

# 2023

## ANNUAL REPORT



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# HIGHLIGHTS



FirstRand renewed their  
*R2 million per annum*  
funding agreement  
with AIFMRM for five years  
from 2024 to 2028

Sanlam Specialised Investments  
(SanFin) agreed to reinstate their  
funding agreement with AIFMRM  
for five years at  
*R2 million per annum*  
from 2024 until 2028



AIFMRM graduated its tenth cohort  
of students, bringing the total since  
its founding in January 2014 to  
*345 graduates*

The first cohort of  
*12 MFE students*  
successfully completed  
the programme



After a six-year hiatus,  
we held the internationally  
renowned triennial  
*Mathematics in Finance*  
*conference* in the Kruger  
National Park

Our PhD student,  
Ms Siphokazi Hlalukana,  
was awarded a prestigious  
*Accelerated Transformation*  
*Action Plan Fellowship*



*We recruited* Dr Khouzeima Moutanabbir, who started with us in October  
with an excellent teaching and research reputation and world-class  
credentials

*We renewed* the contracts of Adjunct Professor Andrea Macrina and  
Adjunct Associate Professor Tom McWalter. Tom has been appointed as an  
Adjunct Professor on the back of his outstanding research record over the  
past five years.

## DIRECTOR'S MESSAGE

The year 2023 has been excellent for AIFMRM. The lingering effects of the pandemic gradually faded, marred only by the sadness of Obeid Mahomed's departure in July and Alex Backwell's resignation in August. Our students and staff have applied themselves attentively and enthusiastically to remarkable effect. AIFMRM's academic and support staff continue to display extraordinary motivation and dedication. I count myself fortunate to be associated with them.

As ever, I would like to express my gratitude and appreciation to AIFMRM's funders: ABSA, FirstRand, Nedbank, Old Mutual and Standard Bank, and to each of their representatives: Parin Gokaldas, Miné van Zyl, Nimalin Moodley, Judy Faure and Roelof Sheppard for their guidance, trust, and financial support as we pursue our vision and purpose together.

I would also like to extend my sincere thanks to the Chair of our Board and the Dean of Commerce, Professor Suki Goodman, the Head of the Department of Finance and Tax, Dr Lucian Pitt, and the various departmental and faculty staff for their ongoing support of the Institute.

Best wishes,

A handwritten signature in black ink, appearing to read 'DT', followed by a period.

Professor David Taylor  
Director – AIFMRM

# MASTER OF COMMERCE IN RISK MANAGEMENT OF FINANCIAL MARKETS DEGREE

The academic year saw significant changes to the degree programme, particularly in the schedule and curriculum. Notably, the weighting of the Quantitative Modelling course was increased, alongside other curriculum adjustments aimed at enhancing academic rigour and relevance.

Programme delivery was successful, with 215 applications received—up from 162 the previous year—although the class size remained unchanged. A key curricular development was the introduction of a new module on Financial Services Regulation, replacing the Corporate Governance module. The new module provides a comprehensive introduction to regulation in the banking, insurance, and investment management sectors, whereas the previous module focused primarily on ethics and governance. This change, driven by feedback from past graduates, was well received by the incoming cohort.



## What our students say...

"At the beginning of the year, I was intimidated by coding and the financial jargon. However, the support from the staff and my classmates made the transition smooth. You might also have to make many sacrifices, even though this will not be easy, it'll be worth it, and you'll thank yourself in the end."

**Wiseman Mavuso**

"By doing this Master's, you are putting yourself leaps and bounds ahead of your peers that you did your undergrad with. The career and bursary opportunities that Prof Taylor helps you with are incredible and make you very attractive to hire. To be honest, some of my friends who are completing other Master's degrees in finance related topics at UCT have expressed their regret in not applying to or getting in for this degree!"

**Kim Davidson**

“Over and above honing new skill sets, I have come to appreciate the value of networking.

Throughout the year, we’ve had sessions with potential employers and sessions with psychologists from The Space Between Us, through AIFMRM, helping me understand myself better and to manage my anxiety in such settings. Despite the challenges, this rewarding experience was amplified by the wealth of knowledge and genuine care of the staff. AIFMRM is indeed a special place.”

**Siphesihle Sithole**

“I appreciated my time at AIFMRM from day one. AIFMRM’s culture provides a conducive learning environment. I appreciated the academic challenge, which reinforced my strengths and strengthened my weaknesses. AIFMRM is the perfect environment to sharpen your domain knowledge and strengthen your technical and soft skills.”

**Tuhafeni Angula**







# MASTER OF FINANCIAL ENGINEERING (MFE) DEGREE

**In 2023, we had the first cohort of the Master of Financial Engineering (MFE) degree, an updated and refined version of the MPhil in Mathematical Finance.** After offering the MPhil for ten successful years; the MFE began with momentum, and continued the established trend. We produced another class of graduates proficient in the fundamentals of quantitative finance and solidified the adjustments to our degree that motivated the change from the MPhil to the MFE.

We received 89 applications and had 16 students register. These numbers are similar to the final cycle for the MPhil. While our 2023 class had fewer Actuarial Science graduates than in the past, five came from science-faculty undergraduate degrees, another five have engineering degrees, and three hold commerce degrees other than Actuarial Science.

The structure of the course was adjusted according to developments in the financial markets and academic world following advice from industry and international academics. The research component now makes up a quarter of the MFE's credits.

*After offering the MPhil for ten successful years; the MFE began with momentum, and continued the established trend.*

## What our students say...

“Professor Taylor was especially instrumental, from helping me find a sponsor to aiding in job placements after the programme. His focus on surrounding us with a robust professional network was incredibly helpful. Looking back on my time in the MFE program, I see it as more than just an educational journey. It was a transformative experience that shaped both my professional outlook and personal growth.”

**Alfonso Timbana**

“AIFMRM has equipped me with the necessary skills required to excel in the working world, regardless of where my career takes me. I am confident the relationships I have formed will endure throughout my working career. I look forward to the endless opportunities that this master’s programme will open for me in the future.”

**Kara Rose Schwulst**

“Prof David Taylor has carefully curated an experience that covers every aspect essential for preparing students for the professional world. His reputation and commitment to ensuring, not only professional growth, but personal growth means we graduate from the MFE masters with a career lined up, a diverse and unique skill set, and a strong sense of camaraderie and confidence.

David keeps you on your toes and the first of many valuable lessons you will learn from him is that 5 minutes early is 10 minutes late. This course might have been my greatest challenge yet, but the staff’s commitment and unwavering support made it the most rewarding thing that I have ever done.”

**Leila Hamilton Russell**

# EVENTS

## AIFMRM Donor Day

**The annual AIFMRM Donor Day took place on 24 March 2023. One aim of Donor Day is for AIFMRM's new cohort to interact with our corporate funders and to introduce the students to the Institute and the opportunities this opens for them. A further objective is for students to understand what to expect after graduation and when entering the workplace.**

The proceedings began with an introduction and positioning of AIFMRM and its funder relationship by Professor Taylor. Then AIFMRM graduates from some of the donors gave short talks on their experience of the student/workplace transition and shared valuable advice on the year ahead.

This year, the presenters were Daniel Ponto and Masenkane Makwala (Old Mutual), Quintin Claassen and Dorothy Rangata (FirstRand), Xavier Haddad (Nedbank), Kirk Bastick (Standard Bank), and Shumani Tshifhango (Absa).



## Financial Mathematics Team Challenge 2023

The primary objective of the Financial Mathematics Team Challenge (FMTC) is to provide an opportunity for South African postgraduate students in Financial Mathematics to focus on an industry-relevant research project while concurrently developing links with international students and academics in the field.

The FMTC is a highly successful collaboration between AIFMRM and University College London (UCL). The 8th Financial Mathematics Team Challenge ran from 10 to 20 July 2023, with team members being Master's and PhD students from UCT, University College London, ETH Zurich, and the University of Vienna. Team mentors participated from UCT, University College London, University of Technology Sydney, ETH Zurich, University of Vienna, Reykjavik University and Riskworx. We welcomed Riskworx onboard this year as our sponsoring partner.

The FMTC remains a highlight of the year for many participants. Notably, one of the reports on South Africa's carbon opportunity formed the basis of a journal article entitled The Financial Impact of Carbon Emissions on Power Utilities under Climate Scenarios.



## The Factory

**In 2023, members of Team MultiCurve continued work that began in 2018 with a pioneering research event hosted by AIFMRM.** Called **The Factory**, this programme assembles teams with a mix of established, mid-career and young scientists.

Team MultiCurve have presented their work at a succession of seminars and conferences. Their initial paper,

*“Term Rates, Multicurve Term Structures and Overnight Rate Benchmarks: A Roll-Over Risk Approach”*

– Backwell, Macrina, Schlögl and Skovmand  
Published in **Frontiers of Mathematical Finance**

Various collaborators have worked on, for example, dynamic term structure models for SOFR futures, consistent management of the LIBOR transition, discontinuous short rate dynamics and stochastic volatility forward rates. A follow-on project has been steadily advancing, which focuses on identifying and modelling the information differential present in term rates, an area in interest rate theory and markets that is important to decision-making in the context of the LIBOR-to-overnight benchmark transition and relevant to the extraction of the OIS-curve in emerging markets.

## The 7th Triennial Mathematics in Finance Conference (MiF)

**AIFMRM was the lead coordinator for this year's MiF which took place at the Berg-en-dal Rest Camp in the Kruger National Park from 23 to 28 July.** The conference was originally scheduled for July 2020, so it was a long wait for the enthusiasts.

The objective of the Mathematics in Finance conference is to create a collaborative environment for academics, postgraduate students and practitioners who are working in the broad areas of quantitative finance, risk, and financial data analytics. There were 109 attendees, including our seven plenary speakers: Erik Schlögl (University of Technology, Sydney), Jan Obloj (University of Oxford), Christa Cuchiero (University of Vienna), Julien Guyon (Ecole des Ponts Paris Tech), Sebastian Jaimungal (University of Toronto), Dirk Tasche (FINMA, Switzerland), and Dmitri Tsomocos (University of Oxford). There were 26 international speakers from *inter alia* ETH Zurich, Caltech, the National University of Singapore, Columbia University, McMaster University, Reykjavik University, and UCL.

Over 40 practitioners from the South African financial services attended. The conference is jointly hosted by UCT, North-West University and the University of Pretoria, and the Chair rotates every three years.

*"Despite a three-year delay, the conference was highly successful"*



## InvestSoc: Women in Finance

**AIFMRM's Adjunct Associate Professor Tanja Tippett and the UCT student society, InvestSoc, hosted the annual Women in Finance event on 3 August 2023.** The purpose is to encourage female undergraduate students to consider a career in finance, with the aim of increasing the number of female applicants to AIFMRM's Master's degrees.

The industry panellists were Isabella Mnisi (Sector Head of Asset Management and Funds at Rand Merchant Bank), Cheree Dyers (CEO at Prescient Investment Management), Ann-Maree Tippoo (Portfolio Manager at Ninety One), Zulfa Abdurahman (Chief Risk Officer at Old Mutual Investments) and Zine Zethu Zethemba Misani (Head of Structured Trading at Absa Corporate and Investment Banking).

The event was highly successful, with 104 female students attending. Adjunct Associate Professor Tanja Tippett opened the event, followed by an inspiring talk by guest speaker Isabella Mnisi, who shared the highs and lows of her educational and career journey with the students.

The students thoroughly enjoyed the discussion and engaged openly with the industry panellists during the event and afterwards over refreshments.



## Masterclass in Mathematical Climate Finance

**Riskworx and AIFMRM held a successful industry masterclass on 26 October 2023, in Johannesburg, with 38 industry attendees.**

The presenters were AIFMRM's Adjunct Professor Andrea Macrina and PhD student Siphokazi Hlalukana, and Ashley Kanter from Riskworx. Highlights included the panel discussion with industry practitioners and the networking event that followed the masterclass.

*"Climate Finance is a burgeoning field of research in which AIFMRM is keen to establish itself in the next few years"*

## Bursary Selection Week

**AIFMRM hosted the annual bursary selection process for the 2024 cohort from 7 to 10 November 2023.** The non-donor companies included in this year's process were Monocle, True North Partners and Riskworx.

On 7 November, each participating company held a 45-minute presentation to the potential bursars. These sessions gave the students an overview of the company and potential opportunities before the bursary interviews.

AIFMRM students received the Donor Guide ahead of the sessions. The bursary interviews took place on 8, 9 and 10 November, with a cocktail function on the evening of 9 November. On 14 November, AIFMRM held the student bursary selection with the graduate recruiters to discuss and resolve any overlaps. Transformation within the Institute requires strategic initiative and substantial funding. Gender equity remains a crucial challenge for the finance sector.

*"For 2024, six female students accepted offers for the MCom and six for the MFE"*

nce/derivatives

l/computational

rch

Backwell



## MEDIA

AIFMRM featured in various news articles and on media platforms throughout 2023. These highlight the role of the Institute and help attract potential students to AIFMRM.

### 5 Misconceptions about the SA Financial Industry according to Women in Finance (published 28 August 2023)



The article explored the underrepresentation of women in South Africa's financial industry. Female finance professionals shared their perspectives, suggesting that some women may be deterred from entering the field due to perceptions of it being male-dominated and high-pressure. However, they also emphasised that the industry offers many opportunities, with doors increasingly opening to women.

*"There are more options than ever, and your skill set will be a fit – whether in a role such as an asset manager, data analyst, or financial writer, to name a few."*

- Adjunct A/Prof Tanya Tippet

## Climate Risk Specialist Pays Tribute to AIFMRM Programme

16 October 2023 (excerpt)



"Climate Risk Analytics Manager at Absa Bank, Christopher Sterley is doing ground-breaking work when it comes to building climate risk measurement models, aiming to understand the impact of extreme weather phenomena on financial products. He is a leading voice on climate risk and how it affects banks and insurers – and it all started with his postgraduate studies at AIFMRM..."

## Working Remotely in One of the Most Remote Places On Earth

26 June 2023 (excerpt)



"Liau Kekana, data specialist and mathematical finance guru, has set up his office in his apartment in Maseru, Lesotho's capital city. Among some of the highest mountains in southern Africa, he loves to create financial computer models..."

"The industry is always advancing; we are gathering and processing more data and exploring how this ties into AI, making models more accurate and predictive. It is exciting."

## AIFMRM Graduate is Living the Dream in New York

15 March 2023

(excerpt)



Bandile Mbele talks about working at Morgan Stanley in New York as a Fixed Income Strat. "It's really a financial hub. You meet so many smart people from all over the world, learning how to solve problems in different ways. In South Africa, we have diversity, but this is next level. All of us are trying to help the bank make better decisions; I'm really enjoying it."

"I recall (Prof Taylor) saying to us that what we studied need not influence our career. He told us not to box ourselves in, not to limit ourselves, and that there are so many different routes we can take with these tools we've been given."





# SHORT COURSES

**Skills shortages in industry pose a significant challenge.**

AIFMRM continuously updates its courses and curricula in response. The Institute has also introduced short courses in partnership with GetSmarter to offer training and skills. There are two non-credit bearing online short courses on offer for working professionals.

## Business Risk Management

Business Risk Management is a 10-week, online short course that provides a comprehensive overview of enterprise-wide risk management. The target audience is individuals already employed in risk management and those interested in entering the field. It provides a sound foundation of theoretical knowledge and the latest tools and techniques for practical application. The course ran five times during 2023, with 480 participants for the year.

## Advanced Business Risk Management

Advanced Business Risk Management is an 8-week, advanced online short course that acts as a comprehensive simulation of the risk management process. The content covers essential theoretical concepts in the appropriate level of detail, yet the focus is ultimately practical and guides students through the application of industry best practices. The course ran twice during 2023, with 62 participants for the year.

# RESEARCH

**Research at AIFMRM incorporates a range of activities, from producing peer-reviewed journal publications to coordinating the research courses for the MCom and MFE student.** It also includes supervising the projects for our research Master's, PhD students and Postdoctoral Research Fellows and hosting research events and managing research-related finances.

We held our Financial Mathematics Team Challenge (FMTTC) in 2023 with international students and mentors. Our popular triennial Mathematics in Finance conference was held in the Kruger National Park from 23 to 28 July 2023. We continued with our Weekly Seminar Series and held some of the sessions online.

## Journal publications

In 2023, we published eight journal articles, one of which appeared in a prestigious A-rated journal – *Quantitative Finance*. Adjunct Professor Andrea Macrina had two, technical articles written on Climate Finance (with industry co-authors) appear in *Risk.net*. A third in this sequence has also been accepted. This is an outstanding achievement, given the stature of this industry journal.



# SUPPORT

## Psychosocial support

**Since 2022, The Space Between Us (TSBU) has been the mental health support service provider for AIFMRM, proactively addressing the mental health needs of the students.** The service was expanded in 2023 with onsite access provided by Nicole Hayes, an HPCSA-registered Industrial Psychologist and Student Support Advisor in the Actuarial Science Section.

Nicole did one-on-one consultations and conducted feedback surveys. Based on the survey results, Nicole provided an executive summary with some recommendations to improve the effectiveness of the support provided to the students through the collaboration between AIFMRM and TSBU.

Students expressed the need for in-person workshops and two sessions on Resilience and Burnout, and Racial Identity were conducted in-person. In negotiating the continued partnership in 2024, it was agreed that all sessions will be held in-person to have maximum impact and effectiveness for the students.

*“Mental health is something that AIFMRM takes seriously”*

– Kim Davidson, MCom student

# THE TEAM

AIFMRM has six permanent academic staff:

Associate Professor



David Taylor



Associate  
Professor  
Peter  
Ouwehand



Dr Alex  
Backwell



Dr Khouzeima  
Moutanabbir



Ms Mansa Aidoo



Mr Justin van  
der Merwe

There are two permanent administrative staff, **Mrs Lameez Fakier** and **Mrs Lizzy Starck**.

**Mr Obeid Mahomed** left AIFMRM on 30 June 2023 to return to a career in industry. We employed **Dr Khouzeima Moutanabbir** at Senior Lecturer level as his replacement effective from 1 October 2023.

**Dr Backwell** has resigned to emigrate to Canada.

The Institute also employs part-time staff, including **Adjunct Associate Professors Thomas McWalter and Tanja Tippet**, and Ms Nicole Hayes to provide psychosocial support to AIFMRM students. Dr Thomas McWalter has been reappointed for five years from January 2024 as an Adjunct Professor. Prof Andrea Macrina has also been reappointed as an Honorary Professor for five years from January 2024.



## **African Institute of Financial Markets and Risk Management**

Department of Finance and Tax  
Faculty of Commerce  
University of Cape Town

[aifmrm@uct.ac.za](mailto:aifmrm@uct.ac.za)

<https://commerce.uct.ac.za/aifmrm>

