar agricultural systems are multiple and complex, and the process of transforming agriculture represents a major challenge for all governments in the region.

Systems of agricultural production in Africa are diverse, reflecting the diversity of cultural contexts and environmental conditions. Some of the challenges include small family farms with low yields, decreasing land availability, environmental degradation and high population growth. Generally, there has been a failure of agricultural-development policies – both in developed and developing countries.

Mario Giampietro, Ansel Renner, Aloisius Louie and Richard Sikora believe this failure can be explained by the fact that conventional models based on reductionism cannot handle the matter. They, therefore, propose the use of practical analytical tools based on complexity that are capable of generating a robust diagnosis and anticipating the problems we should expect in the development of rural Africa.

The group hopes to use models, data and practical tools to provide some answers to the challenges of transforming agriculture in southern Africa. Their work builds on a STIAS long-term project on sustainable agriculture led by Sikora that resulted in the book *Transforming Agriculture in Southern Africa: Constraints, Technologies, Policies and Processes* (<https://www.routledge.com/Transforming-Agriculture-in-Southern-Africa-Constraints-Technologies/Sikora-Terry-Vlek-Chitja/p/book/9781138393530#toc>).

Their plan is to mix different domains related to theoretical complexity, metabolic principles and agriculture to generate science that can help communities and decision makers to better understand situations, options and threats, allowing them to make better-informed decisions about production techniques and technologies, the underlying social practices, environmental pressures, and the technological, socio-economic and cultural contexts at a macro, farm and country level in different countries.

It is about generating and structuring knowledge spaces and then flexibly interfacing with them using information dashboards. It is also about mobilising the knowledge base and seeking the best solutions from

many potentials. The approach developed allows the team to fully visualise and map the interacting factors affecting food production from a country level right down to the level of small farms.

“It’s a different way of using science,” said Giampietro. “The expert helps to deliberate about what is important and to identify the areas in need of more analysis. It doesn’t solve problems but helps communities and decision makers to understand different situational options for effective decisions. It’s not just one model but a set of interactions to which we can add new models and benchmarks. Although it cannot predict the future, it can predict aspects of the system that will be affected by future events.”

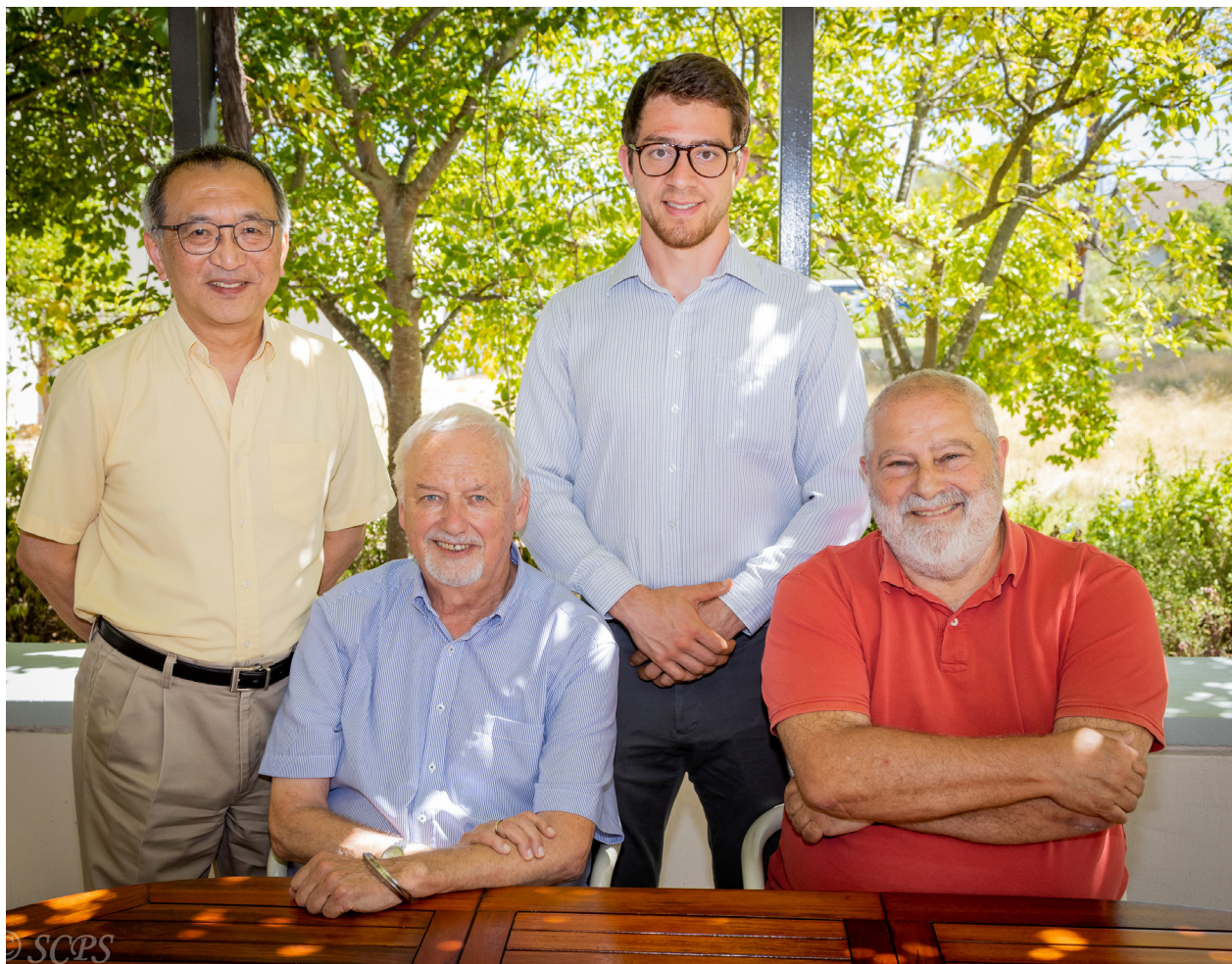
During their time at STIAS, the group developed a theoretically and practically robust framework capable of guiding the conceptualisation of what categories and types of relationships need to be accounted for; opened the identification and auditing of those to an extended peer community; and deliberated about the resulting system models with policy- and decision-makers.

Their hope is that African communities can apply the framework to generate pathways towards increased strategic food-system autonomy, which will hopefully make it possible to help realise the agricultural imaginary for the Southern African Development Community laid out in the 2014 Malabo Declaration.

“Such efforts are urgently needed and need to be successful to combat not only social-economic issues like food and livelihood insecurity but also more pointed agroecological issues such as low yields, widespread ecological disruptions, environmental degradation, and so forth,” said Ansel Renner.

The group hopes in the future that the preliminary framework and associated tool can be improved and made more ‘user-friendly’ via collaboration with agriculture-oriented universities in southern Africa for expanded data gathering and to further refine the type of characterisations that can be obtained when using the tool.





(Standing L–R) Aloisius Louie, a Mathematical Biologist from Canada; Ansel Renner from the Institute of Environmental Science & Technology, Autonomous University of Barcelona  
(Seating L–R) Richard Sikora, Institute for Crop Science and Resource Conservation, University of Bonn; and Mario Giampietro from the Institute of Environmental Science & Technology, Autonomous University of Barcelona

“

“My stay at STIAS has been a fantastic experience. When I come here, I feel at home. I would like to take this opportunity to thank all the members of my large ‘STIAS family’ for their kindness and professionalism. The interaction with the other fellows has been very pleasant, as usual.” – Mario Giampietro.

“I believe the effort turned out to be extremely successful and to have extremely high potential for impact. I am thrilled to be engaged in the writing of the next chapter of this effort’s story. I offer an emphatic thank you to the tireless, pleasant, efficient, inspirational and highly professional staff and fellow fellows of STIAS for making this all possible. It’s hard to imagine the project’s achievements arriving via some other avenue.” – Ansel Renner

“The opportunity STIAS gave to me to return to Stellenbosch to work in a team studying complexity science proved to be one of the most extraordinary experiences in my career as it relates to African agriculture and food security. My interaction with the team was truly a superb educational and scientific experience. I believe this approach should be supported in the future and that it will add greatly to STIAS’s impact on food security in southern Africa. It goes without saying that the interactions at STIAS with the other fellows was highly rewarding and helped to regenerate the process of thinking out-of-the-box.” – Richard Sikora.



# List of Fellows

**Fellows in residence in the First Semester**  
(17 January – 17 June 2022)



## Jess Auerbach

Iso Lomso Fellow

Department of Anthropology  
North-West University

**Project:** *Capricious Connections: the politics of knowledge infrastructure in the South Atlantic and Indian Ocean Islands*



## Saleem Badat

Fellow

University of Kwazulu-Natal

**Project:** *The Historical Origins and Development of Universities in South Africa*



## William Beinart

Fellow

St Antony's College  
University of Oxford

**Project:** *Land Reform and Rural Production in South Africa*



## Moses Khisa

Fellow

School of Public and  
International Affairs  
North Carolina State University

**Project:** *Paths from Personalist Rule: Understanding Institutional Transformation in Contemporary Africa*



## Jonathan Kingdon

Fellow

Zoology Department  
Oxford University

**Project:** *Was the Cape a biotic reservoir in the repopulation of Africa after the KT extinction event 66 MY ago?*



## Barbara König

Fellow

Department of Evolutionary  
Biology and Environmental  
Studies University of Zurich

**Project:** *Conspecifics matter – An integrated approach to reveal the basis and the significance of social interactions*



## Ephraim Meir

Fellow

Department of Jewish Thought  
Bar-Ilan University

**Project:** *Gandhi's Satyagraha: Exploring Non-Violent Alternatives for Effective Political Resistance and Transformation*



## Gibson Ncube

Iso Lomso Fellow

Department of Modern Foreign  
Languages  
Stellenbosch University

**Project:** *Bodies and/as Texts: Representing queer on screen in contemporary Africa*



## Knut Nustad

Fellow

Department of Social  
Anthropology  
University of Oslo

**Project:** *Global trout: investigating environmental change through more-than human world systems*



## Aili Mari Tripp

Fellow

Department of Political Science  
University of Wisconsin-  
Madison

**Project:** *Why Do Authoritarian Regimes in Africa Adopt Women's Rights Reforms?*



## Wolfram Weisse

Fellow

Academy of World Religions  
University of Hamburg

**Project:** *Religion and Dialogue in Modern Societies: Possibilities, Challenges, and Limitations of Interreligious Dialogue, with a Focus on Dialogue in Theology and Education*



## Thomas Eriksen

Fellow

Department of Social  
Anthropology  
University of Oslo

**Project:** *The future of biological and cultural diversity: The implications of Anthropocene effects*



## Torsten Meireis

Fellow

Berlin Institute for Public  
Theology  
Humboldt University

**Project:** *The City of Hope and the Garden of Life. A Protestant Ethics of Sustainability*



## Kevin Knuth

Fellow

Department of Physics  
University at Albany

**Project:** *Consistent Quantification as a Unifying Principle in Physics and the Sciences*



## Ian Goldin

Fellow

University of Oxford

**Project:** *The impact of technological change on developing countries*



## Geoffrey Harpham

Fellow

Kenan Institute for Ethics  
Duke University

**Project:** *Citizenship on Catfish Row: Race and Nation in American Popular Culture*





## Kafilat Bawa-Allah

Iso Lomso Fellow

Department of Zoology  
University of Lagos

**Project:** *Aquatic ecosystem protection; the application and effectiveness of metal bioavailability-based approaches*



## Ashleigh Harris

Fellow

Department of English  
Uppsala University

**Project:** *Methodological Work Towards a Contemporary African Ephemeral Literature Archive*



## Erik J. Olsson

Fellow

Department of Philosophy  
Lund University

**Project:** *Academic Freedom and the Decolonization of Knowledge: Conflicts and Dilemmas in Higher Education*



## Mikael Persson

Fellow

Department of Engineering  
Chalmers University of Technology

**Project:** *South African – Swedish effort on pre-hospital diagnostics of stroke and traumatic injuries*



## Abdallah Daar

Fellow

University of Toronto

**Project:** *DOHAD AND SDGs: Moving towards Early Implementation*



## Olaf Zenker

Fellow

Institute for Social and Cultural Anthropology  
Martin Luther University Halle-Wittenberg

**Project:** *Compensation Through Expropriation without Compensation? Land Reform and the Future of Redistributive Justice in South Africa*



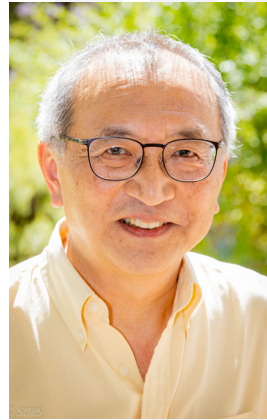


## Sandra Waxman

Fellow

Department of Psychology  
Northwestern University

**Project:** *Developmental origins of racial and gender bias in very young children and how it unfolds*



## Aloisius Louie

Fellow

Independent researcher  
Canada

**Project:** *Developing a complexity science capable of solving practical, important, and urgent problems*



## Mario Giampietro

Fellow

Institute of Environmental  
Science and Technology (ICTA)  
Universitat Autònoma de  
Barcelona

**Project:** *Developing a complexity science capable of solving practical, important, and urgent problems*



## Ansel Renner

Young Scholar

Universitat Autònoma de  
Barcelona

**Project:** *Developing a complexity science capable of solving practical, important, and urgent problems*



## Richard Sikora

Fellow

University of Bonn

**Project:** *Developing a complexity science capable of solving practical, important, and urgent problems*



## Nasandratra Ravonjjarison

Iso Lomso Fellow

Radio-Isotopes Laboratory  
Universite D'Antananarivo

**Project:** *Local soil knowledge: a tool for sustainable agricultural systems in Madagascar*



### Marcus Fedder

Fellow  
Amnaxis Digital Solutions

**Project:** *Fintech for SME financing in Africa*



### Bibi Burger

Iso Lomso Fellow  
Department of Afrikaans  
University of Pretoria

**Project:** *The whiteness of Afrikaans literary feminism*



### Edwin Madala

Iso Lomso Fellow  
Department of Biochemistry  
University of Venda

**Project:** *Deciphering the biological consequences of geometrical isomerization of natural compounds*



### Silvia Tomášková

Fellow  
Faculty of Arts and Social  
Sciences  
University of British Columbia

**Project:** *Trespassing as a way of being: ancestral heritage in South Africa*



### Nicole Beardsworth

Iso Lomso Visiting Scholar  
Department of Political Studies  
University of the Witwatersrand

**Project:** *Power, Patronage and the Informal Sector: co-optation and coercion in state-society relations in Zimbabwe and Zambia*



### Zsa-Zsa Boggenpoel

Visiting Scholar  
Department of Private Law  
Stellenbosch University

**Project:** *Compensation Through Expropriation without Compensation? Land Reform and the Future of Redistributive Justice in South Africa*

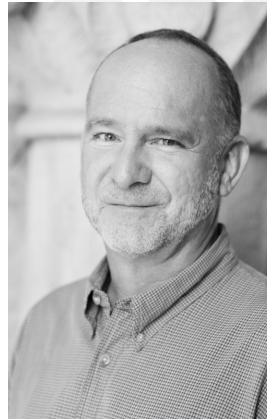


### Shahina Daar

Visiting Scholar

Department of Hematology  
Sulatan Qaboos University

**Project:** *Psychosocial evaluation of patients with beta thalassemia major in Oman*



### James Ferguson (Virtual)

Visiting Scholar

Department of Anthropology  
Stanford University

**Project:** *Compensation Through Expropriation without Compensation? Land Reform and the Future of Redistributive Justice in South Africa*



### Cherryl Walker

Visiting Scholar

Department of Sociology and  
Social Anthropology  
Stellenbosch University

**Project:** *Compensation Through Expropriation without Compensation? Land Reform and the Future of Redistributive Justice in South Africa*



### Freedom Mazwi

Iso Lomso Visiting Scholar

Sam Moyo African Institute for  
Agrarian Studies (SMAIAS)

**Project:** *Chinese investments in Africa: Exploring the developmental potential*



# List of Fellows

**Fellows in residence in the Second Semester**  
(18 July – 15 December 2022)

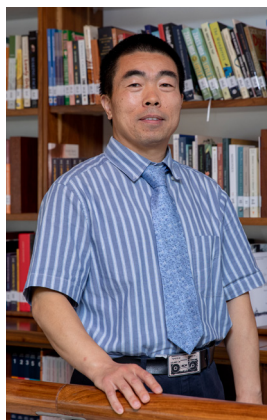


## Samantha Balaton-Chrimes

Fellow

Faculty of Arts and Education  
Deakin University

**Project:** *Certain uncertainties: Identity politics, power, and categorisation in postcolonial Kenya*



## Qingxiu Bu

Fellow

Sussex Law School  
University of Sussex

**Project:** *Digital State Capitalism: African Smart Cities and a Game-Theoretic Perspective on Global Data Governance in Flux*



## Paul Castles

Artist-in-residence

Australia

**Project:** *The road between the desert and The Call*



## Cedric de Coning

Fellow

Peace, Conflict and  
Development Research Group  
Norwegian Institute of  
International Affairs (NUPI)

**Project:** *Adaptive Peace: Insights from Complexity for Strengthening the Resilience and Sustainability of Social-Ecological Systems*





## Allison Drew

Fellow

Department of Politics  
University of York

**Project:** *The State versus Neville Alexander and ten others: The causes and consequences of a political trial*



## Anthea Garman

Fellow

School of Journalism and Media  
Studies  
Rhodes University

**Project:** *Licence to Talk*



## Jan-Bart Gewald

Fellow

African Studies Centre  
Leiden University

**Project:** *The "Big Hole", Kimberley South Africa, 1870-1920*



## Poul Kjaer

Fellow

Department of Management,  
Politics and Philosophy  
Copenhagen Business School

**Project:** *Global Value Chain Law: A Socio-Legal Approach to the Constitution of Connectivity, Contracts and Corporations*



## Mkhululi Mabija

Artist-in-residence

South Africa

**Project:** *The road between the desert and The Call*



## Jerry Ochola

Iso Lomso Fellow

Department of Manufacturing,  
Industrial and Textile  
Engineering  
Moi University

**Project:** *Computational modelling of tubular fibrous scaffold Structures for cardiovascular graft applications: parametric modelling, and Finite Element Analysis.*



## Paul Onanuga

Iso Lomso Fellow

Department of English and  
Literary Studies  
Federal University Oye-Ekiti

**Project:** *Artiste Rivalry, Digital Fandom and the Narratives of Oppositional Politics in Nigerian Hip-Hop*



## Joseph Rosen

Fellow

School of Electrical and  
Computer Engineering  
Ben-Gurion University of the  
Negev

**Project:** *Optical imaging using digital holography with phase apertures*



## Karmina Šilec

Independent Artistic Director

Slovenia

**Project:** *Finding Homer*



## Juan Manuel Tebes

Fellow

Centro de Estudios de Historia  
del Antiguo Oriente  
Universidad Católica Argentina  
(UCA)

**Project:** *Decoding the Ancient Sacred Landscapes of the Arid Southern Levant (Southern Jordan/Israel): The Desert Cults Mapping Project*



## Løchlann Jain

Fellow

Department of Anthropology  
Stanford University

**Project:** *The WetNet: Pathogen Mobility and Fluid Bonding in Twentieth Century Biomedicine*



## David Gordon

Fellow

School for Policy Studies  
University of Bristol

**Project:** *Advancing Gender Equality in Africa and Globally: Strengthening Health and Economic Outcomes by Learning What Works at Scale*





## Jody Heymann

Fellow

Fielding School of Public Health  
University of California, Los Angeles

**Project:** *Advancing Gender Equality in Africa and Globally: Strengthening Health and Economic Outcomes by Learning What Works at Scale*



## Jarpa Dawuni

Fellow

Department of Political Science  
Howard University

**Project:** *Women in Law: Perspectives Across Africa*



## Philippe Djourwé

Iso Lomso Fellow

Department of Physics  
The University of Ngaoundéré

**Project:** *Quantum and collective phenomena induced by PT-symmetry in opto-electromechanical array*



## Andreas Freytag

Fellow

School of Economics and Business Administration  
Friedrich-Schiller University of Jena

**Project:** *Prospects for Regional Integration in Africa – A Comparative Perspective*



## Abena Oduro

Fellow

Department of Economics  
Merian Institute for Advanced Studies in Africa  
University of Ghana

**Project:** *Prospects for Regional Integration in Africa – A Comparative Perspective*



## Amy Raub

Visiting Scholar

WORLD Policy Analysis Center,  
John and Karin Fielding School of Public Health  
University of California, Los Angeles

**Project:** *Advancing Gender Equality in Africa and Globally: Strengthening Health and Economic Outcomes by Learning What Works at Scale*



## Sandra Swart

Fellow

History Department  
Stellenbosch University

**Project:** *Beasts of the Southern World: multi-species history and the Anthropocene*



## Carlos Ibanez

Fellow

Department of Neuroscience  
Karolinska Institute

**Project:** *Making Mouse Models That Better Reflect Human Metabolic and Neurological Diseases*

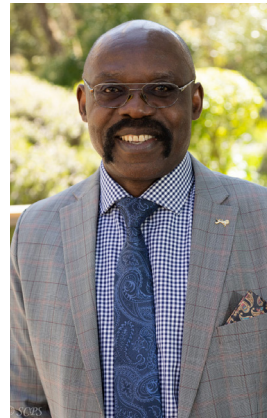


## Simon Bekker

Fellow

Department of Sociology and  
Social Anthropology  
Stellenbosch University

**Project:** *Development from below? Islands of effectiveness or Enclaves in South Africa today*



## Charles Fombad

Fellow

Institute for International and  
Comparative Law in Africa  
(ICLA)  
University of Pretoria

**Project:** *Constitutional Identity and Constitutionalism in Africa*



## Uhuru Phalafala

Iso Lomso Visiting Scholar

English Department  
Stellenbosch University

**Project:** *Sounding Black Worlds*



## Ifeyinwa Okolo

Iso Lomso Fellow

Department of English and  
Literary Studies  
Federal University Lokoja

**Project:** *Sexualities and (Dis) Abilities: (Re)Valuing Being Sexual Humans through Body Narratives*





## Jonas Olofsson

Fellow

Department of Psychology  
Stockholm University

**Project:** *Toward a cognitive science of smell: Reconsidering «higher» cognition from the perspective of a «lower» sense*



## Klaus Kornwachs

Fellow

Chair for Philosophy of  
Technology (Emeritus)  
Brandenburg Technical  
University Cottbus

**Project:** *Reversible Technologies*



## Asanda Benya

Iso Lomso Fellow

Department of Sociology  
University of Cape Town

**Project:** *Women in mining frontiers in Africa: Exploring the diverse ways in which women's lived experiences and livelihoods around sites of extraction are affected by mines.*



## Denise Meyerson

Fellow

Macquarie Law School  
Macquarie University

**Project:** *Relational Egalitarianism and the Equality Jurisprudence of the Constitutional Court of South Africa*



## Victoria Namuggala

Iso Lomso Fellow

School of Women and Gender  
Studies  
Makerere University

**Project:** *Identity and Belonging: Teenage Parenthood in Kampala's Informal Settlements*



## Katja Petzold

Fellow

Department of Medical  
Biochemistry and Biophysics  
Karolinska Institute

**Project:** *Alternative targets for Antibiotics, fighting infection with higher specificity*



## Igor Torbakov

Fellow

Institute for Russian and Eurasian Studies  
Uppsala University

**Project:** *Visions of the 'Land of Black Christians': Ethiopia in Russian Imagination of the Late Imperial Period*



## Joanna Rorbach

Fellow

Department of Medical Biochemistry and Biophysics  
Karolinska Institute

**Project:** *Towards designing less-toxic antibiotics*

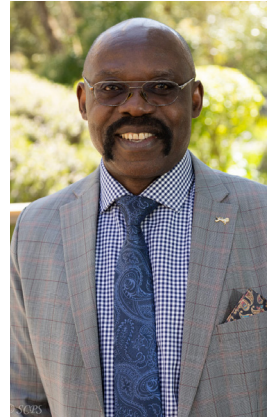


## Simon Bekker

Fellow

Department of Sociology and Social Anthropology  
Stellenbosch University

**Project:** *Development from below? Islands of effectiveness or Enclaves in South Africa today*



## Charles Fombad

Fellow

Institute for International and Comparative Law in Africa (ICLA)  
University of Pretoria

**Project:** *Constitutional Identity and Constitutionalism in Africa*



## Bai Lu

Fellow

School of Pharmaceutical Sciences  
Tsinghua University

**Project:** *The Impact of social media on Science Communication*



## Maria Olausson

Fellow

School of Languages and Literatures  
University of Gothenburg

**Project:** *Speaking Animals in African Literature*

# Lectures and Seminars

## STIAS PUBLIC LECTURE SERIES

A total of six STIAS public lectures were held in 2022 with one in partnership with the Academy of Science of South Africa (ASSAf) delivered by STIAS Fellow and Nobel laureate, Abdulrazak Gurnah.

22 Feb	William Beinart Land Reform and Rural Production in South Africa
21 Apr	Gibson Ncube Queer Bodies in African Films
26 May	Barbara König Conspecifics Matter: Revealing the Basis and the Significance of Social Interactions
18 Aug	Cedric De Coning Adaptive Peace: Insights from Complexity for Strengthening the Resilience and Sustainability of Social-Ecological Systems under Stress
22 Sept	Jerry Ochola Computational Modelling of Tubular Fibrous Structures for Cardiovascular Graft Applications
3 Nov	ASSAf Humanities Lecture in partnership with STIAS by winner of the Nobel Prize in Literature 2021, Abdulrazak Gurnah
17 Nov	Katja Petzold Dancing RNA: How Molecular Dynamics Explains Function



## STIAS SEMINAR SERIES

25 seminars were held in the first semester and another 30 seminars were held in the second semester.

27 Jan	Kevin Knuth Why Mathematics Applies to the Real World
3 Feb	Torsten Meireis The Garden of Life and the City of Hope: A Christian Public Theological Take on the Ethics of Sustainability
10 Feb	Ian Goldin Development: Dreams, Disasters and Disruption
17 Feb	Sandra Waxman How and How Early Do We Begin to 'See' Race?
24 Feb	Wolfram Weisse and Ephraim Meir Dialogical Theology and Praxis
1 Mar	Kafilat Bawa-Allah Heavy Metal Pollution in Aquatic Ecosystem: Issues of Bioavailability and the Inclusion in Regulatory Systems
3 Mar	Jess Auerbach Capricious Connections: The Politics of Knowledge Infrastructure in the South Atlantic and Indian Ocean Islands
8 Mar	Saleem Badat What are Universities For? The Origins and Development of Universities in South Africa.
17 Mar	Ashley Harris African Ephemeral Literatures and the Future of Literary Archive
22 Mar	Mikael Persson The Challenge of Stroke and How Prehospital Triage Using Microwaves and AI can Improve Care Processes
24 Mar	Abdallah Dar A Proposed Collaboratory for Pandemic Studies in Africa
31 Mar	Thomas Eriksen Homogenising Effects of Globalisation on Biological and Cultural Diversity
5 Apr	Moses Khisa Coalition Politics and Institutional Transformation in Contemporary Africa

7 Apr	Jonathan Kingdon Space, Place, Pace and Race: Climate and Human Biogeography
12 Apr	Geoffrey Harpham Race as an Object of Knowledge
19 Apr	Mario Giampietro, Aloisius Louie, Ansel Renner & Richard Sikora Characterizing the Factors Determining the Sustainability of Agriculture in Africa: Relational Analysis Towards Working with Complexity Rather than Against Complexity.
26 Apr	Erik J. Olsson Academic Freedom and the Decolonization of Knowledge
5 May	Knut Nustad Global Trout: Ecological Globalisation, Colonial Legacies and Properties of Water
10 May	Freedom Mazwi Neoliberal Restructuring: Capital Penetration and the Peasantry/Family Farmers in Southern Africa
12 May	Silvia Tomášková Trespassing as a Way of Being: Ancestral Heritage in South Africa
17 May	Nasandratra Ravonjjarison Local Soil Knowledge: A Tool for Sustainable Agricultural Systems in Madagascar
19 May	Marcus Fedder Can Fintech Help Close the Financing Gap for Small and Medium Size Enterprises (SMEs) in Africa?
31 May	Edwin Madala Better Be Safe than Sorry: Highlighting the Chemical Defence Strategy of Plants against Photo-Induced Stress.
2 Jun	Aili Mari Tripp Why Autocracies in Africa Promote Women as Leaders
9 Jun	Bibi Burger The Emergence of Black Feminist Afrikaans Poetry in the 21 <sup>st</sup> Century
28 Jul	Jan-Bart Gewald Of Oxen, Trees, Sardines and Stones: Attempting to Write a Multi-Species Environmental History of the “Big Hole”, Kimberley South Africa, 1870 - 1920.
4 Aug	Jarpa Dawuni Mind the Gap: Women in Law and Leadership Across Africa

11 Aug	Jody Heymann, Dave Gordon & Amy Raub Advancing Gender Equality in Africa and Globally: Strengthening Health and Economic Outcomes by Learning what Works at Scale
23 Aug	Karmina Šilec Finding Homer
25 Aug	Qingxiu Bu China and the West's Digital Battle and Africa's Digital Destiny
30 Aug	Philippe Djorwé Opto-Electromechanical Sensors Based Exceptional Points
1 Sept	Anthea Garman Talk, Listening, We and Us: The Public Sphere and the Making of Democracy in South Africa
6 Sept	Andreas Freytag and Abena Oduro Prospects for Regional Integration in Africa: A Comparative Perspective
8 Sept	Poul Kjaer Global Value Chain Law: A Historical Sociology of Law Approach to the Constitution of Connectivity, Contracts and Corporations
13 Sept	Juan Manuel Tebes The Quest for the Origins of Ancient Israel's God in the 21 <sup>st</sup> Century: From Biblical Archaeology to Digital Humanities
20 Sept	Carlos Ibanez Making Mouse Models that Better Reflect Human Metabolic and Neurological Diseases
27 Sept	Uhuru Phalafala Sound Thinking: Black Women's Acoustemologies as Resistance
29 Sept	Joseph Rosen From Incoherent Digital Holograms to Non-invasive Imaging through Scattering Medium: Research Journey in the Field of Computational Imaging
6 Oct	Allison Drew When Thought was a Crime: Neville Alexander and South Africa's New Left, c 1957-63
11 Oct	Lochlann Jain The Pleasures of Asphyxiation
13 Oct	Mkhululi Mabija and Paul Castles The Political into the Ethereal: Creating a New Work of Music Theatre



18 Oct	Sandra Swart Apartheid's Hounds: How South Africa Invented the World's Most Terrifying Police Dog
20 Oct	Samantha Balaton-Chrimes Making Minorities and Marginalised Groups in Kenya
27 Oct	Jonas Olofsson Rediscovering the Sense of Smell
1 Nov	Victoria Namuggala Social and Gender Norms Informing Voicing and Reporting Against Sexual Harassment Among Domestic Workers in Kampala's Informal Economy
8 Nov	Ifeyinwa Okolo Conflicting Depictions of Sexuality and Disability in African Traditional/Folk Tales: The Example of Amos Tutuola
10 Nov	Paul Onanuga 'I be superstar': Machoism, Male Artiste Rivalry, and the Nigerian Digital Space
15 Nov	Bai Lu The Impact of social media on Science Communication
22 Nov	Joanna Rorbach Mitochondria: More Than Just a Powerhouse
24 Nov	Igor Torbakov Deadly Illusions: The Ukraine War and Russian Historical Imagination
29 Nov	Maria Olausen Allegorical Animals: Speaking Otherwise About Human-Animal Relations
1 Dec	Simon Bekker Local Civil Society Institutions in South Africa Today: Enclaves or Islands?
6 Dec	Denise Meyerson Discrimination, Relational Theory, and the Equality Jurisprudence of the Constitutional Court of South Africa
8 Dec	Asanda Benya Underground Spaces and Women Miners' Subjectivities
13 Dec	Klaus Kornwachs Philosophy Meets Technology: What's About Reversible Technologies?



# Fellows' Events

In addition to participating in the weekly Seminar Series and the Public Lecture Series, STIAS Fellows were supported to host events, some of which were online.

## February

A hybrid conference titled Compensation through Expropriation without Compensation? Constitutional Amendment, Land Reform and the Future of Redistributive Justice in South Africa led by Olaf Zenker with visiting scholars, Cherry Walker, Zsa-Zsa Boggenpoel, and James Ferguson.

## March

Launch of a book titled Rescue by Ian Goldin, in conversation with Edgar Pieterse the Director of the African Centre for Cities, UCT.

A summer school on Developmental Origins of Health and Disease (DOHaD): Consolidating Theory into Practice led by Abdallah Daar and Andrew MacNab.

## May

A national workshop on The Histories of Universities in South Africa led by Saleem Badat.  
A one-day symposium on 'Limits of Religious Pluralisation?' organised by Wolfram Weisse.  
The launch of the book, Prickly Pear by STIAS Fellow, William Beinart and Luvuyo.

## June

STIAS hosts the annual meeting of the directors and programme heads of Some Institutes for Advanced Study (SIAS). STIAS has been a member of the SIAS consortium since 2018.

## September

The ninth Stellenbosch Annual Seminar on Constitutionalism in Africa (SASCA 2022) on Constitutional Change and Constitutionalism in Africa led by Charles Fombad.

## October

The launch of the book, African Peacekeeping by STIAS Fellow, Jonathan Fisher and Nina Wilèn.





The conference on land reform was held in February.



The Developmental Origins of Health and Disease (DOHaD) meeting was held in March.



The meeting on 'Histories of Universities in South Africa' was held in May.



# Fellows' Publications

## Books

Balgah, Roland A. and Jude N. Kimengsi. (Eds.). 2022. *Disaster Management in Sub-Saharan Africa: Policies, Institutions and Processes* (First edit). Emerald Publishing Limited. <https://doi.org/10.1108/978-1-80262-817-320221011>

Bezuidenhout, Andries, Sonwabile Mnwana and Karl von Holdt. (Eds.). 2022. *Critical Engagement with Public Sociology: A Perspective from the Global South*. Bristol University Press (BUP). <https://bristoluniversitypress.co.uk/critical-engagement-with-public-sociology>

Bulawayo, NoViolet. 2022. *Glory*. Viking. <https://www.penguinrandomhouse.com/books/592441/glory-by-noviolet-bulawayo/>

Dalu, Tatenda and Ryan Wasserman. (Eds.). 2022. *Fundamentals of Tropical Freshwater Wetlands: From Ecology to Conservation Management*. Elsevier. <https://www.elsevier.com/books/fundamentals-of-tropical-freshwater-wetlands/dalu/978-0-12-822362-8>

Fisher, Jonathan and Nina Wilén. 2022. *African Peacekeeping*. Cambridge University Press. <https://doi.org/10.1017/9781108582179>

Fombad, Charles M. and Nico Steytler. (Eds.). 2022. *Constitutionalism and the Economy in Africa*. Oxford University Press. <https://doi.org/10.1093/oso/9780192886439.001.0001>

Khisa, Moses, and Christopher Day. (Eds.). 2022. *Rethinking Civil-Military Relations in Africa: Beyond the Coup d'État*. Lynne Rienner Publishers. [https://www.rienner.com/title/Rethinking\\_Civil\\_Military\\_Relations\\_in\\_Africa\\_Beyond\\_the\\_Coup\\_d\\_tat](https://www.rienner.com/title/Rethinking_Civil_Military_Relations_in_Africa_Beyond_the_Coup_d_tat)

Lentz, Carola and Isidore Lobnibe. 2022. *Imagining Futures: Memory and Belonging in an African Family*. Indiana University Press. <https://books.google.co.za/oks?id=KKReEAAAQBAJ&printsec=frontcover&dq=Imagining+Futures:+Memory+and+Belonging+in+an+African+Family>

Lettau, Meike, Christopher Yusufu Mtaku and Eric Debrah Otchere. (Eds.). 2022. *Performing Sustainability in West Africa Cultural Practices and Policies for Sustainable Development*. Routledge. <https://doi.org/10.4324/9781003261025-1>

Mare, Admire, Erisher Woyo and Elina M. Amadhila. (Eds.). 2022. *Teaching and Learning with Digital Technologies in Higher Education Institutions in Africa*. Routledge. <https://doi.org/10.4324/9781003264026>

- Moore, David B. 2022. *Mugabe's Legacy: Coups, Conspiracies, and the Conceits of Power in Zimbabwe*. Hurst Publishers. <https://www.hurstpublishers.com/book/mugabes-legacy/>
- Nwankwo, Izuu. (Ed.). 2022. *Stand-up Comedy in Africa: Humour in Popular Languages and Media*. Stuttgart: ibidem-Verlag. <https://www.ibidem.eu/de/contributor/index/contributorlist/id/4992>
- Seibel, Wolfgang. 2022. *Collapsing Structures and Public Mismanagement*. Springer International Publishing. <https://doi.org/10.1007/978-3-030-67818-0>
- Skalník, Petr. (Ed.). 2022. *Ernest Gellner's Legacy and Social Theory Today*. Palgrave Macmillan. <https://link.springer.com/book/10.1007/978-3-031-06805-8>
- Simpson, David. 2022. *Engaging Violence: Civility and the Reach of Literature*. Stanford University Press. <https://www.sup.org/books/title/?isbn=9781503633094>
- Tomás, António. 2022. *In the Skin of the City: Spatial Transformation in Luanda*. Duke University Press. <https://www.dukeupress.edu/in-the-skin-of-the-city>
- Wynn, Graeme, Jane Carruthers and Nancy J. Jacobs. (Eds.). 2022. *Environment, Power, and Justice: Southern African Histories*. Ohio University Press. <https://www.ohioswallow.com/book/Environment%2C+Power%2C+and+Justice>

## Book chapters

- Allais, Lucy. 2022. Forgiveness and Meaning in Life. In I. Landau (Ed.), *The Oxford Handbook of Meaning in Life* (pp. 292-C18.P75). Oxford University Press. <https://doi.org/10.1093/oxfordhb/9780190063504.013.21>
- Amadhila, Elina. M. 2022. Access to Land and Agricultural Incentives for the Youth in Namibia. In V. Gumede & T. Shonhe (Eds.), *Rethinking the Land and Agrarian Questions in Africa*. Africa Century Editions (ACE) Press. <https://ikaang.com/product/rethinking-the-land-and-the-agrarian-questions-in-africa-by-vusi-gumede-toendepi-shonhe/>
- Eze, Chielozona. 2022. Narratives, social justice, and the common good. In *Epistemic Justice and Creative Agency* (pp. 23–43). Routledge. <https://doi.org/10.4324/9781003254317-3>
- Kalula, Evance and Chanda Chungu. 2022. African Perspectives on Labor Rights as Enhancers of Democratic Governance. In *The Cambridge Handbook of Labor and Democracy* (pp. 250–262). Cambridge University Press. <https://doi.org/10.1017/9781108885362.020>
- LeBaron, Michelle. 2021. Women awake. In *Gender, Transitional Justice and Memorial Arts* (pp. 172–192). Routledge. <https://doi.org/10.4324/9781003174462-12>
- Admire Mare, Erisher Woyo and Elina M. Amadhila. 2022. Harnessing the technological dividends in African higher education institutions during and post-COVID-19 pandemic. In E. M. A. Admire Mare, Erisher Woyo (Ed.), *Teaching and Learning with Digital Technologies in Higher Education Institutions in Africa* (1st Edition, pp. 1–24). Routledge. <https://www.taylorfrancis.com/chapters/edit/10.4324/9781003264026-1>
- Meike Lettau, Christopher Yusufu Mtaku, Eric Debrah Otchere. 2022. Cultural Practices and Policies for Sustainable Development. In Meike Lettau, Christopher Yusufu Mtaku, Eric Otchere (Ed.), *Performing Sustainability in West Africa Cultural Practices and Policies for Sustainable Development* (pp. 1–24). Routledge. <https://doi.org/10.4324/9781003261025>
- Msimanga, Mbongeni Jonny, Gibson Ncube and Promise Mkwanzani. 2021. Political Satire and the Mediation of the Zimbabwean Crisis in the Era of the “New Dispensation”: The Case of MAGAMBA TV. In S. Mpofu (Ed.), *The Politics of Laughter in the Social Media Age* (pp. 43–66). Palgrave Macmillan, Cham. [https://doi.org/10.1007/978-3-030-81969-9\\_3](https://doi.org/10.1007/978-3-030-81969-9_3)
- Nwankwo, Izuu. 2022. Introduction – Old Wine in a New Bottle: Stand-up Comedy and Its Dispersal across Africa. In I. Nwankwo (Ed.), *Stand-up Comedy in Africa: Humour in Popular Languages and Media* (pp. 11–42). Stuttgart: ibidem-Verlag. <https://www.ibidem.eu/de/contributor/index/contributorlist/id/4992>



Nwankwo, Izuu and Daria Tunca. 2022. Confronting Racism in Cécile Djunga and Trevor Noah's Stand-up Comedy. In I. Nwankwo (Ed.), *Stand-up Comedy in Africa: Humour in Popular Languages and Media* (pp. 45–66). Stuttgart: ibidem-Verlag. <https://www.ibidem.eu/de/contributor/index/contributorlist/id/4992>

Ochola, Jerry and Michele Conti. 2022. Numerical Investigation of Braided Structure Potential as a Cast for Femur Shaft Fracture. In *Next-Generation Textiles [Working Title]*. IntechOpen. <https://doi.org/10.5772/intechopen.105437> (forthcoming)

Phiri, Aretha. 2022. The Ludic impulse. In *Epistemic Justice and Creative Agency* (pp. 151–175). Routledge. <https://doi.org/10.4324/9781003254317-11>

## Journal Articles

Agosta, Salvatore J. 2022. The Stockholm Paradigm Explains the Dynamics of Darwin's Entangled Bank, Including Emerging Infectious Disease. *MANTER: Journal of Parasite Biodiversity*, 27(Occasional Papers). <https://doi.org/10.32873/unl.dc.manter27>

Ajeigbe, Olufunke, Getachew Arage, Michael Besong, Winnie Chacha, Rachana Desai, Phidelia Doegah, Twaambo Hamoonga, Hawawu Hussein, Andrew Matchado, Sthembile Mbotwe-Sibanda, Gudani Mukoma, Adeyinka Odebo, Tolulope Olawole, Merling Phaswana, Oluwakemi Rotimi, Takana Mary Silubonde, Nomsa Thabethe, Anza Thibah, Nicholas Ekow Thomford, Fredrick Wekesah, Andrew Macnab. 2022. Culturally relevant COVID-19 vaccine acceptance strategies in sub-Saharan Africa. *The Lancet Global Health*, 10(8), e1090–e1091. [https://doi.org/10.1016/S2214-109X\(22\)00251-0](https://doi.org/10.1016/S2214-109X(22)00251-0)

Allais, Lucy. 2022. Humanness and Harmony: Thad Metz on Ubuntu. *Philosophical Papers*, 51(2), 203–237. <https://doi.org/10.1080/05568641.2022.2059548>

Amadhila, Eina M and James Guest. 2022. Teach outside your comfort zone: A qualitative study of higher education students' conceptions in Namibia. *Cogent Education*, 9(1). <https://doi.org/10.1080/2331186X.2022.2026189>

Anglin, James R. and Etienne Wamba. 2022. Sphere on a plane: Two-dimensional scattering from a finite curved region. *Physical Review A*, 106(4), 042216. <https://doi.org/10.1103/PhysRevA.106.042216>

Auerbach, Jess. 2022. Expanding Available Futures: Ideological Contestation in Angola's Emerging Higher Education Sector. *Comparative Education Review*, 66(1), 142–160. <https://doi.org/10.1086/717552>

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# ORGANISATION

# Financial Report

## STATEMENT OF FINANCIAL POSITION at 31 December 2022

	Notes	2022 (R)	2021 (R)
<b>ASSETS</b>			
<b>Non-current assets</b>		<b>10 324 865</b>	<b>35 371 726</b>
Computers and equipment	3	835 206	1 133 941
Rights of use asset	4	7 633 485	7 927 081
Investments	5	1 856 174	26 310 704
<b>Current assets</b>		<b>178 477 465</b>	<b>164 756 572</b>
Trade and other receivables	6	2 790 113	2 085 398
Investments	5	142 256 015	133 207 417
Stellenbosch University	7	33 398 001	29 311 091
Cash and cash equivalents	8	33 336	152 666
<b>Total Assets</b>		<b><u>188 802 330</u></b>	<b><u>200 128 298</u></b>
<b>EQUITY AND LIABILITIES</b>			
<b>Capital and reserves</b>		<b>160 004 614</b>	<b>155 282 291</b>
Accumulated income			
• Restricted reserves		114 600 917	119 065 302
• Unrestricted reserves		45 403 697	36 216 989
<b>Non-current liabilities</b>		<b>8 807 400</b>	<b>8 807 488</b>
Lease liability	11	8 807 400	8 807 488
<b>Current liabilities</b>		<b>19 990 316</b>	<b>36 038 519</b>
Trade and other payables	9	6 430 879	5 351 429
Short term portion of lease liability		115	107
Contract liabilities	10	13 559 322	30 686 983
<b>Total equity and liabilities</b>		<b><u>188 802 330</u></b>	<b><u>200 128 298</u></b>





# STIAS 2022

## donors

### Thank You

Marianne and Marcus Wallenberg Foundation

Knut and Alice Wallenberg Foundation

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Stellenbosch University

The Swedish Riksbankens Jubileumsfond

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# Governance and Funding

STIAS operates as a Section 21 company (2017014516/08) with public benefit organisation status (PBO no 930051203). Its Articles of Association and accompanying Memorandum of Incorporation has been brought in line with the Companies Act, no 71 of 2008 and consolidated into a single Memorandum of Incorporation. STIAS now has the status of a non-profit company without members.

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*Edward K Kirumira*, STIAS Director

## STIAS Academic Advisory Board

The membership of the Academic Advisory Board (AAB) changed in the course of the year with the retirement of Daya Reddy and the appointment of former STIAS Iso Lomso fellow, Malebogo Ngoepe from the Centre for Research in Computational and Applied Mechanics at the University of Cape Town. The current AAB is thus constituted as follows:

*Francis Nyamnjoh*, Chairperson, Professor of Social Anthropology, University of Cape Town

*Ahmed Bawa*, CEO, Universities South Africa

*Mamadou Diawara*, Department of Social and Cultural Anthropology, Goethe University Frankfurt

*Morné du Plessis*, CEO, World Wide Fund for Nature (WWF) South Africa

*Carl Folke*, Director, Beijer Institute, Royal Swedish Academy of Science

*Hendrik Geyer*, STIAS Coordinator: Special Projects

*Nina Jablonski*, Department of Anthropology, Pennsylvania State University

*Thokozani Majozi*, SA Research Chair in Sustainable Process Engineering, University of the Witwatersrand

*Malebogo Ngoepe*, Director, Centre for Research in Computational and Applied Mechanics, University of Cape Town

*Louise Viljoen*, Department of Afrikaans and Dutch, Stellenbosch University

\*STIAS Director, Edward K Kirumira and Senior Programme Manager, Christoff Pauw provide Secretariat.

## STIAS Fellowship and Research Programme Committee

The membership of the Fellowship and Research Programme Committee (FRPC) changed with the retirement of Jannie Hofmeyr and the appointment of Nokwanda Makunga from the Department of Botany and Zoology at Stellenbosch University. The FRPC is thus constituted as follows:

*Edward K Kirumira*, STIAS Director

*Hendrik Geyer*, STIAS Coordinator: Special projects

*Nokwanda Makunga*, Department of Botany and Zoology at Stellenbosch University

*Louis Jonker*, Department of Old and New Testament, Stellenbosch University

*Francis Nyamnjoh*, Department of Social Anthropology, University of Cape Town

*Louise Viljoen*, Department of Afrikaans & Dutch, Stellenbosch University

\*Assisted by STIAS Senior Programme Manager, Christoff Pauw and Senior Programme Administrator, Gudrun Schirge.

## STIAS Extended Fellowship and Research Programme Committee

The following members join the Fellowship and Research Programme Committee members to select semester cohorts of STIAS Fellows, Visiting Scholars and Artists-in-Residence:

*Bernard Lategan*, STIAS Founding Director

*Grace Musila*, Department of English, University of the Witwatersrand

*Bill Nasson*, History Department, Stellenbosch University

*Maxi Schoeman*, Department of Political Science, University of Pretoria

*Danie Visser*, Faculty of Law (Emeritus), University of Cape Town



# STIAS Staff







**BACK ROW – LEFT TO RIGHT**

*Karin Brown  
Michelle Galloway  
Makwande Nkathazo  
Nel-Mari Loock  
Yanga Nkathazo  
Hendrik Geyer  
Leonard Katsokore  
Adri Becker  
Christopher Ngxedlana  
Noloyiso Mtembu  
Magda van Niekerk  
Elize du Plessis*

**FRONT ROW – LEFT TO RIGHT**

*Georgina Humphreys  
Christoff Pauw  
Grace Mandah  
Edward K Kirumira  
Maggie Pietersen*

# Facilities

## Wallenberg Research Centre

The STIAS Wallenberg Research Centre, associated with quality service, is well established as a prime conference/workshop venue in the Western Cape. The renovations that were conducted towards the end of 2021, with final works during early 2022, ensured a well-maintained and attractive appearance while rectifying some water insulation issues.

The seating areas in the Centre have a fresh new appearance, thanks to the assistance of an interior designer who recently reupholstered the furniture with a keen eye for detail. The quality of the kitchen organization and catering remains an integral part of the positive experience of both STIAS Fellows and conference attendees.

This year, the Centre's facilities had a gradual increase in daily occupancy. While 2020 and 2021 saw an almost 80% reduction in numbers from a high of over 30,000 conference facility users in 2019, the second half of 2022 saw the numbers return to pre-pandemic usage.

## Mostertsdrift Gardens

The team was inspired by the build-up to the launch of the Nobel in Africa Symposia Series to pay even more special attention to the gardens. As a result, they rejuvenated the pathways, created new seating areas, revived a rivulet that leads to a historical duck pond, replanted new indigenous trees and shrubs, and initiated composting projects.

The Stellenbosch Open Gardens week in October once again showcased the gardens for public appreciation. The primary purpose of the gardens remains to give the people who spend the most time here a sense of belonging, a sense of homecoming, and a sense of responsibility for maintaining such spaces. The gardens are fondly tended to and seen as an integral part of that which defines STIAS, locally and internationally, as “a creative space for the mind”. An equally important aspect to observe is that the gardens are rounded off by the Perold Vineyard.

## Perold Vineyard

The vineyard is registered as a single vineyard within the Jonkershoek Valley ward. The contract with Lanzerac Wine Estate to manage the vineyard, produce, and bottle Aliquid Novi remains in place.

The wine can be purchased at STIAS or via the Lanzerac online store. Part of the proceeds from sales support an early career Protégé-programme for young winemakers and viticulturists, to be managed jointly with the Pinotage Association of South Africa.

To crown the year, the Aliquid Novi 2020 vintage was served at the Nobel in Africa Symposia Series launch gala dinner to much acclaim. We await to see if our efforts will cross the borders for Aliquid Novi to be served at other continental and international events.

# Acknowledgements

**Thank you to all STIAS staff, Fellows, Visiting Scholars, and Artists-in-Residence who contributed to this publication.**

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**Editor:** Noloyiso Mtembu

## A CREATIVE SPACE FOR THE MIND

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