



Annual Report 2021



FACULTY OF COMMERCE



DIRECTOR'S MESSAGE

Although the ongoing pandemic curtailed many of our more exciting activities, 2021 was another productive year for AIFMRM. Teaching and its allied activities were conducted online throughout the year. This was only possible thanks to the admirable efforts of AIFMRM's academic and support staff, who showed remarkable fortitude, dedication, and resilience, often while dealing with personal challenges. I feel privileged to be working with them.

Highlights include the entire cohort of the 2020 MCom in Risk Management of Financial Markets graduating and gaining employment in 2021, the publication of seven academic papers and an AIFMRM student winning a prestigious local competition.

As always, I would like to express my gratitude and appreciation to AIFMRM's funders: Absa, FirstRand, Nedbank, Old Mutual, Sanlam and Standard Bank, and to each of their representatives: Parin Gokaldas, Miné van Zyl, Nimalin Moodley, Judy Faure, Lauren Benjamin and Moepa Malataliana, 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 Acting Dean of Commerce, Professor Edwin Muchapondwa, the Head of the Department of Finance and Tax, Associate Professor Francois Toerien, and the various staff in the Faculty of Commerce for their ongoing support of the Institute.

Sincerely,



Professor David Taylor
Director - AIFMRM

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HIGHLIGHTS OF 2021

All 24 of the 2020 MCom in Risk Management of Financial Markets cohort graduated and gained employment in 2021



Mr Gobolwakhe Dube completed his PhD



An AIFMRM student won the elite FNB DataQuest competition



Absa and Nedbank renewed their funding agreements with AIFMRM for three years (2022 to 2024)



Of the seven journal articles published this year, five appeared in A-rated journals – Mathematical Finance, the Journal of Financial Stability, Finance Research Letters, the International Journal of Game Theory, and the Journal of Evolutionary Economics.

“This has truly been my most fulfilling year as a student.”

– Gabriel Viljoen, Master of Commerce in Risk Management of Financial Markets (MCom), 2021

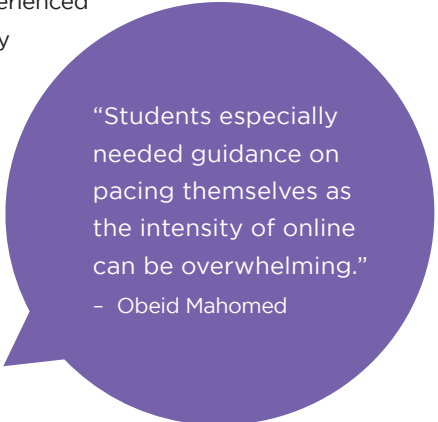
ONLINE LEARNING IN 2021

Despite the uncertainty caused by the pandemic, AIFMRM ensured that students had an exceptional online teaching and learning experience. Students were assisted in many ways, from purchasing mobile data for those in need, to helping students in areas of poor internet coverage relocate to Cape Town.

Students were given additional support, including a range of valuable psycho-social guidance by Billy Enderstein. “For many students, the experience was gruelling at first and more difficult than with face-to-face classrooms,” she said.

Students appreciated the extra support. Massimo Rizzo, a 2021 MPhil in Mathematical Finance student, said, “[A] large amount of effort [was] put in by the course lecturers to ensure that even though we were still operating in an online-only setting this year, we would not lose out on any of the value gained from having in-person lectures.”

According to lecturer Obeid Mahomed, many students were better prepared for 2021 as they had already experienced emergency remote teaching in 2020. “They understood the requisite technology, were aware of potential adversities and overall were more resilient.”



“Students especially needed guidance on pacing themselves as the intensity of online can be overwhelming.”

– Obeid Mahomed

MPhil SPECIALISING IN MATHEMATICAL FINANCE

What students are saying

“What makes AIFMRM stand out is how it strikes a good balance between the theoretical and practical aspects of the programme.”

– Singalakha Menziwa
(MPhil, 2021)

“I believe that this master’s has provided me with a solid foundation in quantitative finance, which has well prepared me for the working world. In a short period, this master’s has intellectually challenged me and improved my overall problem-solving skills.”

– Jenna Goosen (MPhil, 2021)

MCOM IN RISK MANAGEMENT OF FINANCIAL MARKETS

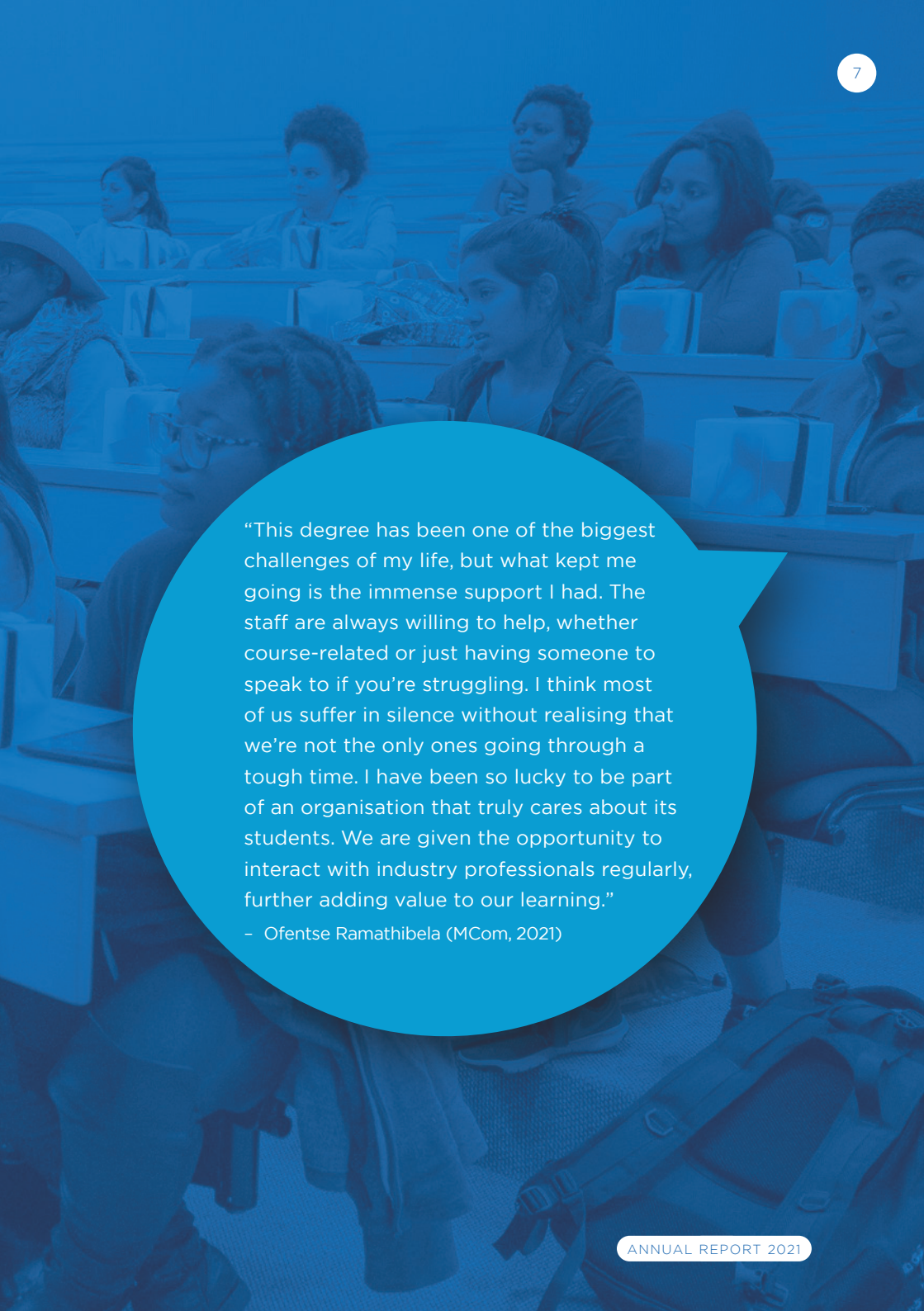
What students are saying

“I first heard about the MCom in Risk Management of Financial Markets in my third year from my friends who were in their fourth year at the time. I was intrigued by how highly they spoke about it and made it my mission to give applying a shot. And luckily, the following year, I applied and got accepted. And I have to say it is one of the best decisions I have made.”

– Bontle Mahoda (MCom, 2021)

“The quality of this degree is impeccable. The technical and soft skills that I have learnt over this period have been vast. I truly believe that we have been well prepared to join the corporate world and confidently kick-start our careers knowing that we have a solid foundation of the theory that underpins the financial industry.”

– Nwabisa Malghas (MCom, 2021)



“This degree has been one of the biggest challenges of my life, but what kept me going is the immense support I had. The staff are always willing to help, whether course-related or just having someone to speak to if you’re struggling. I think most of us suffer in silence without realising that we’re not the only ones going through a tough time. I have been so lucky to be part of an organisation that truly cares about its students. We are given the opportunity to interact with industry professionals regularly, further adding value to our learning.”

– Ofentse Ramathibela (MCom, 2021)


MSC SPECIALISING IN DATA SCIENCE (FINANCIAL MARKETS)

This two-year degree was inaugurated in 2020, and, despite the pandemic, the MSc class of 2021 maintained a fast pace, notwithstanding facing ongoing challenges.

In 2021, we marked the second year of the inaugural offering of the MSc specialising in Data Science with a focus on Financial Markets.

Three students completed the coursework component of the degree during 2020, while a further two students enrolled for the 2021 presentation of the degree.

Throughout the year, the MSc students interacted with donors and sponsors along with the MPhil and MCom students. This began with our annual Donor's Day on 28 May. A few of the donor companies held virtual graduate recruitment events in July and August.



“We are confident that these students will be adequately prepared for various data science-related roles within the financial engineering and risk management sub-sectors of the broader financial services sector.”

– Professor David Taylor

EVENTS

AIFMRM held several events during the year, all hosted online, due to ongoing restrictions on in-person gatherings.

AIFMRM student surprises herself to win top competition

Rachel Swallow never thought she stood a chance to win the FNB DataQuest competition. For the 23-year-old, it was all about an opportunity to practise what she had just learnt in class. It was part of a four-day event held from 17 to 20 May 2021, combining masterclasses, lectures, and the competition.

“I loved the competition,” said Rachel, an MSc specialising in Data Science (Financial Markets stream) student.

Over 200 participants could select to take part in one of three challenges. These included Money Management, Collections and Ongoing Risk Management.

Rachel chose the latter and was announced as the overall winner at the end of the contest.

“The Institute is very proud of Rachel’s achievement,” said AIFMRM’s Director, Professor David Taylor. “The FNB DataQuest event is an excellent space to push boundaries and find unique solutions.”

Rachel subsequently signed on for the FirstRand quant programme in 2022. “AIFMRM is a fantastic institution,” she said. “I can’t recommend it highly enough. I did not come from a financial background, but the class, the lecturers, resources and support provided are excellent. Everyone is invested in your success.”

AIFMRM Donor Day

AIFMRM's annual Donor Day on 28 May 2021 was one of the year's highlights. The aim was for the new cohorts of all three degrees to interact with AIFMRM's corporate funders and introduce the students to the concept that they are part of the Institute and the opportunities this presents to them. A further objective was for students to understand what to expect after they graduate and enter the workplace.

The proceedings began with an introduction and positioning of AIFMRM and the funder relationship by Professor David Taylor. After that, AIFMRM graduates from 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 Marcio Lopes and Thayuri Pillay (Absa), Alexia Marr, Daelin Pillay and Tremayne Naidoo (FirstRand/Rand Merchant Bank), Sizwe Vidima (Nedbank), Kgothatso Thantsha (Old Mutual), and Kyle Roos and Richard Ogg (Standard Bank).



AIFMRM held three separate fourth-year student information sessions to promote our master's degrees in August 2021



In November, AIFMRM held the annual donor bursary selection process for the 2022 cohort



The AIFMRM funders held one-hour presentations to the MCom in Risk Management of Financial Markets and MPhil specialising in Mathematical Finance cohorts providing an overview of the company and potential opportunities before the bursary interviews.

ONLINE SHORT COURSES

AIFMRM offers two non-credit bearing, online short courses aimed at working professionals in collaboration with the Faculty of Commerce's online learning partner, GetSmarter.



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 2021, with a total of 241 participants for the year.



Advanced Business Risk Management

Advanced Business Risk Management is an eight-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 2021, with a total of 51 participants for the year.

RESEARCH



AIFMRM's research reach expanded significantly in February 2021 with the inclusion of the URC-accredited African Collaboration for Quantitative Finance and Risk Research (ACQuFRR). The original purpose of this unit was to integrate postgraduate teaching and research in quantitative and mathematical finance, financial risk, and allied disciplines in the Faculty of Commerce at UCT.



Among other things, AIFMRM currently co-ordinates the minor research dissertations for the MPhil specialising in Mathematical Finance and the MSc specialising in Data Science (Financial Markets), as well as the projects for AIFMRM's research master's, PhD students and postdoctoral research fellows. It also manages the research-related finances, events, and activities of the Institute.



Gradually, however, the research activities of ACQuFRR and AIFMRM became indistinguishable, and it made sense for the unit to operate from within AIFMRM.



The ongoing Covid-19 pandemic affected all areas of activity at AIFMRM. Some events had to be cancelled or postponed. In 2021, however, we reinstated the weekly seminar series and held sessions online.



Publications

In 2021, AIFMRM published seven journal articles and a book chapter. Five of the journal articles appeared in A-rated journals – Mathematical Finance, the Journal of Financial Stability, Finance Research Letters, the International Journal of Game Theory, and the Journal of Evolutionary Economics.

“The papers published in 2021 in the Journal of Financial Stability and Finance Research Letters are Dr Abhik Mukherjee’s first publications and are an outstanding achievement,” said Professor Taylor.



Collaboration

AIFMRM participated in an industry-academia collaboration called the ABSA-DST Risk Research project that allocates research funding to affiliated universities to recognise their Risk Research related activities.

This year we received
R206 595,
representing 11%
of the total DST funding for 2021.

In an update on the research programme started at The Factory, “Team MultiCurve” recently released a new version of their research paper available on the Social Science Research Network.

The Factory, an initiative launched in 2018, aims to advance knowledge in mathematical sciences through collaboration between researchers across career stages.

New projects

The Factory initiated two new follow-on projects in 2021, one focusing on non-linear instruments and the second on the extraction of the OIS-curve in emerging markets. Team MultiCurve presented their work at a succession of seminars and conferences, including:

- London Mathematical Finance Seminar, Cass Business School, City University, London (October 2019);
- Research in Options 2019 Conference, IMPA, Rio de Janeiro, Brazil (December 2019);
- UBS, London (February 2020);
- Marunouchi Quantitative Finance Webinar, Tokyo Metropolitan University, Tokyo, Japan (March 2020);
- Global Markets GRA Webinar, Bank of America, London (April 2020);
- QuantMinds International (November 2020);
- World Business Strategies (WBS) 3rd Interest Rate Reform Conference, London, U.K. (February 2021);
- Practitioner’s Seminar, Mathematics of Finance, Columbia University;
- QuantMinds in Focus Virtual Conference (May 2021);
- SIAM Financial Mathematics & Engineering Virtual Conference (June 2021);
- World Business Strategies (WBS) 4th Interest Rate Reform Conference, London, U. K. (October 2021);
- DCU Mathematical Finance Seminar, Dublin City University, Dublin, Ireland (October 2021).

Full-time PhD students

AIFMRM had three full-time PhD students this year – Obeid Mahomed, Andrew Soane, and Qobolwakhe Dube. Qobolwakhe graduated in December 2021.

SCARCE SKILLS

Providing industry with skilled professionals

There continues to be a critical skills shortage in the risk management and quantitative finance industry. AIFMRM addresses this through close collaboration with the financial services sector. Programmes like the MCom in Risk Management of Financial Markets were created to meet the need for specialist risk managers.

The MCom Externship also involves extensive industry collaboration. Participating companies pose the problems, supervise, and provide mentorship for the student teams. The 2021 topics came from Absa, FirstRand, Nedbank, and Prescient.



An ongoing stream of valuable graduates

It is envisaged that the institute will continue to provide industry with an ongoing stream of valuable graduates with quantitative abilities. AIFMRM also collaborated with the Faculty of Science to develop a new Financial Markets stream within the MSc specialising in Data Science, offered from 2020. This will give graduates sought-after data analysis skills allied with an understanding of financial markets.

Additionally, AIFMRM introduced the online short courses presented in partnership with GetSmarter in response to skills needs. Other platforms and initiatives include organising masterclasses, special seminars and workshops directed at participants from within financial services.



OUR PEOPLE



David Taylor
Director



Obeid Mahomed
Lecturer



Peter Ouwehand
Associate Professor



Alex Backwell
Senior Lecturer



Abhik Mukherjee
Senior Lecturer



Mansa Aidoo
Lecturer



Thomas McWalter
Adjunct Associate
Professor



Tanja Tippett
Adjunct Associate
Professor



Billy Enderstein
Student Psycho-
Socio Welfare
Counsellor



Prof Erik Schlögl
Honorary Professor



Prof Peter Ritchken
Honorary Professor



Dr Jörg Kienitz
Adjunct Associate
Professor



Dr Andrea Macrina
Adjunct Professor

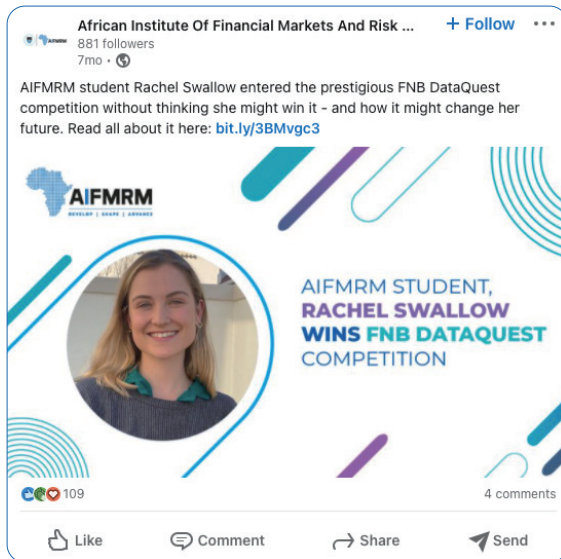
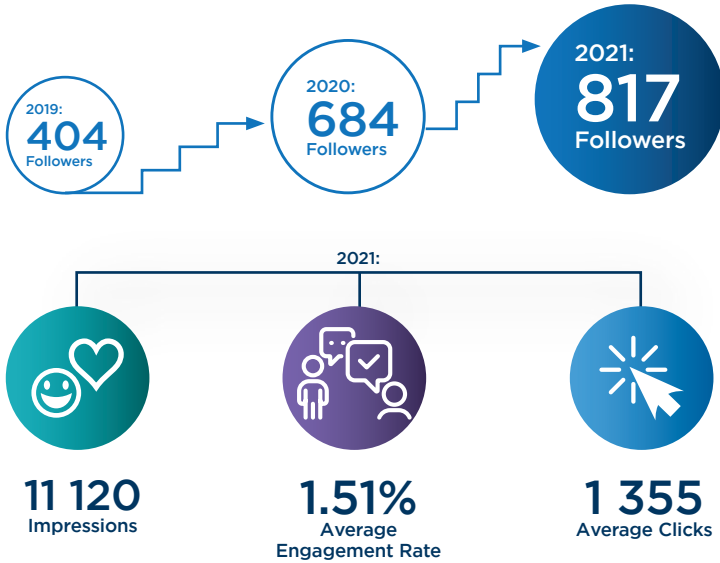


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OUR LINKEDIN PRESENCE



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