

Milestones of Kock's focused and interlinked research (1986 – 2011)

1. **1986:** He received the prestigious President's Award* for excellence in yeast lipid research from the Foundation for Research Development (FRD) now called the National Research Foundation (NRF).
2. **1991:** He discovered novel oxidized lipids in yeast which was highlighted by an independent international scientific correspondent in Nature Biotechnology (Dixon 1991). The latter is based on bio-prospecting studies of his unique yeast culture collection that was awarded UNESCO status on competitive basis in 1996. His discovery was expanded by other international research groups and published in various high impact journals.
3. **2007:** He published the Anti-mitochondrial Antifungal Hypothesis in the top yeast journal, FEMS Yeast Research (Kock et al. 2007). The hypothesis suggests that anti-mitochondrial drugs may be used to selectively inhibit yeast sexual stages as well as mould fruiting structures – making these antifungals ideal “smart” drugs.
4. **2009:** His strongly interlinked focused research peaked when he realized this hypothesis in a practical bio-assay protocol where yeast sexual structures serve as indicators to screen for anti-mitochondrial antifungals (Kock et al. 2009).
5. **2010:** This bio-assay is used in conjunction with a novel nanotechnology for Biology he discovered in 2010 (Kock et al. 2011a). This technology may be used to follow drug effects on treated cell metabolism and ultrastructure in 3-D nanometre space. This nanotechnology exposes a new world in molecular imaging. Cells can now be “dissected” into nanometre thin “slices” while at the same time the composition and 3-D ultrastructure of each “slice”, using Nano Scanning Auger Microscopy (NanoSAM), are determined. Here, an electron beam is scanned over the surface of a biological sample and the excited electrons, energy analyzed to detect Auger peaks. The intensity of the Auger peaks as a function of the position of the electron beam provides an image of the element to which the Auger peak corresponds. This process in combination with scanning electron microscopy is repeated as nano-etching (sputtering) proceeds through the sample. Kock's nanotechnology research on yeast sexual spores suggests that “nanosurgery” and even “nanotransplantation” of cell parts on different viable cell types, should now be explored using Focused Ion Beam (FIB) technologies.
6. **2011:** He was invited by the Commissioning Editor of the highly accredited Expert Opinion series of medical ISI journals to review his complete focused research that lead to the discovery of his anti-mitochondrial antifungal bio-assay and resulting nanotechnology (Kock et al. 2011a).
7. **2011:** He has already received three invitations to present this bioassay-nanotechnology breakthrough as Keynote Lectures at international conferences of repute in the USA (Main Keynote Address following Opening Ceremony), Beijing and Greece and several invitations to present lectures at international conferences.
8. **2011:** He was invited to post two Video Lectures in state of the art *e*-conference format on his complete focused research linked to his bio-assay and nanotechnology discovery on the web page of the journal, Translational Biomedicine (Kock et al. 2011b,c).
9. **2011:** On 26 May 2011, he was invited by the Secretary General of the International Society of Translational Medicine (ISTM) to head their “Molecular Imaging” Division.
10. **2011:** Using his Anti-mitochondrial Antifungal Assay, he discovered to his surprise that the anti-malarial drug chloroquine, drastically enhances sexual reproduction in some yeasts. In fact preliminary results show that these bio-assays mimic the effects that the anti-malarial drugs chloroquine, quinine and artemisinin have on the initial sexual stage i.e. gametocyte development of the malaria parasite *Plasmodium* in the human host. Here chloroquine enhances gametocyte development, quinine shows no effect while artemisinin selectively inhibits this sexual process (Kock et al. 2011c).
11. **2012-2014:** The hypothesis to be tested concerns the ability of the anti-mitochondrial antifungal bio-assay to also screen for anti-malarial drugs. If so, can other compounds such as non steroidal anti-inflammatory drugs (NSAIDs), antifungal drugs and others that tested positive with this assay be used to combat gametocytemia in malaria patients and in turn can anti-malarial drugs be anti-mitochondrial and antifungal? Drugs targeting gametocytogenesis in patients with malaria is of special importance as a new strategy to combat parasite transmission from host to the Anopheline vector and therefore human infection. This is of importance since this global disease (especially in Africa) infects many millions of people annually (about 225 million worldwide) and also kills about 1 million (Dondorp et al. 2010; Petersen et al. 2011).

* Awarded to young researchers who, on the basis of exceptional potential as demonstrated in their research outputs, are considered likely to become future leaders in their field.

References

- Dixon, B. 1991. Prostaglandins from yeast could lower cost. Nature Biotechnology 9: 604.
- Dondorp, A.M., Yeung, S., White, L., Nguon, C., Day, N.P.J., Socheat, D., von Seidlein, L. 2010. Artemisinin resistance: current status and scenarios for containment., Nature Reviews Microbiology 8: 272-280.
- Kock, J.L.F., Swart, C.W., Ncango, D.M., Kock (Jr), J.L.F., Munnik, I.A., Maartens, M.M.J., Pohl, C.H., van Wyk, P.W.J. 2009. Development of a yeast bio-assay to screen anti-mitochondrial drugs. Current Drug Development Technologies 6(3): 186-191.
- Kock, J.L.F., Swart, C.W., Pohl, C.H. 2011a. The Anti-Mitochondrial Antifungal Assay for the discovery and development of new drugs. Expert Opinion on Drug Discovery 6(6): 671-681.
- Kock, J.L.F., Swart, C.W., Ncango, D.M., Pohl, C.H. 2011b. Yeast contraceptives also new drugs. TBM invited Video Lecture <http://vimeo.com/24167863>; <http://obiocoon.blogspot.com/2011/05/yeast-contraceptives-also-novel-drugs.html>
- Kock, J.L.F., Swart, C.W. 2011c. A new nanotechnology for translational medicine. TBM invited Video Lecture <http://vimeo.com/21056636>; <http://obiocoon.blogspot.com/2011/03/new-nanotechnology-for-translational.html>
- Petersen, I., Eastman, R., Lanzer, M. 2011. Drug-resistant malaria: molecular mechanisms and implications for public health. FEBS Letters 585: 1551–1562.

Research Overview

In the late 1980s, Prof Lodewyk Kock received the President's Award for research excellence from the Foundation for Research Development - now called the National Research Foundation (NRF). Shortly thereafter he discovered novel oxidised lipids in yeast which opened up a new field of research. Over the next 20 years, the Kock-group and his international network including collaborators from Germany, USA, UK, and Russia systematically uncovered the production and function of these compounds. They found that yeast oxidised lipids are, amongst others, used as lubricants in yeast nano-mechanics. Here, lubricated nano-scale gear-like hooked structures that are invisible to the naked eye as well as normal light microscopy, are used by yeasts to actively propel spores from narrow openings present in yeast birth sacs mainly for dispersal purposes. The Kock-group demonstrated that these compounds may enhance inflammation when yeasts infect humans and that their production, which is also necessary for normal yeast growth, can be inhibited by new types of antifungal drugs. This is essential today to combat resistant yeast pathogens such as *Candida* in especially immuno-compromised patients. Prof Kock's carefully planned demarcation and active global promotion of the new multidisciplinary research field that evolved from his single outstanding discovery, introduced various opportunities for research that served as catalyst for involvement from international research groups from several countries and disciplines (1). Even though the international race for harvesting this field of yeast research began in 2001 only, it is exciting to learn from independent peers (2), that its international momentum and impact is such that significant medical and agricultural advances and practical applications are predicted within the next few years. It will be interesting to see who is the first to successfully harvest this field that was discovered and developed by the Kock-group in South Africa and in which our country and continent (Kock-group) is still considered the world leader (3,4). Recently, the discovery has developed to such an application level that it could be applied successfully to undergraduate studies including practicals. This has, for example, been demonstrated by the well known mycologist Prof John Taylor at the University of California, Berkeley. The Kock-group also recently published a major breakthrough showing the location and excretion of novel oxidized lipids in yeast cells (5,6). In 2009, the NRF rated Prof Kock, based on outputs in this field of research, in the top bracket of the category: Internationally Acclaimed Researcher. This official research ranking of Prof Kock, based on strict international peer review, is at present one of the highest NRF ratings at the UFS. The year 2010 can be considered the highlight of Kock's research career. His internationally acknowledged research that evolved from his single outstanding discovery in 1991, makes it now possible to determine the effects of different compounds and environmental conditions on living cells by following changes in the 3-D ultrastructure and elemental composition as "nano slicing" by Ar⁺ etching proceeds through these cells. This is the first application of this nanotechnology in biology and medicine (7).

Since 1995 the expertise obtained on oxidised lipids has been successfully applied to the benefit of the South African edible oil industry and consumers, especially the poor. He discovered in 1994 extremely high levels of toxic oxidised lipids in food especially in the poor communities of South Africa. The Kock-laboratory now serves as external laboratory under the South African Fryer Oil Initiative (SAFOI – founded by Kock in 1994) ensuring the quality of edible oils to partners within this industry. They also aim to facilitate the removal of unhealthy over oxidised lipid (oil) waste formed by uncontrolled frying processes, from our community – particularly the poor who tend to use these low cost unhealthy oils for further food processing. The termination of these unhealthy practices has been extensively promoted by the Kock-group since 1994 via various workshops, popular press, radio interviews and TV programmes. Part of the funds obtained from this service are ploughed back into yeast oxidised lipid research and used to support previously disadvantaged and underprivileged students, assist students to attend international conferences and partially support international conferences.

This project may serve as a blue-print by which research projects can be developed and eventually supported financially without compromising the autonomy of the researcher. In December 2010, Kock presented a workshop at the National University in Quito, Ecuador aimed at extending his oxylipin expertise also to South America.

References

- (1) These include amongst others research groups from the UK (Brunel University, West London; Institute of Biomedical and Life Sciences, University Glasgow), Germany (University Medical Centre Benjamin Franklin, Free University Berlin), USA (Department of Biochemistry and Pharmacology, University of Texas; University of Wisconsin, Madison; University of Michigan Medical School, Ann Arbor; Wayne State University School of Medicine, Detroit), Russia (M.V. Lomonosov State Academy of Fine Chemical Technology, Moscow; Pacific Institute of Bioorganic Chemistry, Russian Academy of Sciences, Vladivostok), Canada (Biotechnology Research Institute, National Research Council, Montreal), Brazil (Medical School, Sao Paulo), Slovak Republic (Slovak Technical University, Bratislava), Italy (Institute of Biomolecular Chemistry, Naples) and India (All India Institute of Medical Sciences, New Delhi).
- (2) i.e. researchers not related to the Kock group; Erb-Downward & Huffnagle, 2006, *Future Microbiol.* 1(2):224, last par.
- (3) Refer to Scopus-search query: yeast* AND oxylipins* OR eicosanoids* OR prostaglandins* (in ARTICLE TITLE, ABSTRACT, KEYWORDS field).
- (4) Kock et al., 2007, *FEMS Yeast Res.* 7:1207-1217- Review.
- (5) Sebolai, OM 2008. Oxylipins in *Cryptococcus neoformans* and related yeasts. PhD study, University of the Free State, Bloemfontein, South Africa, 2008. (Study leader: Prof JLF Kock; Co-study leaders: Prof PWJ van Wyk & Dr CH Pohl).
- (6) Sebolai et al., 2008, *Can. J. Microbiol.* 54(2):91-96.
- (7) Swart, CW et al., 2010, *Sci. Res. Ess.* 5(22):3411-3417.

Main Outputs

Research field: Oxidized lipid (oxylipin /eicosanoid) research encompasses a large field, yielding several Nobel Laureates. Kock's discovery and follow-up research opened new perspectives in this field with special application in zymology. Highlights and references to follow are reviewed in Kock et al., *FEMS Yeast Res* 2007;7:1207-1217 or indicated in text. Kock's interdisciplinary research since 2001 (most initiated and supervised by him; Kock idea-maker) is considered the most productive of his career. His leading international role in oxylipin-linked yeast research and community application is reflected in his outputs at www.ufs.ac.za/mvoilguide: (1). 145 Articles and chapters on yeasts and oxylipins in ISI-accredited literature (53 since 2001). Include high impact factor (IF) *J Antimicrobial Chemother* (4.352); *Biochem J* (4.224), *FEBS Lett* (3.415), *Biochem Bioph Res Com* (3.000), *BBA – Mol Cell Biol L* (2.751), *FEMS Yeast Res* (2.477), *Prostag Other Lipid Med* (2.310), *Syst Appl Microbiol* (2.293), etc. (2005

JCR Sci Ed). To reach relevant audience, some research necessitated publication in lower impact more specialized journals. (2). **Discovery and acknowledgements:** In 1990, Kock discovers novel oxidized lipids (eicosanoids and 3-OH oxylipins) in yeast and patents non steroidal anti-inflammatory drugs (NSAIDs) as antifungals, targeting oxylipin metabolism. This was highlighted in high impact journals by an independent international scientific correspondent (Dixon 1991; Nature Biotechnology 9:604; IF = 29.5) and USA Group (Noverr et al. 2003; IF=10.443). According to USA Group: "Eicosanoids were first discovered in fungi in the early 1990s...(64)." (64=Kock et al. 1991). The importance of his discovery is also reflected in the development of various novel 3-OH oxylipin synthesis routes by chemists from the USA (Bhatt et al. 1998) and Russia (Groza et al. 2002, 2004). In 2007 eicosanoids were verified with mass spectrometry in non-related pathogenic yeasts *Candida albicans* and *Cryptococcus neoformans* by USA Group (Infect. Immun. 75:3498-; Eukaryot. Cell 6:346-)-implicating the wide impact of his discovery. These oxylipins serve as new targets to combat yeast infections. In 2007, Kock's work finds application in endovanilloid- and pain pharmacology as reported by Italian/German Groups (Pharmacology & Therapeutics 114:13-33; IF=8.657; Journal Reproductive Immunology 75:A14). (3). **Kock's recent discovery-based research:** Exposed in 2003 yeast biomechanics where oxylipins serve as lubricants with application in engineering. This was displayed on the cover page of one of the foremost ISI-accredited specialized yeast journal, FEMS Yeast Res (all 2006 issues), 2006 and 2010 issues of the Can J Microbiol and 2004 issue of the SA J Science. Research on yeast mechanics published twice in FEMS Yeast Res (2005, 2007) and successfully conveyed in a pioneering lecture by Kock at a renowned international conference for engineers (Lisbon 2006). Research impacts on human physiology (Ciccoli et al. 2005; IF=4.224), brewing yeast flocculation (Keynote Lecture at ISSY 2007, Italy) and elucidate NSAID antifungal/ antiflocculation action. A recent review in 2007 by Kock in FEMS Yeast Res, demonstrates his international leading role in this new and upcoming field of research. Reviewer stated: "The role of 3 hydroxy fatty acids in fungi as signaling molecules has been discovered relatively recently with a major contribution of the authors of this manuscript. As a "hot topic", this subject has been covered by several reviews in past few years." As a direct outflow from his discovery work, the Kock-goup applied in 2010 for the first time in biology and medicine a new nanotechnology for studying 3-D architecture and elemental composition throughout yeast cells while peeled in nanometre "slices". The use of this technology i.e. NanoSAM enables tracing for instance the distribution of antifungals that affect oxidized lipid (oxylipin) production, in cells thereby determining its ultimate metabolic fate. (4). He organizes 2 international conferences on oxylipins in Germany (2000 and 2006). (5). He uncovers record breaking levels of harmful oxylipins in SA foods (Kock 2006; American Journal of Clinical Nutrition 84(3):666-667; IF=5.853) and develop effective preventative practices. (6). 30 MSc (10 since 2001-all with distinctions; 8 previously disadvantaged) and 26 PhD (12 since 2001; 7 previously disadvantaged) high quality studies completed under his supervision—most internationally reviewed and earning a Scopus Profile. Since 2003, 18 successful presentations by his post graduate students at international conferences in Hungary, Spain, Germany and Malaysia - some awarded first prize for best presentation. (7). Since 2001, 30 presentations at national, 59 presentations at international conferences—many on invitation as well as co-organizer, member of organizing committees, several times session chair at international scientific conferences. (8). 99 Workshops presented by him across South Africa on food oxylipins- 53 since 2001. (9). 120 Releases in national press- 67 since 2001 and written by journalists on his research. (10). 122 Broadcasts on SA radio and TV on his research (37 since 2001). (11). Kock's Scopus Profile with citation index: www.scopus.com (Kock J.L.F.). H-index = 20 (2010).

Commitment

Kock is committed to serve the African continent. This is clear from the many workshops organized by him as UNESCO MIRCEN Director to scientists from Africa and the UNESCO Fellows that studied under his supervision (i.e. from Zimbabwe, Kenya and Egypt). He is also committed to serve previously disadvantaged students. This is demonstrated by (i) the many successfully completed high quality MSc and PhD studies by these students under his supervision, (ii) enabling these students to present their research at international conferences abroad - some award winning (sponsored by Kock's community service initiative – SAFOI*) and (iii) their high publication throughput in ISI-accredited scientific journals. He is also committed to apply his oxidized lipid research to the benefit of the poor in South Africa. Through SAFOI*, various efforts were made since 1994 to identify and remove oxidized toxic lipids (fats) from these communities.

* The South African Fryer Oil Initiative established by Kock in 1994.

Awards and Honours

1. Congratulated in 2005 by the South African Minister of Education, Me Naledi Pandor on his research.
2. Kock and his group nominated as Bloemfontein (hometown) - person and - organisation of the year in 1995 and 2001 respectively.
3. Appointed in 1998, Director of the UNESCO MIRCEN at the University of the Free State – a position he still holds.
4. He received the American Society for Microbiology (ASM) MIRCEN Award in 2002.
5. He presented in the same year the UNESCO Directors' Report on invitation as South African MIRCEN Director at the National Academy of Science in Washington, USA where he was also appointed as Rapporteur.
6. He was elected Runner-up to the prestigious National Science and Technology Forum (NSTF) Award for scientists (2004).
7. Since 1998, he was appointed Outstanding Professor at the UFS – a position he still holds.
8. In August 2004 he was appointed Commissioner for South Africa of the International Commission on Yeasts (ICY) – a position he still holds.
9. Presented with the University of the Free State Centenary Award (2004).
10. Various worldwide broadcasts in 2005 were performed by Voice of America and Reuters TV on his yeast oxylipin discovery and follow-up research.
11. He was appointed convener for the National Research Foundation (NRF) evaluation (rating) panel for Microbiology and Plant Pathology from 2006-2007.
12. Kock invited to (i) present research at 1st International Conference on Drug Design and Discovery (2008, Dubai) - Chair: Nobel Laureate; Int. Advisory Board:14 Nobel Laureates, (ii) to chair session and to present research at: 4th World Congress of Industrial Biotechnology – 2011 (IBIO – 2011), 25 -29 April 2011, Dalian, China. Various Nobel Laureates attended and (iii) present research as invited Keynote Lectures at reputable conferences in the USA (Pharma-2011), China (Medichem-2011) and Greece (XVI Congress of European Mycologists) in 2011.

13. He addressed a Press Conference in Parliament on the application of his food oxylinin discovery in 1999 and was instrumental in the drafting and publication of legislation in South Africa prohibiting fat overuse in the preparation of food.
14. Invited on 26 May 2011 by the Secretary General of the International Society of Translational Medicine (ISTM) to chair their “Molecular Imaging” Division.

Visual Overview of Research Outputs



e-Conference 1: <http://vimeo.com/24167863>;
<http://obiocon.blogspot.com/2011/05/yeast-contraceptives-also-novel-drugs.html>



e-Conference 2: <http://vimeo.com/21056636>;
<http://obiocon.blogspot.com/2011/03/new-nanotechnology-for-translational.html>

CV: JLF Kock**GENERAL**

NAME: Johan Lodewyk Fransciscus
SURNAME: Kock
DATE OF BIRTH: 1 August 1954
MARITAL STATUS: Married
CHILDREN: 2 (son and daughter)
CITIZENSHIP: R.S.A.

ACADEMIC QUALIFICATIONS:

B.Sc. University of the Orange Free State, 1977
 B.Sc.Hons. (cum laude) University of the Orange Free State, 1980
 H.E.D. University of the Orange Free State, 1978
 Ph.D. Rhodes University, 1984

TEACHING (2010)

BLG124 –Biology
 MKB 216 –Introduction to Microbiology
 MKB334 –Microbial eukaryotic diversity and ecology
 IQM242 –Industrial quality management
 MKB614 –Advanced techniques
 MKB634 –Microbial diversity
 M.Sc & Ph.D supervision

APPOINTMENTS (University of the Free State; UFS)

Researcher - Botany, University of the Orange Free State (1982 - 1983)
 Lecturer/Researcher - Dept. Microbiology, UOFS (1983 - 1985)
 Senior Lecturer/Researcher - Dept. Microbiology, UOFS (1986 - 1987)
 Associate Professor - Dept. Microbiology, UOFS (1988 - 1989)
 Professor - Dept. Microbiology and Biochemistry, UOFS (1990-)
 Outstanding Professor - Dept. Microbial, Biochemical and Food Biotechnology, UFS (1998-)

ANNEXURE

1. Main Achievements

1.1 Recent achievements:

- * National Award – National Science and Technology Forum (NSTF, 2004). Joint runner-up for Achievements in Science and Technology Award.
- * Appointed as Commissioner for South Africa of the International Commission on Yeasts (since August, 2004).
- * Uncover used oil scandal in collaboration with Carte Blanche (investigative journalism TV-show) in 2004. Oil overuse in South Africa published in Huisgenoot and You in 2004.
- * Awarded - Outstanding Professor of the University of the Free State (since 1998 -).
- * Establishment of the largest yeast culture collection in the Southern Hemisphere with several species isolated from Africa.
- * Invited to participate in the preparation of the internationally acknowledged monographic series on yeasts: “The Yeasts, a taxonomic study, Fifth Edition” which will be published in 2011. This is the most widely recognised literature on yeast taxonomy.
- * Involved in the production of the world’s best lager beer, April 2000. This research project has also been highlighted by THRIP in their 1999/2000 Annual Report and Mail and Guardian, 15 September, 2000.
- * Address Press Conference in Parliament on abused cooking oils: Marks Building, Parliamentary Complex, Cape Town, 3 September 1999.
- * Co-organizer: International Symposium on Non-Mammalian Eicosanoids and Bioactive Lipids. Berlin, 29-31 May, 2000.
- * Co-organizer: 2nd International Symposium on Non-Mammalian Eicosanoids, Bioactive Lipids and Plant Oxylipins. Berlin, May, 2006.
- * Appointed Director (1998-): UNESCO MIRCEN (Microbiological Resources Centre) – Industrial Biotechnology. Only of its kind in Southern Africa (Sub-Sahara Africa).
- * Uncover olive oil scam in South Africa in collaboration with Carte Blanche (investigative journalism TV-show) and the Commercial Crime Unit in Pretoria (October 2001).
- * Nominated as Bloemfontein- person and - organisation of the year 1995 & 2001.
- * Receive 2002 American Society for Microbiology (ASM) MIRCEN Award.
- * Presented with the University of the Free State Centenary Award (2004).
- * On NRF evaluation panel for Microbiology and Plant Pathology (2005-2007).
- * Convener of NRF evaluation panel for Microbiology and Plant Pathology (2006-2007).
- * Present National Workshop: External Quality Monitoring in the Food Industry, 24 January 2006. Participants: Ina Wilken chairperson of the S.A. National Consumer Union (SANCU), senior management of main stakeholders in restaurant and fast food industry and main oil distributors.
- * Selected as expert reviewer on Lipid Biotechnology for FWF - Austrian Science Fund: START-PRIZE (2007). This is for funding outstanding scientists working in Austria. Up to five or six prizewinners are selected annually by an international jury that bases its decisions on assessments from renowned scientists in the field.
- * Participated in Carte Blanche Program on national TV concerned with food labeling. Title: “What’s in a name?” Broadcasted 29 April 2007.
- * Invited to present research at the 1st International Conference on Drug Design & Discovery (3-6 February, 2008, Dubai). International Advisory Board includes 14 Nobel Laureates.
- * Top mycologist, Prof. John Taylor from Department of Plant and Microbial Biology, University of California, Berkeley, USA, include Kock discovery of yeast movement in micron space in his graduate course - 2008.
- * VDM Verlag offers to publish MSc dissertation of Olihile Sebolai, a previous student under supervision of Kock, as a monograph (2009).
- * Involved as expert witness and major role player in first successful court case on food misrepresentation in South Africa – 2009.
- * Obtain a Blue Skies project award from NRF in 2009. Only successful application from many at UFS.
- * Chantel Swart, a PhD student from the Lipid Biotechnology Group (Kock supervisor) was invited to present a lecture at the CSIR (Pretoria) in August this year at the workshop “Recent Advances and Applications in Multidimensional Confocal Microscopy”. She was the only post graduate student amongst world leaders in this field to present a lecture.
- * Invited by Professor F. Muñoz to present lecture at the National Polytech in Quito, Ecuador on 9 December 2010. The aim is to expand the successful South African Fryer Oil Initiative (SAFOI) in South America.
- * Associate Editor: The International Journal of Environmental, Cultural, Economic and Social Sustainability. Vol 6. 2010.
- * **Invited to co-chair session and to present research at: 4th World Congress of Industrial Biotechnology – 2011 (IBIO – 2011), 25 -29 April 2011, Dalian China. Ten Nobel Laureates to attend.**
- * **Invited Video Lectures on research and nanotechnology discovery in Biology by Translational Biomedicine Journal (2011). <http://videlectures.transbiomedicine.com> (<http://vimeo.com/21056636> & <http://vimeo.com/24167863>).**
- * **Invited Keynote Lecture on nanotechnology discovery in Biology. BIT's 2nd Annual International Conference of Medicchem-2011. Theme: Master Drug Discovery Chemistry. Venue: Beijing, China. Date: 9 to 11 August, 2011. Title: *A new Imaging Nanotechnology for Drug Development* by JLF Kock.**
- * **Invited Keynote Lecture on nanotechnology discovery in Biology under the auspices of the European Mycological Association. XVI Congress of European Mycologists, Sithonia, Halkidiki, Greece, 19 to 23 September, 2011. Title: *A new Imaging Nanotechnology for Mycology* by JLF Kock.**
- * **Invited Main Keynote Address following Opening Ceremony on nanotechnology discovery in Medicine. Pharma-2011, 6-7 September 2011, Baltimore, USA.**
- * **Invited on 26 May 2011 by the Secretary General of the International Society of Translational Medicine (ISTM) to chair their “Molecular Imaging” Division (<http://www.stmed.org>).**

1.2 **FRD/NRF evaluation record**

FRD – P category (1986 -)
 FRD – B2 category (1991-)
 FRD – B2 category (1994-)
 NRF – B2 category (1998-)
 NRF – B1 category (2003-)
NRF – B1 category (2009-)

1.3 **Research Funding**

Projects are and have been sponsored in the past by the Volkswagen Foundation in Germany, Sasol Industries, SA Breweries, SA Oil Industry, THRIP, NRF, NRF Blue Skies, Malaysian Palm Oil Board (MPOB) and The South African Fryer Oil Initiative (SAFOI, at present housed at the UFS).

Sasol Industries

During 1991 to 1995 a biotechnological process was discovered concerning wastewater treatment. This was patented internationally by Sasol Industries. Collaborators: Prof. C. Ratledge – University Hull, UK; Dept. Microbiology & Biochemistry, UOFS; Dr. S. Harrison, University Cape Town; Sastech (Sasol-Dr. Peter Stegmann). Funding: approx. R500 000 (excl. final patent costs).

Kock successfully defended his discovery at the US Department of Commerce, US Patent Trademark Office in Washington DC which was finally granted on July 4, 1995. Funds: Sasol.

2. **Invited Speaker - International (1994 -)**

Guest Speaker - on invitation by the Free University of Berlin, Berlin, Germany. 11 June, 1994.

Title - Arachidonic acid metabolism in Fungi.

Title - The production of biologically active eicosanoids by yeasts. 10th International Conference on Prostaglandins and Related Compounds. Austria Centre, Vienna. September 1996.

Title - Recent developments in the production of 3-hydroxy fatty acids by the yeast *Dipodascopsis uniuucleata*. 5th International Conference on Eicosanoids and Other Bioactive Lipids in Cancer, Inflammation and Related Diseases. LaJolla, California. September 1997.

Title - The distribution and biotechnological value of fatty acids and oxylipins in the yeast family Lipomycetaceae. 6th International Mycological Congress (IMC6). Jerusalem, Israel. August, 1998.

Title – The role of oxylipins in the life cycle of yeasts. International Symposium on Non-Mammalian Eicosanoids and Bioactive Lipids. Berlin, 29-31 May, 2000.

UNESCO Directors Report – 2002. National Academy of Science, Washington, USA.

Act as Rapporteur: UNESCO Mircen Directors Meeting (see f) Session 5: Bioconversion and Fermentation of Food and Wastes.

Invited talk: ISSY23 Budapest, 2003.

Invited talk: Int Symposium on Recent BioMedical Advances in Eicosanoid Research. Berlin, August 22-24, 2002.

Title - The distribution of 3-hydroxy oxylipins in fungi.

Invited talk: 11th International Congress on Yeasts, 15 – 20 August 2004, Rio de Janeiro, Brazil. Title – Yeast mechanics in micron-space.

Only PhD student from Africa selected to present talk at ISSY 2005 (September 2005) in Valencia, Spain, 2006.

Kock present lecture at III European Conference on Computational Mechanics Solids, Structures and Coupled Problems in Engineering. Lisbon, Portugal, 2006.

Key-note lecture (co-author): ISSY 26, 2007 Sorrento, Italy. Title: The yeast *Saccharomyces cerevisiae*: the main character in beer brewing by Lodolo, B, Kock, JLF, Axcell, BC and Brooks, MD.

Invited to present research at: 1st International Conference on Drug Design and Discovery, February 3 - 6, 2008, Dubai, UAE. Fourteen Nobel Laureates on Advisory Board. Chair: Richard Ernst (Nobel Laureate).

Invited to present research at: 4th World Congress of Industrial Biotechnology – 2011 (IBIO – 2011), 25 -29 April 2011, Dalian China. Ten Nobel Laureates to attend.

3. **Referee for International Journals of Repute**

Mycological Research

Canadian Journal of Microbiology

Current Genetics

FEMS Yeast Research

SA Journal of Science

FEMS Microbiology Letters

Journal of Applied Microbiology

Food Technology and Biotechnology

4. **International Consultation (1994 -)**

Consultation concerning eicosanoid production by yeasts with Prof Colin Ratledge and Prof John Friend at The Department of Applied Biology, Hull University, Hull, UK. Dates: 13-17 July, 1994.

Successful defending of U.S. patent in Washington DC. August 5, 1994.

Biodiesel Industry, NOPEC in Lakeland, Florida, U.S. (April 25 - 29, 1997)

National Renderers Association, Washington D.C., U.S. (September 15, 1997).

Malaysian Palm Oil Industry, 11-16 November, 2002, Kuala Lumpur.

5. **Visiting Scientists (1994 -)**

Professor Colin Ratledge, microbial lipid expert from University of Hull, UK.

Dates : 8 - 16 July, 1993 and 31 March, 1995.

Professor Santosh Nigam, world expert in eicosanoids from the Free University of Berlin, Germany (Klinikum Steglitz).

Dates : 6 - 16 April 1994, 31 March 1995, 7 December 1995, February and November 1996, October 1997, October 1998, February and September 1999.

Host UNESCO-MIRCEN directors from Costa Rica, Senegal, India, Kenya and Argentina - Friday, 27 March 1998.

Host Professor Franz Oberwinkler, University Tuebingen, Germany at UOFS. 19 – 29 September 1998.

Host UNESCO-MIRCEN workshop. Fundamentals of Growth Kinetics of Batch and Continuous Cultures. 19-23 April 1999. UOFS, Department of Microbiology & Biochemistry. Scientists from Botswana, Namibia, Swaziland, Tanzania, Kenya as well as major S.A. biotechnology industries attended.

Host Mr. T.T. Tepeny (UNESCO Fellow) from Dept. Botany, University Nairobi, Kenya. 19 March – 25 May 2000.

Host UNESCO-MIRCEN workshop. Yeast preservation, identification and quantification, 26 to 30 September 2000 at the Department of Microbiology and Biochemistry at the University of the Orange Free State. Scientists from Uganda, Kenya, Tanzania and Zimbabwe attended.

Professor Santosh Nigam: 2002/2003/2004. Free University Berlin, Germany.

Professor Mathias Sipiczki: 11-20 April 2005. University of Debrecen, Hungary.

Professor Santosh Nigam: 2006. Free University Berlin, Germany.

6. **Member of International Advisory Committees (1994 -)**

Fifth International Congress on Platelet-activating Factor and Related Lipid Mediators. Berlin, September 12 - 16, 1995.

Fourth International Conference on Eicosanoids and other Bioactive Lipids in Cancer, Inflammation, and Radiation Injury. Hong Kong Convention and Exhibition Centre, October 4 - 7, 1995.

First Symposium on Eicosanoids and their Precursors in Fungi. U.O.F.S., Bloemfontein, March 31, 1995.

5th International Conference on Eicosanoids and Other Bioactive Lipids in Cancer, Inflammation and Related Diseases. La Jolla, California, September 17 - 20, 1997.

6th International Conference on Eicosanoids and Other Bioactive Lipids in Cancer, Inflammation and Related Diseases. Boston, Mass., USA, September 12 - 15, 1999.

23rd International Specialised Symposium on Yeasts. Budapest, Hungary, 26-29 August 2003.

2nd International Symposium on Non-Mammalian Eicosanoids, Bioactive Lipids and Plant Oxylipins. Berlin, Germany, 2006.

Member of International Scientific Committee: 26th International Specialized Symposium on Yeast, Sorrento, Italy, 2007.

7. **Member of Organising Committees/Chair (1994 -)**

Chairperson - First Symposium on Eicosanoids and their Precursors in Fungi. U.O.F.S., Bloemfontein, March 30 to April 1, 1995.

Chairperson - First Symposium on Abused Cooking Oil. UOFS, Bloemfontein, Dec.7, 1995.

Chairperson - Second Symposium on Abused Cooking Oil, Civic Centre, Bloemfontein, 26 November, 1996.

Chairperson & presenter - 31 Workshops across SA on over-oxidised frying oils. (end 1995-1998).

Co-Director (since 1996): UNESCO Microbiological Resources Centre (MIRCEN) for Southern Africa.

Director (since 1998): UNESCO Microbiological Resources Centre (MIRCEN) for Southern Africa.

Hosts MIRCEN OPENING at University Free State.

Director (since 1995): South African Fryer Oil Initiative (SAFOI).

Co-organizer: International Symposium on Non-Mammalian Eicosanoids and Bioactive Lipids. Berlin, 29-31 May, 2000.

Chair of session: International Symposium on Non-Mammalian Eicosanoids and Bioactive Lipids. Berlin, 29-31 May, 2000.

Organising committee: 22nd International Specialised Symposium on Yeasts. Pilanesberg National Park, South Africa, 25 – 28 March 2002.

Chairperson: 12th Biennial congress of the South African Society for Microbiology, University of the Free State, Bloemfontein, April 2002

Chair: 22nd International Specialised Symposium on Yeasts. Pilanesberg National Park, South Africa, 25 - 28 March 2002.

Convenor: Symposium 4: Cell Structures and Morphogenesis. 11th International Congress on Yeasts, 15 – 20 August 2004, Rio de Janeiro, Brazil.

Co-organiser: 2nd International Symposium on Non-Mammalian Eicosanoids, Bioactive Lipids and Plant Oxylipins held in Berlin, Germany in May 2006,

Chair: 2nd International Symposium on Non-Mammalian Eicosanoids, Bioactive Lipids and Plant Oxylipins. Berlin, Germany, 2006.

Chair: 26th International Specialized Symposium on Yeast (ISSY), Sorrento, Italy, 2007.

Chair: Asian Mycology Congress, Penang, Malaysia, 2007.

Chair: 4th World Congress of Industrial Biotechnology – 2011 (IBIO – 2011), 25 -29 April 2011, Dalian China. Ten Nobel Laureates to attend.

8. **Visiting Professor (Sabbatical) at other Universities:**

Department of Applied Biology, University of Hull, UK. Date : Jan. to Dec. 1992.

Eicosanoid Research Div. Free University of Berlin, Germany. Date: Nov. '97 to Feb. '98.

Visit Prof. Y. Yamada at Shizuoka University, Shizuoka, Japan in May 2009.

9. **External Examiner (1994 -)**
 Third year B.Sc. subject i.e. Zymology (MBY 314, 315) at The University of Pretoria, Department of Microbiology and Plantpathology. Course introduced in 1994.
 Department of Microbiology, University of Stellenbosch, 24 May 1995.
 Evaluation Panel: FRD Food Production and Food Security Programme (1995).
 Evaluator: NRF Technikon Programme, September 1999 – ML Sultan Technikon (Department Chemistry) & Pretoria Technikon (Department Food Technology).
 Member of Monitoring Panel: NRF/Pretoria Technikon Programme- “Food Technology to Feed the Nation”, Technikon Pretoria, 17 June 1999.
 Evaluator: NRF/Pretoria Technikon Programme- “Food Technology to Feed the Nation”, Technikon Pretoria, 2001.
 University of Dar Es Salaam, Department of Botany, Tanzania, June 21 – 28, 2002.
 NRF appointed reviewer of proposal: Sweden/South Africa Agreement. Technikon Pretoria proposal 2002.
 Innovation Fund proposals, DACST. 2000-.
 NRF appointed reviewer: Technikon (1 application) and Universities (4 applications), 2002.
 MSc, University of Cape Town, 2003.
 Master of Public Health, University of KwaZulu Natal. December 2006.
 PhD, University of Pretoria, 2007.
 Selected as expert reviewer on Lipid Biotechnology for FWF - Austrian Science Fund: START-PRIZE (2007). This is for funding outstanding scientists working in Austria. Up to five or six prizewinners are selected annually by an international jury that bases its decisions on assessments from renowned scientists in the field.
10. **Member of Council/Associations**
 South African Society of Microbiology (2002-).
 Commissioner for South Africa of the International Commission on Yeasts 2004-.
 Director: UNESCO-MIRCEN, Southern Africa (1996 -).
11. **Radio & TV Talks**
 National TV. - broadcast of research field. NNTV - 1,3 September, 1994.
 National TV. - investigative journalism on frying oil uses in S.A. SABC 3; Fair Deal - 21 July 1997.
 Mmabatho TV - highlights frying oil initiative. 7 February 1995.
 Radio 702 - highlights frying oil initiative. 13 April 1996.
 SAFM - highlights frying oil initiative. 9 April 1996.
 Capitol Radio - highlights frying oil initiative. 20 March 1996.
 Good News Comm. Radio - highlights frying oil initiative. 27 August 1996.
 RSG Spektrum - talk on over-oxidised frying oils and fats. 19 August 1996.
 National radio: 5-FM, SAFM, RSG, Lotus Stereo, Radio Oranje. Radio broadcasts on over-oxidised frying oils and fats-awareness campaigns: 19 - 30 August 1996. Total of **80** broadcasts.
 National radio stations- talks on MIRCEN activities. Friday, 27 March 1998.
 RSG- promotes SAFOI objectives. 4 January 1999.
 Nampo TV- Red Alert for Oil Industry. 11 April 2000.
 AM-LIVE (SAFM), Cooking oils, 1 September 2000.
 Monitor (RSG), Cooking oils, 4 September 2000.
 Monitor (RSG), Cooking Oils, 19 April 2001.
 Radio Pretoria, Cooking Oils, 20 April 2001.
 OFM, Cooking Oils, 19 April 2001.
 Carte Blanche - investigative journalism TV- program. TV show on fraudulent Olive Oils (21 October 2001).
 RSG-Spektrum: Radio interview on fraudulent olive oil in South Africa (22 October 2001).
 RSG-Spektrum: Radio interview on fraudulent olive oil in South Africa (23 October 2001).
 Kosmos Digitaal: Radio interview on fraudulent olive oils in South Africa (24 October 2001).
 e-TV News: Olive oil scandal – 25 October 2001.
 AM Live – 9 September 2003, Frying oils.
 Monitor – 9 September 2003, Frying oils.
 OFM News – 9 September 2003, Frying oils.
 Carte Blanche: Olive Oil Scam (re-broadcast 2003).
 MNET – Spits: Sunflower Oil Scam (2003).
 MNET – Carte Blanche: Overused sunflower oil (2004).
 RSG Monitor interview on overused oils (2004).
 Carte Blanche TV Show: Cooking Oil, August 1, 2004.
 RSG Spitstyd (22 April, 2005).
 SABC-TV News: 22 April, 2005 – oxylipin breakthrough and application in nanotechnology.
 Business Day: 3 May 2005 – Scientists discover yeast lubricant for robot use.
 Reuters TV, 2005; Nanorobotics.
 Voice of America, 2005; Nanorobotics.
 CEO magazine, 2005; success of MSc student under my supervision, highlighted.
 SABC-TV News: 22/4/05 Nanorobotics.
 RSG-Spitstyd: 22/4/05 Nanorobotics.
 Interview on yeast nanorobots. RSG Spektrum/Monitor. 11 May 2006.
 Interview on yeast nanorobots. RSG Monitor. 12 May 2006.
 Interview on oxidised oils. RSG Naweekaktueel, 20 October 2006.
 Interview on oxidised oils. East Coast Radio, Melani, 1 November 2006.

- Carte Blanche Investigative TV Program: What's in a name? 29 April 2007.
 Interview with PhD student on award: Best presentation at Asian Mycology Congress, Malaysia (2007), Interview by SAFM Radio: 26 January 2008.
 OFM News radio broadcast on 28 January, 2008: Best presentation by Kock Group at Asian Mycology Congress, Malaysia (2007).
 SAFM Radio interview on 21 June 2008 (Time: 7:20-). Oxidised edible oils.
 RSG Radio interview on 28 March 2009 (Time 12:45 -). Fraudulent food labels.
 RSG Radio Interview (Monitor program) on 1 September 2010 (06:50). Nanotechnology breakthrough.
 Carte Blanche Program: "Olive Oil" on 9 September 2010. Kock major role player.
Carte Blanche Program: "Olive Oil" on 2 January 2011. Kock major role player.
12. **Citations in International Scientific Journals of Repute**
 Cited **19** of own publications: Ratledge, C. (1994). Yeasts, moulds, algae and bacteria as sources of lipids. *In: Technological Advances in Improved and Alternative Sources of Lipids*. By B.S. Kamel & Y. Kakuda. pp. 235- 291. Total citations of all publications (1986 -) : **643** (Science Citation Index - to April 1998).
13. **Exchange Programme - Free University Berlin**
 Ph.D. students: M.S. Smit (1990), M.P. Roux (1995), L.E.C.M. Anelich (1998).
 M.Sc. students: D. Jansen van Vuuren (1995), P. Venter (1997-1998).
 Prof. J.L.F. Kock, Eicosanoid Research Div. Free University of Berlin, Germany. Date: Nov. '97 to Feb. '98.
 Professor Santosh Nigam, world expert in eicosanoids from the Free University of Berlin, Germany (Klinikum Steglitz).
 Dates : 6 - 16 April 1994, 31 March 1995, 7 December 1995, February and November 1996, October 1997, October 1998, February and September 1999.
14. **International Honours**
 Volkswagen Foundation (Germany) Collaborative Research Support. Partner: Free University Berlin. Funds: 90 000 DM (1999 – 2000), 55600Euro (2001-2002).
 Appointed Director and institutor (1998): UNESCO MIRCEN (Microbiological Resources Centre) – Industrial Biotechnology. Only of its kind in Southern Africa (Sub-Sahara Africa).
 Appointed as Commissioner for South Africa of the International Commission on Yeasts (August, 2004-).
15. **Press Conference in Parliament: Marks Building, Parliamentary Complex, Cape Town 3 September 1999**
 Prof. Kock gave a Press Conference on invitation concerning the misuse of frying oils and fats in SA.
16. **Publications**
- 16.1 **Peer Reviewed Articles in recognized journals**
1. Kock, J.L.F. 1982. Improving the Colour and Taste of Green Pineapple Rings. *S.A. Food Rev.* 9(5): 59, 61, 74.
 2. Kock, J.L.F. 1984. Statistical Quality Control on Piece Sorting. *Food Rev.* 11(1): 45, 46, 49.
 3. Kock, J.L.F. 1984. Statistical Quality Control in a Pineapple Canning Factory. *S.A. Food Rev.* 11(3): 95-98.
 4. Du Preez, J.C., J.L.F. Kock, M.T. Monteiro and B.A. Prior. 1985. The vitamin requirements of *Candida shehatae* for xylose fermentation. *FEMS Microbiol. Lett.* 28: 271-275.
 5. Kock, J.L.F., P.M. Lategan, B.C. Viljoen and P.J. Botes. 1985. Developing a rapid identification process for different yeast species. *J. Microbiol. Methods.* 4: 147-154.
 6. Joubert, D., T.J. Britz and J.L.F. Kock. 1985. Improved anaerobic digester performance using a simple statistical technique. *J. Ferm. Technol.* 63(3): 575-578.
 7. Cottrell, M., J.L.F. Kock, P.M. Lategan, P.J. Botes and T.J. Britz. 1985. The long-chain fatty acid compositions of species representing the genus *Kluyveromyces*. *FEMS Microbiol. Lett.* 30: 373-376.
 8. Kock, J.L.F., E.G. Groenewald, G.H.J. Krüger, J.N. Eloff and P.M. Lategan. 1986. Extraction of polyphenols and hydrolysis of birdproof sorghum starch. *J. Sci. Food Agric.* 36: 1140-1144.
 9. Kock, J.L.F., E.G. Groenewald, G.H.J. Krüger and P.M. Lategan. 1986. Effect of duration of liquefaction on viscosity and polyphenol content of the mash and subsequent glucose recovery in bird-proof sorghum. *J.Sci. Food Agric.* 37: 147-150.
 10. Kock, J.L.F., P.J. Botes, S.C. Erasmus and P.M. Lategan. 1986. A rapid method to differentiate between four species of the *Endomycetaceae*. *J. Gen. Microbiol.* 131: 3393-3396.
 11. Viljoen B.C., J.L.F. Kock and P.M. Lategan. 1986. Long-chain fatty acid composition of selected genera of yeasts belonging to the Endomycetales. *Antonie van Leeuwenhoek* 52: 45-51.
 12. Kock, J.L.F., M. Cottrell and P.M. Lategan. 1986. A rapid method to differentiate between 5 species of the genus *Saccharomyces*. *Appl. Microbiol. Biotechnol.* 23(6): 499-501.
 13. Kock, J.L.F., M. Cottrell and P.M. Lategan. 1986. A rapid method to differentiate between species of the genus *Kluyveromyces*. *J. Microbiol. Methods* 4: 299-302.
 14. Viljoen, B.C., J.L.F. Kock and P.M. Lategan. 1986. Fatty acid composition as a guide to the classification of selected genera belonging to the Endomycetales. *J. Gen. Microbiol.* 132: 2397-2400.
 15. Viljoen, B.C., J.L.F. Kock and P.M. Lategan. 1986. The influence of culture age on the cellular fatty acid composition of four selected yeasts. *J. Gen. Microbiol.* 137: 1895-1898.
 16. Kock, J.L.F. and J.P. van der Walt. 1986. Fatty acid composition of *Schizosaccharomyces* Lindner. *Syst. Appl. Microbiol.* 8: 163-165.
 17. Kock, J.L.F., S.C. Erasmus and P.M. Lategan. 1986. A rapid method to differentiate between some species of the Dipodascaceae and Endomycetaceae. *J. Microbiol. Methods* 5: 199-203.

18. Cottrell, M., B.C. Viljoen, J.L.F. Kock and P.M. Lategan. 1986. The long-chain fatty acid compositions of species representing the genera *Saccharomyces*, *Schwanniomyces* and *Lipomyces*. *J. Gen. Microbiol.* 132: 2401-2403.
19. Cottrell, M., J.L.F. Kock, P.M. Lategan and T.J. Britz. 1986. Long-chain fatty acid composition as an aid in the classification of the genus *Saccharomyces*. *Syst. Appl. Microbiol.* 8: 166-168.
20. Muller, H.B. and J.L.F. Kock. 1986. *Waltiozyma* gen. Nov. (Saccharomycetaceae), a new genus of Endomycetales. *S.A. J. Sci.* 82: 491-492.
21. Oosthuizen, A., J.L.F. Kock, P.J. Botes and P.M. Lategan. 1987. The long-chain fatty acid composition of yeasts used in the brewing industry. *Appl. Microbiol. Biotechnol.* 26(1): 55-60.
22. Cottrell, M., J.L.F. Kock, P.M. Lategan, P.J. Botes and T.J. Britz. 1987. The value of long-chain fatty acid composition in the taxonomy of species representing the genus *Kluyveromyces*. *Syst. Appl. Microbiol.* 9: 277-279.
23. Smit, E.J., J.P.J. van der Westhuizen, J.L.F. Kock and P.M. Lategan. 1987. A yeast identification method: the influence of culture age on the cellular long-chain fatty acid composition of three selected Basidiomycetous yeasts. *Syst. Appl. Microbiol.* 10: 38-41.
24. Van der Westhuizen, J.P.J., E.J. Smit, J.L.F. Kock and P.M. Lategan. 1987. The value of long-chain fatty acid composition in the identification of species representing the genus *Rhodospordium* Banno. *Syst. Appl. Microbiol.* 10: 31-34.
25. Smit, E.J., J.P.J. van der Westhuizen, J.L.F. Kock and P.M. Lategan. 1987. The long-chain fatty acid composition of the two varieties of *Filobasidiella neoformans*. *Syst. Appl. Microbiol.* 10: 28-30.
26. Van der Westhuizen, J.P.J., E.J. Smit, J.L.F. Kock and P.M. Lategan. 1987. The value of long-chain fatty acid composition in the identification of species representing the genus *Rhodotorula* Banno. *Syst. Appl. Microbiol.* 4: 323-329.
27. Muller, H.B., J.L.F. Kock and P.M. Lategan. 1987. The cellular long-chain fatty acid composition of species representing the genus *Pichia* Hansen emend. Kurtzman. *Syst. Appl. Microbiol.* 9: 280-283.
28. Viljoen, B.C., J.L.F. Kock and P.M. Lategan. 1987. Long-chain fatty acid composition of some asporogenous yeasts and their respective ascosporegenous states. *J. Gen. Microbiol.* 133: 1019-1022.
29. Coetzee, D.J., J.L.F. Kock and G.H.J. Pretorius. 1987. The value of orthogonal-field-alternation gel electrophoresis as a rapid identification process for some species representing the genus *Saccharomyces*. *J. Microbiol. Methods.* 7: 219-225.
30. Tredoux, R., J.L.F. Kock and P.M. Lategan. 1987. A rapid identification technique for some cultured and wild yeasts in the wine industry. *Syst. Appl. Microbiol.* 9(3): 299-306.
31. Tredoux, H.G., J.L.F. Kock, P.M. Lategan and H.B. Muller. 1987. A rapid identification technique to differentiate between *Saccharomyces cerevisiae* strains and other yeast species in the wine industry. *Am. J. Enol. Vitic.* 38(2): 161-164.
32. Viljoen, B.C., J.L.F. Kock and T.J. Britz. 1988. The significance of long-chain fatty acid composition and other phenotypic characteristics in determining relationships among some *Candida*, *Kluyveromyces* and *Saccharomyces* species. *Syst. Appl. Microbiol.* 10: 116-120.
33. Viljoen, B.C., J.L.F. Kock and D.J. Coetzee. 1988. Orthogonal-field-alternation gel electrophoresis banding patterns of some asporogenous yeasts and their respective ascosporegenous states. *Syst. Appl. Microbiol.* 10: 228-230.
34. Viljoen, B.C., J.L.F. Kock and T.J. Britz. 1988. The significance of long-chain fatty acid composition and other phenotypic characteristics in determining relationships among some *Pichia* and *Candida* species. *J. Gen. Microbiol.* 134: 1893-1899.
35. Kock, J.L.F., D.J. Coetzee and G.H.J. Pretorius. 1988. The phylogenetic development of species representing the genus *Kluyveromyces*. *Syst. Appl. Microbiol.* 10(3): 293-296.
36. Kock, J.L.F. 1988. Chemotaxonomy and Yeasts. *S.A. J. Sci.* 84: 735-740.
37. Smit, E.J., J.L.F. Kock, J.J. van der Westhuizen and T.J. Britz. 1988. Taxonomic relationships of *Cryptococcus* and *Tremella* based on fatty acid composition and other phenotypic characters. *J. Gen. Microbiol.* 134: 2849-2855.
38. Viljoen, B.C., J.L.F. Kock, M. Miller and D.J. Coetzee. 1989. The value of orthogonal-field-alternation gel electrophoresis and other criteria in the delimitation of anamorphic/teleomorphic relations. *Syst. Appl. Microbiol.* 11: 305-311.
39. Augustyn, O.P.H. and J.L.F. Kock. 1989. Differentiation of yeast species by cellular fatty acid analysis. 1. Application of an adapted cellular fatty acid analysis technique to differentiate between strains of *Saccharomyces cerevisiae*. *J. Microbiol. Methods.* 10: 9-23.
40. Golubev, W.I., M.T. Smith, G.A. Poot and J.L.F. Kock. 1989. Species delineation in the genus *Nadsonia* Sydow 1912. *Antonie van Leeuwenhoek.* 55: 369-382.
41. Miller, M., J.L.F. Kock and P.J. Botes. 1989. The significance of long-chain fatty acid compositions and other phenotypic characteristics in the yeast *Pichia* Hansen emend. Kurtzman. *Syst. Appl. Microbiol.* 12: 70-79.
42. Viljoen, B.C., J.L.F. Kock and K. Thoupou. 1989. The significance of cellular long-chain fatty acid compositions and other criteria in the study of the relationship between sporogenous ascomycete species and asporogenous *Candida* species. *Syst. Appl. Microbiol.* 12: 80-90.
43. Viljoen, B.C. and J.L.F. Kock. 1989. A taxonomic study of the yeast genus *Candida* Berkhout. *Syst. Appl. Microbiol.* 12: 91-102.
44. Miller, M., J.L.F. Kock, D.J. Coetzee and G.H.J. Pretorius. 1989. The value of orthogonal-field-alternation gel electrophoresis and other criteria in the taxonomy of the genus *Pichia* Hansen emend. Kurtzman. *Syst. Appl. Microbiol.* 2: 191-202.
45. Viljoen, B.C. and J.L.F. Kock. 1989. The genus *Candida* Berkhout nom. consev. – A historical account of its delimitation. *Syst. Appl. Microbiol.* 12: 183-190.
46. Cottrell, M. and J.L.F. Kock. 1989. The yeast family Lipomycetaceae and the genus *Myxozyma*. 1. A historical account of its delimitation and 2. The taxonomic relevance of cellular long-chain fatty acid composition and other phenotypic characters. *Syst. Appl. Microbiol.* 12: 291-305.
47. Van Zyl, C., B.A. Prior, S.G. Kilian and J.L.F. Kock. 1989. D-xylose utilisation *Saccharomyces cerevisiae*. *J. Gen. Microbiol.* 135: 2791-2798.
48. Cottrell, M. and J.L.F. Kock. (1990) An electrophoretic karyotype comparison of the yeast genera *Dipodascopsis* Batra et Millner, *Lipomyces* Lodder et Kreger-van Rij, *Myxozyma* van der Walt et al., *Waltomyces* Yamada et Nakase and *Zygosyma* van der Walt et Von Arx. *Syst. Appl. Microbiol.* 13: 136-141.

49. Augustyn, O.P.H., J.L.F. Kock and D. Ferreira (1990) Differentiation between yeast species, and strains within a species, by cellular fatty acid analyses. 3. *Saccharomyces* sensu lato. *Arxiozyma* and *Pachytilchospora*. Syst. Appl. Microbiol. 13: 44-55.
50. Pearson, T., J.L.F. Kock and S.G. Kilian (1990) The value of carbon compound mixtures in the identification of the yeast genus *Kluyveromyces*. Syst. Appl. Microbiol. 13: 56-59.
51. Pearson, T., J.L.F. Kock and S.G. Kilian (1990) The value of carbon compound mixtures in the identification of yeast genus *Saccharomyces*. ActaVaria 5: 135-146.
52. Smith, E.J., P.W.J. van Wyk, J.P.J. van der Westhuizen and J.L.F. Kock (1990) An extended Q-basic program for the normalisation and computation of whole-cell protein profiles and the application to clinically important *Candida* species. J. Med. Vet. Mycol. 28: 303-315.
53. Viljoen, B.C. and J.L.F. Kock. (1991) The value of pyrolysis-gas-liquid chromatography in the taxonomy of some ascomogenous yeasts. Syst. Appl. Microbiol. 14: 178-182.
54. Kilian, S.G., A. van Deemter, J.L.F. Kock and J.C. du Preez. (1991) Occurrence and taxonomic aspects of proton movements coupled to sugar transport in the yeast genus *Kluyveromyces*. Ant. v. Leeuwenhoek 59: 199-206.
55. Van Dyk, M.S., J.L.F. Kock, D.J. Coetzee, O.P.H. Augustyn and S. Nigam. (1991) Isolation of a novel arachidonic acid metabolite 3-hydroxy 5,8,11,14 – Eicosatetraenoic acid (3-HETE) from the yeast *Dipodascopsis uninucleata* UOFS – Y128. FEBS Lett. 283: 195-198.
56. Kock, J.L.F., D.J. Coetzee, M.S. van Dyk, M. Truscott, F. Cloete, V. van Wyk., and O.P.H. Augustyn. (1991) Evidence for pharmacologically active prostaglandins in yeasts. S.A. J. Sci. 87: 73-76.
57. Augustyn, O.P.H., D. Ferreira and J.L.F. Kock. (1991) Differentiation between Yeast Species, and Strains within a Species, by Cellular Fatty Acid Analysis. 4. *Saccharomyces sensu stricto*, *Hanseniaspora*, *Saccharomyces* and *Wickerhamiella*. Syst. Appl. Microbiol. 14: 324-334.
58. Van der Westhuizen, J.P.J., J.L.F. Kock and E.J. Smit. (1991) The potential use of cellular long-chain fatty acid composition in the taxonomy of the carotenoid pigment producing genera *Rhodospodium* Banno and *Rhodotorula* Harrison. Syst. Appl. Microbiol. 14: 282-290.
59. Augustyn, O.P.H., J.L.F. Kock and D. Ferreira. (1992) Differentiation between Yeast Species, and Strains within a Species, by Cellular Fatty Acid Analysis. A feasible technique? Discussion with special reference to *Kluyveromyces* and *Torulasporea*. Syst. Appl. Microbiol. 15: 105-115.
60. Botha, A., J.L.F. Kock, D.J. Coetzee, M.S. van Dyk, L. van der Berg and P.J. Botes. (1992) Yeast Eicosanoids I: The distribution and taxonomic value of cellular fatty acid metabolites in the Dipodascaceae and related taxa. Syst. Appl. Microbiol. 15: 148-154.
61. Botha A., J.L.F. Kock, D.J. Coetzee, N.A. Linde and M.S. van Dyk. (1992) Eicosanoids II: The influence of non-steroidal anti-inflammatory drugs on the life cycle of *Dipodascopsis*. Syst. Appl. Microbiol. 15: 155-160.
62. Coetzee, D.J., J.L.F. Kock, A. Botha, M.S. van Dyk, E.J. Smit, P.J. Botes and O.P.H. Augustyn. (1992) Yeast eicosanoids III: The distribution of arachidonic acid metabolites in the life-cycle of *Dipodascopsis uninucleata*. Syst. Appl. Microbiol. 15: 311-318.
63. Kock, J.L.F., D.J. Coetzee, M.S. van Dyk, M. Truscott, A. Botha and O.P.H. Augustyn. (1992) Evidence for, and taxonomic value of an arachidonic acid cascade in the Lipomycetaceae. Antonie v. Leeuwenhoek 62: 251-259.
64. Botha, A., J.L.F. Kock, M.S. van Dyk, O.P.H. Augustyn and P.J. Botes. (1993) Yeast Eicosanoids. IV. Evidence for Prostaglandin production during ascosporeogenesis by *Dipodascopsis tothii*. Syst. Appl. Microbiol. 16: 159-163.
65. Botha, A. and J.L.F. Kock. (1993) Application of fatty acid profiles in the identification of yeasts. Int. J. Food Microbiol. 19: 39-51.
66. Botha, A. and J.L.F. Kock. (1993) The distribution and taxonomic value of fatty acids and eicosanoids in the Lipomycetaceae and Dipodascaceae. Ant. v. Leeuwenhoek 63: 111-123.
67. Kock, J.L.F. and C. Ratledge. (1993) Changes in lipid composition and arachidonic acid turnover during the life cycle of the yeast *Dipodascopsis uninucleata*. J. Gen. Microbiol. 139: 459-464.
68. Kock, J.L.F. and A. Botha. (1993) Acetic acid - a novel source for the production of gamma-linolenic acid and cocoa butter equivalents. S.A. J. Sci. 89: 465.
69. Roux, M.P., J.L.F. Kock, A. Botha, J.C. du Preez, G.V. Wells and P.J. Botes. (1994) *Mucor* - a source of cocoa butter and gamma - linolenic acid. World Journal of Microbiology and Biotechnology 10: 417-422.
70. Van Dyk, M.S., J.L.F. Kock and A. Botha. (1994) Review : Hydroxy long chain fatty acids in fungi. World Journal of Microbiology and Biotechnology 10: 495-504.
71. Van der Westhuizen, J.P.J., J.L.F. Kock, A. Botha and P.J. Botes. (1994) The distribution of the omega 3 and omega 6-series of cellular long - chain fatty acids in fungi. Syst. Appl. Microbiol. 17:327-345.
72. Jansen van Vuuren, D., J.L.F. Kock, A. Botha and P.J. Botes. (1994) Changes in lipid composition during the life cycle of *Dipodascopsis tothii*. Syst. Appl. Microbiol. 17: 346-351.
73. Botha, A., J.L.F. Kock, D. Jansen van Vuuren and M.S. van Dyk. (1994) Arachidonic acid turnover during the life cycle of the yeast *Dipodascopsis tothii*. S.A. J. Sci. 90: 604-606.
74. Jansen van Rensburg, E.L., J.L.F. Kock, D.J. Coetzee, A. Botha and P.J. Botes (1995) Lipid composition and DNA band patterns in the yeast family Lipomycetaceae. Syst. Appl. Microbiol. 18: 410-424.
75. Roux, M.P., J.L.F. Kock, J.C. Du Preez and A. Botha (1995) The influence of dissolved oxygen tension on the production of cocoa butter equivalents and gamma-linolenic acid by *Mucor circinelloides*. Syst. Appl. Microbiol. 18: 329-334.
76. Botha, A., J.L.F. Kock, C. Roux, D.J. Coetzee and P.J. Botes (1995) An isolation medium for gamma-linolenic acid producing mucoralean fungi. Syst. Appl. Microbiol. 18: 448-454.
77. Jeffery, J., Kock, J.L.F., Botha, A., Coetzee, D.J. and Botes, P.J. (1995) Changes in lipid composition over the growth cycle of *Schizosaccharomyces pombe* CBS 356 T. Syst. Appl. Microbiol. 18: 335-337.
78. Van der Berg, L., Kock, J.L.F., Botha, A., Coetzee, D.J., Van Dyk, M.S., Augustyn, O.P.H. and Nigam, S. (1995) The effect of nordihydroguaiaretic acid and non-steroidal anti-inflammatory drugs on *Saccharomyces cerevisiae* and other endomycetalean yeasts. S.A. J. Sci. 91: 529-533.

79. Kock, J.L.F., Van der Walt, J.P. and Yamada, Y. (1995) *Smithiozyma* gen. nov. (Lipomycetaceae) S.A. J. Bot. 61(4): 232-233.
80. Kock, J.L.F., Botha, A., Bloch, J. and Nigam, S. (1996) Used cooking oil: Science tackles a potential health hazard. S.A. J. Sci. 92: 513-514.
81. Blignaut, E., Senekal, R., Kock, J.L.F., Botha, A. and Van der Westhuizen, P.J. (1996) The value of cellular fatty acid analysis in the identification of oral yeasts. Syst. Appl. Microbiol. 19: 381-383.
82. Kock, J.L.F., Jansen van Vuuren, D., Botha, A., Van Dyk, M.S., Coetzee, D.J., Botes, P.J., Shaw, N., Friend, J., Ratledge, C., Roberts, A.D. and Nigam, S. (1997) The production of biologically active 3-hydroxy-5,8,11,14-eicosatetraenoic acid (3-HETE) and linoleic acid metabolites by *Dipodascopsis*. Syst. Appl. Microbiol. 20: 39 – 49.
83. Botha, A., Strauss, T., Kock, J.L.F., Pohl, C.H. and Coetzee, D.J. (1997) Carbon source utilization and gamma-linolenic acid production by mucoralean fungi. Syst. Appl. Microbiol. 20: 165 – 170.
84. Botha, A., Kock, J.L.F., Coetzee, D.J. and Botes, P.J. (1997) Physiological properties and fatty acid composition in *Mucor circinelloides*. Antonie v. Leeuwenhoek 71: 201 -207.
85. Botha, A., Roux, C., Botha, A.J., Kock, J.L.F. and Pohl, C.H. (1997) Notes on the physiology and morphology of *Thamnostylum piriforme* isolated for the first time in South Africa. S.A. J. Bot. 63: 104-108.
86. Jeffery, J., Kock, J.L.F., Botha, A., Coetzee, D.J., Botes, P.J. and Nigam, S. (1997) Enhanced sunflower oil utilisation and gamma-linolenic acid production by *Mucor circinelloides* f. *circinelloides* CBS 108.16 in the presence of acetate. W. J. Microbiol. Biotech. 13: 357-358.
87. Jeffery, J., Kock, J.L.F., Botha, A., Coetzee, D.J. and Botes, P.J. (1997) The value of lipid composition in the taxonomy of the Schizosaccharomycetales. Antonie v. Leeuwenhoek 72: 327-335.
88. Mthibeli, A., Kock, J.L.F., Botha, A., Coetzee, D.J., Botes, P.J. and Pretorius, E.E. (1997) Lipomycetaceous yeasts from the Northern Province of South Africa. S.A. J. Sci. 93: 45-47.
89. Venter, P., Kock, J.L.F., Kumar, S., Botha, A., Coetzee, D.J., Botes, P.J., Bhatt, R.K., Schewe, T. and Nigam, S. (1997) Production of 3R-hydroxy-polyenoic fatty acids by the yeast *Dipodascopsis uninucleata*. Lipids 32: 1277-1283.
90. Pohl, C.H., Botha, A., Kock, J.L.F., Coetzee, D.J. and Botes, P.J. (1997) The production of gamma-linolenic acid by selected members of the Dikaryomycota grown on different carbon sources. Antonie v. Leeuwenhoek 72: 191-199.
91. Pohl, C.H., Botha, A., Kock, J.L.F., Coetzee, D.J., Botes, P.J., Schewe, T. and Nigam, S. (1998) Oxylipin formation in fungi: Biotransformation of arachidonic acid to 3-hydroxy-5,8-tetradecadienoic acid by *Mucor genevensis*. Biochem. Biophys. Res. Comm. 253: 703-706.
92. Kock, J.L.F., Venter, P., Linke, D., Schewe, T. and Nigam, S. (1998) Biological dynamics and distribution of 3-hydroxy fatty acids in the yeast *Dipodascopsis uninucleata* as investigated by immunofluorescence microscopy. Evidence for a putative regulatory role in the sexual reproductive cycle. FEBS Lett. 427: 345-348.
93. Kock, J.L.F., Van Wyk, P.W.J., Venter, P., Coetzee, D.J., Smith, D.P., Viljoen, B.C., and Nigam, S. (1999) An acetylsalicylic acid-sensitive aggregation phenomenon in *Dipodascopsis uninucleata*. Antonie v. Leeuwenhoek 75: 261-266.
94. Botha, A., Paul, I., Roux, C., Kock, J.L.F., Coetzee, D.J., Strauss, T., Maree, C. (1999) An isolation procedure for arachidonic acid producing *Mortierella* species. Antonie v. Leeuwenhoek 75: 253-256.
95. Jeffery, J., Kock, J.L.F., Du Preez, J.C., Bareetseng, A.S., Coetzee, D.J., Botes, P.J., Botha, A., Schewe, T. and Nigam, S. (1999) Effect of acetate and pH on sunflower oil assimilation by *Mucor circinelloides* f. *circinelloides*. Syst. Appl. Microbiol. 22: 156-160.
96. Morakile, G.I., Pretorius, E.E., Pohl, C.H. and Kock, J.L.F. (1999) Maintenance of brewing inocula through cryopreservation. S.A. J. Sci. 95: 557-558.
97. Smith, D.P., Kock, J.L.F., van Wyk, P.W.J., Venter, P., Coetzee, D.J., van Heerden, E., Linke, D. and Nigam, S. (2000) The occurrence of 3-hydroxy oxylipins in the ascomycetous yeast family Lipomycetaceae. S.A. J. of Sci. 96: 247-249.
98. Kock, J.L.F., Venter, P., Smith, D.P., Van Wyk, P.W.J., Botes, P.J., Coetzee, D.J., Pohl, C.H., Botha, A., Riedel, K-H. and Nigam, S. (2000) A novel oxylipin-associated "ghosting" phenomenon in yeast flocculation. Ant. v. Leeuwenhoek 77: 401-406.
99. Smith, D.P., Kock, J.L.F., Motaung, M.I., van Wyk, P.W.J., Venter, P., Coetzee, D.J. and Nigam, S. (2000) Ascospore aggregation and oxylipin distribution in the yeast *Dipodascopsis tothii*. Ant. v. Leeuwenhoek 77: 389-392.
100. Strauss, T., Botha, A., Kock, J.L.F., Paul, I., Linke, D., Schewe, T. and Nigam, S. (2000) Mapping the distribution of 3-hydroxy oxylipins in the Mucorales using immunofluorescence microscopy. Ant. v. Leeuwenhoek 78: 39-42.
101. Deva, R., Coccoli, R., Schewe, T., Kock, J.L.F. and Nigam, S. (2000) Arachidonic acid stimulates cell growth and forms a novel oxygenated metabolite in *Candida albicans*. Biochimica et Biophysica Acta 1486: 299-311.
102. Strauss, T., Botha, A., Mostert, T., Kock, J.L.F., Du Preez, P.J. and Greyling, D. (2000) Development and testing of selective media for mucoralean fungi. S.A. J. Sci. 96(11/12): 597-602.
103. Deva, R., Kock, J.L.F. and Nigam, S. (2001) Involvement of aspirin-sensitive oxylipins in vulvovaginal candidiasis. FEMS Lett. 198(1): 37-43.
104. Anelich, L.E.C.M., Kock, J.L.F., Roux, M.P., Botha, A., Bezuidenhout, S.M., Coetzee, D.J. and Venter, P. (2001) The quality of used frying fats in South Africa. S.A. J. Sci. 97 (7/8): 289-.
105. Pelesane, T.R., Kock, J.L.F., Joseph, M., Pohl, C.H., Anelich, L.E.C.M., Roux, M.P. and Botes, P.J. (2001) Fungal transformation of polymerized lipids present in extensively used frying oils. S.A. J. Sci. 97 (9/10): 371-.
106. Kock, J.L.F., Strauss, T., Pohl, C.H., Smith, D.P., Botes, P.J., Pretorius, E.E., Tepeny, T., Sebolai, O., Botha, A. and Nigam, S. (2001) Bioprospecting for novel oxylipins in fungi: The presence of 3-hydroxy oxylipins in *Pilobolus*. Antonie v. Leeuwenhoek 80: 93-99.
107. Sebolai, O., Kock, J.L.F., Pohl, C.H., Smith, D.P., Botes, P.J., Pretorius, E.E., Van Wyk, P.W.J. and Nigam, S. (2001) Bioprospecting for novel hydroxyoxylipins in fungi: Presence of 3-hydroxy palmitic acid in *Saccharomycopsis malanga*. Antonie v. Leeuwenhoek 80: 311-315.
108. Morakile, G. Pretorius, E.E., Pohl, C.H. and Kock, J.L.F. (2002) Comparison of preservation methods for the maintenance of brewing yeast. S.A. J. Sci. 98 (Jan./Feb.): 23 –24.

109. Morakile, G., Kock, J.L.F. and Botes, P.J. (2002) The use of fatty acid and sterol analyses as quality control methods in the brewing industry. *J. Inst. Brew.* 108(2): 160- 163.
110. Morakile, G., Kock, J.L.F., Van Zyl, W., Pohl, C.H. and Viljoen, B.C. (2002) Differentiation of brewing and related yeasts based on PCR amplification and restriction fragment length polymorphism of ribosomal DNA. *J. Inst. Brew.* 108(2): 164-168.
111. Kock, J.L.F., Pohl, C.H. & Venter, A. (2002) Super oxidized soups and the health risks to poor South Africans. *S.A. J. Sci.* 98: 413-414.
112. Smith, D.P., Kock, J.L.F., Van Wyk, P.W.J., Pohl, C.H., Van Heerden, E., Botes, P.J. and Nigam, S. (2003) Oxylipins and ascospore morphology in the ascomycetous yeast genus *Dipodascus*. *Ant. v. Leeuwenhoek* 83: 317-325.
113. Strauss, C.J., Kock, J.L.F., Van Wyk, P.W.J., Viljoen, B.C., Botes, P.J., Hulse, G. and Nigam, S. (2003) Inverse flocculation patterns in *Saccharomyces cerevisiae* UOFS Y-2330. *J. Inst. Brew.* 109 (1): 3-7.
114. Kock, J.L.F., Strauss, C.J., Pohl, C.H. and Nigam, S. (2003) Invited Review: The distribution of 3-hydroxy oxylipins in fungi. *Prostaglandins & Other Lipid Mediators* 71: 85-96.
115. Venter, T., Kock, J.L.F., Botes, P.J. Smit, M.S., Hugo, A. and Joseph, M. (2004) Acetate enhances citric acid production by *Yarrowia lipolytica* when grown on sunflower oil. *Syst. Appl. Microbiol.* 27: 135 – 138.
116. Baretseng, A.S., Kock, J.L.F., Pohl, C.H., Pretorius, E.E. and Van Wyk, P.W.J. (2004) Variation in functional ascospore parts in the ascomycetous yeast *Dipodascopsis uninucleata*. *Antonie v. Leeuwenhoek* 85: 187-189.
117. Sebolai, O.M., Kock, J.L.F., Pohl, C.H. and Botes, P.J. (2004) Report on a novel 3-hydroxy oxylipin cascade in the yeast *Saccharomycopsis symaendendra*. *Prostaglandins and Other Lipid Mediators* 74(1-4): 139-146.
118. Baretseng, A.S., Kock, J.L.F., Pohl, C.H. Pretorius, E.E., Strauss, C.J., Botes, P.J., Van Wyk, P.W.J. and Nigam, S. (2004) Mapping 3-hydroxy oxylipins on ascospores of *Eremothecium sincaudum*. *Antonie v. Leeuwenhoek* 86: 363-368.
119. Kock, J.L.F., Strauss, C.J., Pretorius, E.E., Pohl, C.H., Baretseng, A.S., Botes, P.J., van Wyk, P.W.J., Schoombie, S.W. and Nigam, S. (2004) Revealing yeast spore movement in confined space. *S.A. J. Science* 100 (5/6): 237-240. (Include cover page).
120. Strauss, C. J., Kock, J.L.F., Viljoen, B.C., Botes, P.J., Hulse, G. and Lodolo, E. (2004) Lipid turnover during inverse flocculation in *Saccharomyces cerevisiae* UOFS Y-2330. *J. Inst. Brew.* 110(3): 207-212.
121. Baretseng, A.S., Kock, J.L.F., Pohl, C.H., Pretorius, E.E. and Van Wyk, P.W.J. (2005) Uncovering the first double brimmed hat-shaped ascospores in *Ambrosiozyma platypodis* Van der Walt. *Antonie v. Leeuwenhoek* 87: 169- 170.
122. Joseph, M., Kock, J.L.F., Pohl, C.H., Botes, P.J. van Heerden, E. and Hugo, A. (2005) Acetate-enhanced polymerized triacylglycerol utilization by *Mucor circinelloides*. *World Journal of Microbiology and Biotechnology* 21: 97-99.
123. Baretseng, A.S., Kock, J.L.F., Pohl, C.H., Pretorius, E.E., Botes, P.J., Van Wyk, P.W.J. and Nigam, S. (2005) The presence of 3-hydroxy oxylipins on surfaces of hat-shaped ascospores of *Ascoidea africana* Batra & Francke-Grosman. *Canadian Journal of Microbiology* 51(1): 99-103.
124. Sebolai, O.M., Kock, J.L.F., Pohl, C.H., Botes, P.J., Strauss, C.J., Van Wyk, P.W.J. and Nigam, S. (2005) The presence of 3-hydroxy oxylipins on the ascospore surfaces of some species representing *Saccharomycopsis* Schionning. *Canadian Journal of Microbiology* 51(7): 605-612.
125. Van Heerden, A., Kock, J.L.F., Botes, P.J., Pohl, C.H., Strauss, C.J., Van Wyk, P.W.J. and Nigam, S. (2005) Ascospore release from bottle-shaped asci in *Dipodascus albidus*. *FEMS Yeast Research* 5(12): 1185-1190.
126. Ciccoli, R., Sahi, S., Singh, S., Prakash, H., Zafiriou, M-P., Ishdorj, G., Kock, J.L.F. and Nigam, S. (2005) Oxygenation by cyclooxygenase-2 (COX-2) of 3-Hydroxyeicosa-tetraenoic acid (3-HETE), a fungal mimetic of arachidonic acid, produces a cascade of novel bioactive 3-hydroxy-eicosanoids. *Biochem. J.* 390: 737-747.
127. Strauss, C.J. Kock, J.L.F., Van Wyk, P.W.J., Lodolo, E.J., Pohl, C.H., and Botes, P.J. (2005) Bioactive oxylipins in *Saccharomyces cerevisiae* *J. Inst. Brew.* 111(3): 304-308.
128. Kock, J.L.F., Kock, J.L.F. (Jr), Strauss, C.J. and Pohl, C.H. (2005) Aspirin: the anti-inflammatory, antifungal, antibacterial agent? *S.A.J.Sci.* 101: 494-495.
129. Baretseng, A.S., Kock, J.L.F., Pohl, C.H., Pretorius, E.E., Strauss, C.J., Botes, P.J., Van Wyk, P.W.J. and Nigam, S. (2006) Mapping the distribution of 3-hydroxy oxylipins in the ascomycetous yeast *Saturnispora saitoi*. *Syst. Appl. Microbiol.* 29: 446-449.
130. Leeuw, N.J., Kock, J.L.F., Pohl, C.H., Baretseng, A.S., Sebolai, O.M., Joseph, M., Strauss, C.J., Botes, P.J., Van Wyk, P.W.J. and Nigam, S. (2006) Oxylipin covered ascospores of *Eremothecium coryli*. *Antonie v. Leeuwenhoek* 89 (1): 91-97.
131. Strauss, C.J., Van Wyk, P.W.J., Lodolo, E.J., Botes, P.J., Pohl, C.H., Nigam, S. and Kock, J.L.F. (2006) Oxylipin associated co-flocculation in yeasts. *J. Inst. Brew.* 112(1): 66-71.
132. Kock, J.L.F. (2006) Is the consumption of oxidised fats contributing to HIV/AIDS progression in South Africa? *The American Journal of Clinical Nutrition* 84(3): 666-667.
133. Pohl, C.H., Kock, J.L.F., Van Wyk, P.W.J. and Albertyn, J. (2006) *Cryptococcus anemochoreius* sp nov, a new anamorphic basidiomycetous yeast isolated from the atmosphere in central South Africa. *Int. J. Syst. Evol. Microbiol.* 56: 2703-2706.
134. Ncango, D.M., Pohl, C.H., Sebolai, O.M., Botes, P.J., Strauss, C.J., Joseph, M., van Wyk P.W.J., Nigam, S. and Kock, J.L.F. (2006) Oxylipin-coated hat-shaped ascospores of *Ascoidea corymbosa*. *Canadian Journal of Microbiology* 52(11): 1046-1050.
135. Van Heerden, A., Van Wyk, P.W.J., Botes, P.J., Pohl, C.H., Strauss, C.J., Nigam, S. and Kock, J.L.F. (2007) The release of elongated, sheathed ascospores from bottle-shaped asci in *Dipodascus geniculatus*. *FEMS Yeast Research* 7: 173-179.
136. Leeuw, N.J., Swart, C.W., Ncango, D.M., Pohl, C.H., Sebolai, O.M., Strauss, C.J., Botes, P.J., van Wyk, P.W.J., Nigam, S. and Kock, J.L.F. (2007) Acetylsalicylic acid as antifungal in *Eremothecium* and other yeasts. *Antonie v. Leeuwenhoek* 91: 393-405.
137. Sebolai, O.M., Pohl, C.H., Botes, P.J., Strauss, C.J., van Wyk, P.W.J., Botha, A. and Kock, J.L.F. (2007) 3-Hydroxy fatty acids found in capsules of *Cryptococcus neoformans*. *Canadian Journal of Microbiology* 53 (6): 809-812.
138. Strauss, C.J., van Wyk, P.W.J., Lodolo, E.J., Botes, P.J., Pohl, C.H., Nigam, S. and Kock, J.L.F. (2007) Mitochondrial associated yeast flocculation – the effect of acetylsalicylic acid. *J. Inst. Brew.* 113(1): 42-47.

139. Kock, J.L.F., Sebolai, O.M., Pohl, C.H., van Wyk, P.W.J. and Lodolo, E.J. (2007) Oxylin studies expose aspirin as antifungal. *FEMS Yeast Research* 7: 1207-1217 (<http://www.blackwell-synergy.com/doi/full/10.1111/j.1567-1364.2007.00273.x>).
140. Sebolai, O.M., Pohl, C.H., Botes, P.J., van Wyk, P.W.J. and Kock, J.L.F. (2008) The influence of acetylsalicylic acid on oxylin migration in *Cryptococcus neoformans* var. *neoformans* UOFS Y-1378. *Canadian Journal of Microbiology* 54 (2): 91-96.
141. Sebolai, O.M., Pohl, C.H., Botes, P.J., van Wyk, P.W.J., Mzizi, R., Swart, C.W. and Kock, J.L.F. (2008) Distribution of 3-hydroxy oxylin and acetylsalicylic acid sensitivity in *Cryptococcus* species. *Canadian Journal of Microbiology* 54 (2): 111-118.
142. Swart, C.W., van Wyk, P.W.J., Pohl, C.H. and Kock, J.L.F. (2008) Variation in yeast mitochondrial activity associated with asci. *Canadian Journal of Microbiology* 54(7): 532-536. doi: 10-1139/W08-036.
143. Ncango, D.M., Swart, C.W., Goldblatt, M.E., Pohl, C.H., Van Wyk, P.W.J., Botes, P.J., Kock, J.L.F. (2008) Oxylin and mitochondrion probes to track yeast sexual cells. *Canadian Journal of Microbiology* 54 (6): 450-455. **(Results on cover page of all 2008 issues)**.
144. Lodolo, E.J., Kock, J.L.F., Axcell, B.C. and Brooks, M. (2008) The yeast *Saccharomyces cerevisiae* - the main character in beer brewing. Review on invitation. *FEMS Yeast Res.* 8: 1018-1036.
145. Ells, R., Kock, J.L.F., Van Wyk P.W.J., Botes P.J. and Pohl, C.H. (2009) Arachidonic acid increases antifungal susceptibility of *Candida albicans* and *Candida dubliniensis*. *J. Antimicrobial Chemotherapy* 63: 124-128.
146. Kock, J.L.F., Swart, C.W., Ncango, D.M., Kock (Jr), J.L.F., Munnik I.A., Maartens M.M.J., Pohl, C.H. and van Wyk, P.W.J. (2009) Development of a yeast bio-assay to screen anti-mitochondrial drugs. *Current Drug Development Technologies* 6(3): 186-191.
147. Leeuw, N.J., Swart, C.W., Ncango, D.M., Kriel, W.M., Pohl, C.H., van Wyk, P.W.J. and Kock, J.L.F. (2009) Anti-inflammatory drugs selectively target sporangium development in *Mucor*. *Canadian Journal of Microbiology* 55 (12): 1392-1396.
148. Ncango, D.M., Swart, C.W., Pohl, C.H., van Wyk, P.W.J. and Kock, J.L.F. (2010) Mitochondrion activity and dispersal of *Aspergillus fumigatus* and *Rhizopus oryzae*. *AJMR* 4(9): 830-835.
149. Kock, J.L.F. (2010) The Effective Management of Unhealthy Fat Waste in South Africa: A Case Study. *The International Journal of Environmental, Cultural, Economic and Social Sustainability* 6(1):177-186.
150. Leeuw, N.J., Swart, C.W., Joseph, M., Pohl, C.H., van Wyk, P.W.J., Coetsee, E., Swart, H.C., Hugo, A. and Kock, J.L.F. (2010) The effects of palm oil breakdown products on lipid turnover and morphology of fungi. *Canadian Journal of Microbiology* 56(1):883-889.
151. Swart, C.W., van Wyk, P.W.J., Pohl, C.H. and Kock, J.L.F. (2010) Variation in mitochondrial activity over the life cycle of *Nadsonia fulvescens*. *AJMR* 4(16): 1727-1732.
152. Swart, C.W., Swart, H.C., Coetsee, E., Pohl, C.H., van Wyk, P.W.J. and Kock, J.L.F. (2010) 3-D architecture and elemental composition of fluconazole treated yeast asci. *Scientific Research and Essays* 5(22): 3411-3417.
153. Thibane, V., Kock, J.L.F., Ells, R., Van Wyk, P.W.J. and Pohl C.H. (2010) Effect of marine polyunsaturated fatty acids on biofilm formation of *C. albicans* and *C. dubliniensis*. *Marine Drugs* 8: 2597-2604.
154. Ells, R., Kock, J.L.F. and Pohl, C.H. (2011) *Candida albicans* or *Candida dubliniensis*? *Mycoses* 54 (1): 1-16. DOI:10.1111/j.1439-0507.2009.01759.x.
155. Ells, R., Kock, J.L.F., Albertyn, J., Kemp, G. and Pohl, C.H. (2011) Effect of inhibitors of arachidonic acid metabolism on prostaglandin E₂ production by *Candida albicans* and *Candida dubliniensis* biofilms. *Medical Microbiology and Immunology* 200: 23-28. doi: 10.1007/s00430-010-0169-7.
156. Kock, J.L.F., Swart, C.W. and Pohl, C.H. (2011) The anti-mitochondrial antifungal assay for the discovery and development of new drugs. *Expert Opinion on Drug Discovery* 6(6): 671-681.
157. Ncango, D.M., Pohl, C.H., Van Wyk, P.W.J. and Kock, J.L.F. (2011) NSAIDs inhibit growth of yeast pathogens. *African Journal of Microbiological Research* (In Press).

16.2 Chapters in books

158. Van Dyk, M.S., J.L.F. Kock, A. Botha, D.J. Coetzee, P.J. Botes, O.P.H. Augustyn and Nigam, S. 1993. 3-HETE- A new aspirin sensitive arachidonic acid metabolite from yeast. *In*: Eicosanoids and other bioactive lipids in cancer, inflammation and radiation injury. (Nigam, S., Honn, K.V., Marnett, L.J., Walden, T.L. eds.) Kluwer Academic Publ., London. pp. 67 - 70.
159. Kock, J.L.F., M.J. Wingfield and S.C. Erasmus. 1993. Potential value of cellular long-chain fatty acid composition in the taxonomy of the Ophiostomatoidei Fungi. *In*: *Ceratocystis* and *Ophiostoma* - Taxonomy, Ecology, and Pathogenicity (Wingfield, M.J., Seifert, K.A., Webber J.F. eds.) APS Press, St Paul, Minnesota.
160. Roux, M.P., Kock, J.L.F. and Nigam, S. (1996) Phosphatidylinositol-3-kinase pathway is stimulated by fungal lipid containing cocoa butter equivalents (CBE) in fMet-Leu-Phe- (FMLP) and phorbol ester (PMA)- challenged human neutrophils. *In*: Platelet-Activating Factor and Related Lipid Mediators in Health and Disease. (Nigam, S., Kunkel, G. and Prescott, S.M. eds). Plenum Press, New York. pp. 349-353.
161. Kock, J.L.F., Botha, A. and Nigam, S. (1998) The production of biologically active eicosanoids by yeasts. *In*: Recent advances in prostaglandin, thromboxane and leukotriene research. (Sinzing, H., Vane, J.R., Samuelson, B., Paoletti, R. Ramwell, P.W., Wong, PY-K eds) Plenum Press, New York, pp. 217-.
162. Botha, A., Kock, J.L.F. and Nigam, S. (1998) The production of eicosanoid precursors by mucoralean fungi. *In*: Recent advances in prostaglandin, thromboxane and leukotriene research. (Sinzing, H., Vane, J.R., Samuelson, B., Paoletti, R. Ramwell, P.W., Wong, PY-K eds) Plenum Press, New York, pp. 227-.
163. Kock, J.L.F. and A. Botha. 1998. Fatty acids in fungal taxonomy. *In*: *Chemical fungal taxonomy*. (Frisvad, J.C., Bridge, P.D., Arora, D.K.) Marcel Dekker, Inc., London. pp. 219-246.

164. Kock, J.L.F., Strauss, C.J., Pohl, C.H., Van Wyk, P.W.J. and P.J. Botes. 2006. Yeast Biomechanics. Proceedings: III European Conference on Computational Mechanics Solids, Structures and Coupled Problems in Engineering. Lisbon, Portugal, 5-8 June 2006, Eds. C.A. Mota Soares et al.. ISBN-10 1-4020-4994-3 (HB) & ISBN-13 978-1-4020-4994-1 (HB). Springer, The Netherlands, p. 725.
165. **Prillinger, H., Lopandic, K., Suzuki, M., Kock, J.L.F. and Boekhout, T. 2011. Chemotaxonomy of Yeasts. In: *The Yeasts: A Taxonomic Study, Volume 1, 5th Edition*. (Kurtzman, C.P., Fell, J.W., Boekhout, T.) Elsevier, London, Chapter 9, pp. 129 –136.**

16.3 Patents

166. Kock, J.L.F., D.J. Coetzee, M.S. Smit, F. Cloete and M. Truscott. 1990. Production of eicosanoids and novel eicosanoids. Patent no. 90/4396.
167. Kock, J.L.F. and D.J. Coetzee. 1990. Regulation of growth and metabolism of fungi, particularly yeasts. Patent no. 90/4397.
168. Kock, J.L.F. and D.J. Coetzee. 1990. "Pharmaceutical Model". Patent no. 90/4398.
169. Kock, J.L.F., D.J. Coetzee, M.S. Smit and M. Truscott. 1990. Production of eicosanoids and novel eicosanoids.II. Patent no. 90/6453.
170. Kock, J.L.F. and A. Botha. 1993. Method to produce single cell oil containing gamma-linolenic acid. USA appl. no. 07/987,985 accepted; PCT appl. no. PCT/GB92/022,88. Int. Publication number WO 93/12242.
171. Kock, J.L.F. and A. Botha. 1995. Biological treatment and cultivation of microorganisms. United States Patent No. 5,429,942. Assignee: Sasol Industries.
172. Kock, J.L.F., Botha, A. and D.J. Coetzee. 1996. Assessment of quality of frying oils and apparatus for use therein. R.S.A. Pat. Appl. No. 95/0300.
173. Davis, H.J., Sebolai, O.M., Kock, J.L.F. and Lotter, A.P. 2009. Use of non-steroidal anti-inflammatory drugs in the treatment of opportunistic infections. Pat. Appl. No. 2009/06259.

16.4 Technical reports

SA Fryer Oil Initiative (SAFOI) Newsletters 1997 – 2010 & ongoing (www.ufs.ac.za/myoilguide).

Cryopreservation of brewery yeast 1997 - 2000 (6 reports to SA Breweries)

UNESCO-MIRCEN Activity Report 1996

UNESCO-MIRCEN Activity Report 1997

UNESCO-MIRCEN Activity Report 1998

UNESCO-MIRCEN Activity Report 1999

UNESCO-MIRCEN Activity Report 2000

UNESCO-MIRCEN Activity Report 2001

UNESCO-MIRCEN Activity Report 2002

16.5 Publications in Popular Press about Kock's Research

* All publications in this section have been written by journalists.

"Skokbevindings gedoen oor ou kookolie in BFN-ondernemings". Die Volksblad, 16 Dec. 1994.

"Moontlik giftige olie nog verkoop". Die Volksblad, 21 Dec. 1994.

"Gif in jou skyfies" Die Huisgenoot, 19 January 1995.

"Poison in your chips" YOU Mag., 19 January 1995.

"Shock report on re-used cooking oil" DRUM Mag., March 1995.

"Cooking with oil - the healthy way" National Health Department Brochure, Nkophila's Letters, 1995.

"Abused cooking oil" National Health Department Brochures, 1995.

"Ou kookolie" Die Bult, March 1995.

"Fryer oil-a potential health hazard" Food Industries of S.A., October 1995.

"Wetgewing oor gebruikte kookolie dalk gou ingedien" Die Volksblad, 9 November 1995.

"Symposium about abuse of cooking oil" Weekend Argus, 12 November 1995.

"Groot opvoedingsproses oor kookolie lê voor" Die Volksblad, 15 November 1995.

"Verkoop van gebruikte kookolie, herhaalde gebruik, verbied". Bloem News, 15 November 1995.

"Ou kookolie kan tot ramp in SA lei". Die Volksblad December 1995.

"Pat's Passion". Sunday Times, 3 March 1996.

"Gebruik van ou kookolie kan siektes veroorsaak". Beeld, 8 March 1996.

"Okushaqisayo ngowoyela wokuphka". Ilanga, 14-16 March 1996.

"Who, what and where to find it on the Cape dining scene". Weekend Argus, 16 March 1996.

"Eat Healthy". Sunday Tribune, 17 March 1996.

"Workshop held on fryer oil". Northern Review, 22 March 1996.

"Oil thumbs-up for fast food outlet". Burger Coast, 27 March 1996.

"SA sitting on a time bomb of rotten oil". Express, 29 March 1996.

"Oil thumbs-up for fast food outlet". Burger Belville, 3 April 1996.

"Fast food outlet gets oil thumbs-up". Burger Parow, 10 April 1996.

"Reason to crow". Express, 10 April 1996.

"Pasop vir kookolie". Rooi Rose, 17 April 1996.

"Vet in die vuur oor olie" Noord Transvaal Metro, 26 April 1996.

"Oil survey reveals shocking results". Food Industries S.A., April 1996.

"Nando's on the oil issue". Food Industries S.A., April 1996.

"Nando leads the good oil initiative". Professional Caterer, May 1996.
 "DIY fryer oil test kits". Food Industries of S.A., May 1996.
 "Good cooking oil vs abused cooking oil". Fast Food Fam. Rest., May 1996.
 "The oil crisis". Hotelier & Caterer, May 1996.
 "Oil is well". Sunday Life, June 1996.
 "The oil saga continues". Food Industries of S.A., June 1996.
 "When the chips are down". Cosmopolitan, July 1996.
 "Loop lig vir daai olie". Gesond, September 1996.
 "Ou kookolie is gevaarlik". Beeld, 26 August 1996.
 "Don't cook your goose". City Press, 15 September 1996.
 "Over-used cooking oil may cause catastrophe". Cape Times, 22 November 1996.
 "Industry and university team up to produce high value lipids". Scientech, 1996.
 "UV projek maak mense bewus van gevare van gebruikte kookolie". Die Volksblad, 27 November 1996.
 "Voorsorg met gebruikte kookolie is nodig". Die Volksblad, 27 November 1996.
 "Skenking vir navorsing oor misbruikte kookolie". Ons Stad, 16 January 1997.
 "What's cooking". Fair Lady, 14 May 1997.
 "Foodstuffs, Cosmetics and Disinfectants Act, 1972 (Act no. 54 of 1972)". Government Gazette, 16 August 1996.
 "Out of the frying pan" Professional Caterer (SA Chef), May 1998.
 "Cooking oil scam puts lives in danger" The Star, July 28, 1998.
 "Chip Tips." Fast Foods, April 1998.
 "Abuse of cooking oil widespread." The Daily News, 2 Nov. 1998.
 "Free State: The Winning Province" Chris van Rensburg Publ. Pty, Ltd. pp. 89-, November 1997.
 "Ontdekking aan UV oor gis bevoordeel mensdom dalk." Die Volksblad, 23 January 1999.
 "Wetenskaplikes van oor die wêreld heen byeen in Bloemfontein." Die Volksblad, 1999.
 "Focus on reused cooking oil dangers." Sunday Tribune, Aug. 06, 2000.
 "Reusing cooking oil can be deadly." Algoa Sun, February 24, 2000.
 "Mind that oil." Your Family, April 2000.
 "Brewing the best." On the cutting edge of research and development, THRIIP ANNUAL REPORT 2000.
 "New yeast stands the test of time." Mail and Guardian, 15 September 2000.
 "Jong Bloemfontein se ontdekking help pikkewyne." Die Volksblad, 13 Julie 2000. VOORBLAD
 "Biodiesel as alternatief ondersoek" Landbou Weekblad, 2 Maart 2001. Bl. 69-70.
 "Hudson & Knight and Ocean Basket join forces" Fast Food & Family Restaurant, Jan. 2001. p.15.
 "Restaurant oil as an energy source" Chips, January 1998. Bl. 17-21.
 "Danky student se studie kan ou olie benut word" Die Volksblad, 16 March 2001. P. 4.
 "Alarm over "deadly" cooking oil" News 24.com, 19 April 2001.
 "Warning over toxic cooking oil" Sunday Times, 15 April 2001, (Front Page).
 "Beware poisonous cooking oil" Natal Witness, 19 April 2001.
 "Health officials warn on cooking oils scam" EP Herald, 18 April 2001.
 "Foiled by the Food Cops" You Magazine, 8 November 2001.
 "Sonneblomolie met giftige stof gekleur" Die Beeld, 22 Oct. 2001.
 "Police seize fake oil" Cape Argus, 23/10/2001.
 "Hartgroep se logo verdag na toetse op olyfolie" Die Burger, 24 Oct. 2001.
 "Bedrog met olyfolie hou gesondheidsgevaar in" Die Volksblad, 20 Oct. 2001.
 "Tophandelsmerk ook nie olyfolie" Die Beeld, 24 Oct. 2001.
 "Polisie lê beslag op kaste olie" Die Volksblad, 26 Oct. 2001.
 "Polisie lê beslag op giftige olyfolie in Vishoek" Die Burger, 23 Oct. 2001.
 "Polisie, wetenskaplikes oorval met navrae na olyfolie-skandaal in SA" Die Volksblad, 29 Oct. 2001.
 "Cops crack fake olive oil scam" Pretoria News, 20 Oct. 2001.
 "Olyfolie-bedrog: Polisie slaan toe" Die Volksblad, 23 Oct. 2001.
 "Olyfolieskandaal" Die Volksblad, 24 Oct. 2001.
 "Bekende soort olyfolie slaag ook nie toets" Die Volksblad, 24 Oct. 2001.
 "Pouring fake oil on troubled waters" The Star, 23 October 2001
 Seel fnuik kookolie-bedrog. Marietjie Gericke, Ons Stad, 1 Mei 2003
 Edible oil's Seal of approval. Food & Beverage Reporter, May 2003
 Boil, boil, oil and trouble. Penny Haw, Food Review, June 2003
 Kookolie: dit prut.... Nico Vermaak, Graan SA, September 2003
 Waarmerk vir ware Jakob dalk aan't kom. Mariette Oosthuizen, Die Beeld, 12 Februarie 2003
 "Slaptjips" in palmolie gebraai, is minder ongesond. Maryna van Wyk, Rapport, 7 September 2003
 Palmolie kry Saki-goedkeuring. Michele O'Connor, Volksblad, 10 September 2003
 Palmolie veiliger en kan herbruik word. Marietjie Gericke, Ons Stad, 11 September 2003
 Palmolie kry SAKI se goedkeuring. Bloemnuus, 12 September 2003
 Fast-food outlets "must change oil". Tamar Kahn, Business Day, September 16, 2003
 The big oil – health debate. Food & Beverage Reporter. April 2004.
 Probe into canola oil purity claim. Sunday Tribune, 22/02/04
 Chips fried in "varnish". Saturday Star, 21/02/04
 Chips fried in varnish. Sunday Tribune, 15/02/04
 Oil is not pure, city mill told. The Witness, 24/02/04
 Olie wat nie suiwer is van rakke afgehaal. Rapport, 28/02/04
 Kitsgif in jou tjips. Huisgenoot, 24/06/04
 Waiter, please check the oil. You, 24/06/04

- Free State scientists bringing renewed hope to millions. Joyce Tse, Cape Times, May 31, 2005.
 Edible oils to be monitored. Express, 31 March 2006
 Nanorobotte kan mense so help. Volksblad, 10 May 2006.
 Restaurant-vette kan gesondheid knou. Rapport, 22 October, 2006.
 Playing with fire. Daily News, 26 October 2006.
 HIV+ people at risk from 'abused' cooking oil. The Mercury/IOL, 26 October, 2006.
 Use cooking oil sensibly. Carine van Rooyen. Health 24.com, November 2006.
 Olie met skop. Lydia van der Merwe, Sarie Magazine, p. 170, February 2007
 Cheap and nasty. Sunday Times (Metro) – Cover Page, p.1, 28 January 2007.
 FAST FOOD: Dying for a take-away? Joanne Lillie, Shape Magazine, Thu, 22 Feb 2007
 A slippery issue. Joanne Lillie, Shape Magazine, July 2007
 Local fungi fundi wows academics in Malaysia. Sue Blaine. Business Day, 25 January, 2008.
 UV-student wen eerste prys op kongres. Volksblad, Saturday, 26 January, 2008.
 Oil crisis, with a difference. Wendy Knowler, East Coast Radio, Consumer Watchdog, 9 July 2008.
 Consumers be warned. Wendy Knowler, Pretoria News, The Sunday Independent, Post, The Cape Times. 24 July, 2008
 Spoiled oil on the menu. Wendy Knowler. The Star. 21 July 2008.
 Reused cooking oil poses health threat. Luyolo Mkentane, Weekend Post, 2 August, 2008.
 Creating a point of difference. Felda Foods. Food and Beverage Reporter, March, 2009.
 Bedrieër na jare gevonniss oor olyfolie: Uitspraak straks eerste in soort. Volksblad, Saterdag 28 Maart 2009.
 Courts take dim view of fraudulent food labels. Nicola Mawson, Business Day, 27 March 2009.
 Man beboet wat verdunde olyfolie as "suiwer" smous. Dries Liebenberg, Beeld, 30 Maart 2009.
 "Spread the word" Lacea Loader. Dumela, May 2009.
 Scientists help convict olive oil fakers. Online. Mail and Guardian, 7 August 2009.
 "Wanpraktyke met kookolie minder." Elsabe Brits. Die Burger, 5 March 2010.
 "Kookolie wanpraktyke." Die Volksblad, 9 March 2010.
 "Hoe betroubaar is kos-etiket?" Die Volksblad, 27 Julie 2010.
 "Questions over new food labels" Cape Argus, 29 July 2010.
 "Nuwe voedsel-etiket kan ook misleidend wees" Rapport, 7 August 2010.
 "Nanotechnology breakthrough at UFS" UFS Media Release, Mangaliso Radebe, 18 August 2010.
 "Breakthrough at UFS" Express, 25-27 August 2010.
 "UFS intends taking the lead" Express, 8 December 2010.
"Prof Lodewyk and team pioneer discovery of the nano world". Die Bult, January, 2011
"Our kids on sick snack-fest". You magazine – Pulse, Autumn, 2011

16.6 Research articles in other journals

- Kock, J.L.F., Botha, A. and Jeffery, J. (1997) Fryer oil initiative for SA: restaurant waste oils now available in SA for animal feeds. AFMA MATRIX 6, 23-25.
 Kock, J.L.F., Groenewald, P., and Coetzee, D.J. (1999) Red-alert for SA edible oil industry! Maize. December issue.
 Kock, J.L.F. (2001) Safe and traceable restaurant oils for the animal feed industry. AFMA MATRIX June issue, pp.20–21.
 Kock, J.L.F., Joseph, M., Hugo, A., Venter, A., Groenewald, P. and Pohl, C.H. (2002) Are the current South African food regulations sufficient to combat edible oil and fat abuse? SA Grain August, 58-61.
 Venter, A., Kock, J.L.F., Pohl, C.H. Abused cooking oil: a ticking time bomb? Health & Hygiene April 2003; 22-23.
 Kock, J.L.F. A solution to oil abuse in South Africa. RB Magazine, April 2005; 22-. COVER STORY.
 Minal, J., Kock, J.L.F., Ismail, R., Pohl, C.H., Botes, P.J. and Ariffin, A. 2005. Palm Oil: The Solution to Over-Used Oil in South Africa. Palm Oil Developments. 43:1-9.

17. STUDENT PROGRAMME

In total 30 M.Sc. students (**20 with distinctions**) and 26 Ph.D. students have since 1985 successfully completed their studies under Kock's supervision.

M.Sc. Students

1. B.C. Viljoen (Reg. 1985: Passed with **distinction** 1986)- Main supervisor: Prof. JLF Kock.
2. Miss M Cottrell (Reg. 1985: Passed with **distinction** 1986)- Main supervisor: Prof. JLF Kock.
3. Miss HB Muller (Reg. 1985: Passed with **distinction** 1987)- Main supervisor: Prof. JLF Kock.
4. HG Tredoux (Reg. 1986: Passed with **distinction** 1987)- Main supervisor: Prof. JLF Kock.
5. Miss A Oosthuizen (Reg. 1985: Passed 1986)- Main supervisor: Prof. JLF Kock.
6. DJ Coetzee (Passed 1988)- Co-supervisor: Prof. JLF Kock.
7. Miss. M. Miller (Reg. 1988: Passed with **distinction** 1989)- Main supervisor: Prof. JLF Kock.
8. T. Pearson (Reg. 1987: Passed 1988)- Main supervisor: Prof. JLF Kock.
9. EL Jansen van Rensburg (Reg. 1990: Passed with **distinction** 1992, S2A3 Medal)- Main supervisor: Prof. JLF Kock.
10. Miss L van der Berg (Reg. 1991: Passed 1993)- Main supervisor: Prof. JLF Kock.
11. Miss J. Jeffery (Reg. 1994; Passed 1996) Full-Time
 Title : The value of lipid composition in the taxonomy of the Schizosaccharomycetales.
12. Miss D. Jansen van Vuuren (Reg. 1994; Passed 1996) Full-Time
 Title : Changes in lipid composition and eicosanoid production during the life cycle of *Dipodascopsis*.
13. Mr A. Mothibeli (Reg. 1995; Passed with **distinction**, 1997) Full-Time **[Previously disadvantaged]**
 Title : Lipomycetaceous yeasts from the Northern Province and their biotechnological applications.
- 14.* Miss C.H. Pohl (Reg 1995; Passed with **distinction**, 1997) Full-Time

- Title: The production of gamma-linolenic acid by selected members of the Dikaryomycota grown on different carbon sources.
15. Mr P.D. Venter (Reg 1996; Passed 1997) Full-Time
Title: The quality of frying fat and possible utilisation of frying fat waste in South Africa.
- 16.* Miss T. Strauss (Reg 1996; Passed with **distinction**, 1998) Full-Time
Title: The isolation of gamma-linolenic acid producing mucoralean fungi.
17. G. Morakile - M.Sc. (Reg. 1997; Passed 1999) Full-Time [**Previously disadvantaged**]
Title: Cryopreservation and chemotaxonomy in *Saccharomyces* Meyen ex Reess.
18. Miss J. Lekekiso - M.Sc. (Reg. 1998; Passed with **distinction** 2000) Full-Time [**Previously disadvantaged**]
Title: The value of polar lipids and sterols in the taxonomy of the family Lipomycetaceae.
- 19*. Miss I. Paul - M.Sc. (Reg. 1998, Passed with **distinction** 2000)
Title: An isolation procedure for arachidonic acid producing mucoralean fungi.
20. Miss T.R. Pelesane (Reg. 1999, Passed 2000) Full-Time [**Previously disadvantaged**]
Title: The quality of used frying fats in South Africa and its biotransformation to high value lipids.
21. Mr. S. Baretseng (Reg. Jan 1998, Passed with **distinction** 2001) Full-Time [**Previously disadvantaged**]
Title: The utilisation of used and other fats by fungi.
22. T. Venter – M.Sc. (Reg. 2002, pass with **distinction** 2004; S2A3 medal & Van der Walt prize for best M.Sc. on yeasts)
Title: The biotransformation of edible oil waste to citric acid using *Yarrowia lipolytica*.
Study leader: Prof. J.L.F. Kock
Co-study leader: Prof. M. Smit
23. M. Kalorizas – M.Sc. (Reg. 2002, pass with **distinction** 2004)
Title: Lipids and the taxonomy of the yeast genus *Kluyveromyces*.
Study leader: Prof. J.L.F. Kock.
Co-study leader: Dr. C. Albertyn.
24. O.M. Sebolai – M.Sc. (Reg. 2003; passed with **distinction** & awarded 6 prizes) Full-Time [**Previously disadvantaged**]
Title: The lipid composition of the yeast genus *Saccharomycopsis* Schionning.
Study leader: Prof. J.L.F. Kock.
Co-study leaders: Profs M.S. Smit; P.W.J. van Wyk.
25. N. Leeuw – M.Sc. (Reg. 2005; passed with **distinction** 2007) Full-Time [**Previously disadvantaged**]
Title: Oxylipin distribution in *Eremothecium*.
Study leader: Prof. J.L.F. Kock.
Co-study leaders: Drs A. Hugo, CH Pohl; Prof. P.W.J. van Wyk.
26. A. van Heerden – M.Sc. (Reg. 2005; passed with **distinction** 2007 & S2A3 medal, Van der Walt prize for best M.Sc. on yeasts, Faculty Award, University of the Free State Honorary Colors). Full-Time
Title: Oxylipin production and novel ascospore release mechanisms in the yeast *Dipodascus*.
Study leader: Prof. J.L.F. Kock.
Co-study leaders: Dr. CH Pohl; Prof. P.W.J. van Wyk.
27. D.M. Ncango – M.Sc. (Reg. 2005; passed with **distinction** 2007; S2A3 medal award, Van der Walt prize for best M.Sc. on yeasts, Faculty Award) Full Time [**Previously disadvantaged**]
Title: Oxylipins in the yeast genus *Ascoidea*.
Study leader: Prof. J.L.F. Kock.
Co-study leaders: Dr. CH Pohl; Prof. P.W.J. van Wyk; Dr. M. Joseph.
28. C.W. Swart – M.Sc. (Reg. 2006; passed with **distinction** 2007) Full Time
Title: Oxylipins in automicytic yeast life cycles.
Study leader: Prof. J.L.F. Kock.
Co-study leaders: Dr. CH Pohl; Prof. P.W.J. van Wyk.
29. M. Goldblatt – M.Sc. (Reg. 2006; passed with **distinction** 2007) Full-Time
Title: Ascospore release and oxylipin production in the yeast *Dipodascopsis*.
Study leader: Prof. J.L.F. Kock.
Co-study leaders: Dr. C.H. Pohl; Prof. P.W.J. van Wyk.
- 30.* R. Ells – M.Sc. (Reg 2007; Passed with **distinction** 2008) Full Time
Title: The effect of arachidonic acid on lipid metabolism and biofilm formation of two closely related *Candida* species.
Study leaders: Dr C.H. Pohl
Co-study leader: Prof. J.L.F. Kock
Obtained M.Sc. degree with distinction, Awarded the J.P. van der Walt-prize for best M.Sc.-dissertation in the study of yeast, Awarded the Andries Brink-Sasol prize for best M.Sc.-dissertation in Microbiology, Awarded an academic merit bursary for M.Sc. degree & Awarded Beckman Coulter Award for Best National Masters Student.

Ph.D. Students

1. B.C. Viljoen (Reg. 1986: Passed, 1989) Full-Time - Main supervisor: Prof. JLF Kock.
2. Miss M Cottrell (Reg. 1986: Passed, 1990) Full-Time - Main supervisor: Prof. JLF Kock.
3. OPH Augustyn (Reg. 1987: Passed, 1990) Part-Time - Main supervisor: Prof. JLF Kock.
4. EJ Smit (Reg. 1987: Passed, 1991) Part-Time - Main supervisor: Prof. JLF Kock.
5. DJ Coetzee (Reg. 1989: Passed, 1992) Full-Time - Main supervisor: Prof. JLF Kock.
6. Dr. MS Smit (Reg. 1991: Passed, 1993) Full-Time - Main supervisor: Prof. JLF Kock.
7. A. Botha (Reg. 1990: Passed, 1993) Full-Time - Main supervisor: Prof. JLF Kock.
8. Mr. J.P.J. van der Westhuizen (Reg. 1987; Passed, 1994) Part-Time (**MEDICAL**)
Title: The distribution of the omega 3 and omega 6 series of cellular long-chain fatty acids in fungi associated with disease.

9. Prof. E. Blignaut (Reg. 1990; Passed, 1995) Part-Time (**MEDICAL**)
Title: The identification of oral yeasts utilising conventional, commercial and fatty acid analysis methods.
10. Mr. E. Jansen van Rensburg (Reg. 1992; Passed 1994) Full-Time
Title: The distribution of w3 and w6 fatty acids associated with neutral, phospho- and glycolipid fractions as well as DNA banding patterns within the yeast family Lipomycetaceae and related anamorphs.
11. Miss M.P. Roux (Reg. 1993; Upgraded to Ph.D.; Passed 1996) Full-Time
Title: The production of cocoa butter equivalents by the fungus *Mucor*.
12. Mrs. J. Badenhorst (nee Jeffery) - Ph.D. (Reg. 1996; Passed 1999) Full-Time
Title: Utilisation of edible oils and GLA production by *Mucor* in the presence of acetate.
- 13*. Miss C.A. Pohl - Ph.D. (Reg. 1997; Passed 2000) Full-Time
Title: Lipid metabolism in *Mucor genevensis* and related species.
14. Mr. P. Venter – Ph.D. (Reg. 1997, Passed 2000) Full-Time
Title: The production of 3-hydroxy fatty acids by the yeast *Dipodascopsis uninucleata* and its implications.
15. Mrs. L.E.C.M. Anelich - Ph.D. (Reg. 1996, Passed 2001) Part-Time
Title: The abuse of food oils in the Gauteng Province and the biotransformation of these oils to high value lipids.
 Study leader: Prof. J.L.F. Kock
 Co-study leader: Dr. A. Botha
- 16*. Miss T. Strauss - Ph.D. (Reg. 1998, Passed 2001) Full-Time
Title: Lipids as taxonomic markers for the Mucorales present in soil.
 Study Leader: Dr. A. Botha
 Co-study leader: Prof. JLF Kock
17. Mr. G.I. Morakile - PhD (Reg. 1999, Passed 2002) Full-Time [**Previously disadvantaged**]
Title: Preservation, Inoculum Development and Quality Management of Yeasts in the Brewing Industry.
 Study Leader: Prof. JLF Kock
 Co-study leader: Prof. BC Viljoen
18. Miss D.P. Smith – Ph.D. (Passed 2003) Full-Time
Title: The occurrence and biological activity of 3-hydroxy oxylipins in the ascomycetous yeast family, Lipomycetaceae.
 Study leader: Prof. J.L.F. Kock.
 Co-study leader: Prof. P.W.J. van Wyk
19. Miss. M. Joseph – Ph.D. (Passed 2004) Full-Time [**Previously disadvantaged**]
Title: Quality management and fungal transformation in the edible oil industry.
 Study leader: Prof. J.L.F. Kock.
 Co-study leaders: Drs E. van Heerden, A. Hugo
20. Miss S. Tarr – Ph.D. (Passed 2005) Full-Time [**Previously disadvantaged**]
Title: Yeasts from Lesotho.
 Study leader: Prof. J.L.F. Kock.
 Co-study leaders: Prof. M.S. Smit; Dr. J. Albertyn
21. Mr. S. Baretseng – Ph.D. (Passed 2005) Full-Time [**Previously disadvantaged**]
Title: Lipids and ascospore morphology in yeasts.
 Study leader: Prof. J.L.F. Kock.
 Co-study leaders: Prof. P.W.J. van Wyk; Dr. C.H. Pohl
22. Miss CJ Strauss – Ph.D. (Passed 2006) Full-Time
Title: The role of lipids in the flocculation of *Saccharomyces cerevisiae*.
 Study leader: Prof. J.L.F. Kock.
 Co-study leaders: Prof. P.W.J. van Wyk; Dr. E.J. Lodolo (SA Breweries)
23. O.M. Sebolai – Ph.D. (Reg. 2005 – Passed 2007) Full-Time [**Previously disadvantaged**]
Title: Oxylipins in *Cryptococcus neoformans* and related yeasts.
 Study leader: Prof. J.L.F. Kock.
 Co-study leaders: Prof. P.W.J. van Wyk; Dr. C.H. Pohl
24. Miss N.J. Leeuw Ph.D. (Reg. 2007- Passed 2010) Full-Time [**Previously disadvantaged**]
Title: The influence of oxidized oils on fungal growth and lipid utilization.
 Study leader: Prof. J.L.F. Kock.
 Co-study leaders: Dr. C.H. Pohl, Prof. A. Hugo, Dr. M. Joseph
25. **Mr. D.M. Ncango Ph.D. (Reg. 2007 – Passed 2011; Degree 2011) Full-Time [**Previously disadvantaged**]**
Title: The influence of mitochondrial inhibitors on fungal life cycles.
Study leader: Prof. J.L.F. Kock.
Co-study leaders: Dr. C.H. Pohl, Prof. P.W.J. van Wyk
26. Miss C.W. Swart Ph.D. (Reg. 2008 – Passed 2011; Degree 2011) Full-Time
Title: The influence of mitochondrial inhibitors on zoospore and ascospore development.
Study leader: Prof. J.L.F. Kock.
Co-study leaders: Dr. C.H. Pohl, Prof. P.W.J. van Wyk

* Indicate co-study leader, all other cases main study leader.

Information on achievements of some previous post graduate students

B.C. Viljoen Ph.D. **Position: Professor, Dept Microbiology & Biochemistry, University of the Free State and NRF B evaluated.**

M. Cottrell Ph.D. **Position: Senior Lecturer, Central University of Technology**

E.J. Smit Ph.D. **Position: Senior Lecturer, Central University of Technology**

O.P.H. Augustyn Ph.D. **Position: Asst. Director, Nietvoorbij - Wine Institute, Stellenbosch**
 A. Botha Ph.D. **Position (1998-): Professor, University Stellenbosch**
 M.S. Smit Ph.D. **Position: Professor, University of the Free State**
 E. Blignaut Ph.D. **Position: Professor, MEDUNSA (MEDICAL)**
 E. Jansen van Rensburg Ph.D. **Position: Senior Lecturer, University of the North**
 M.P. Roux Ph.D. **Position: Professor, Tshwane University of Technology**
 P. Venter Ph.D. **Position: Professor, Central University of Technology**
 O.M. Sebolai Ph.D. **Position: Senior Lecturer & UFS Prestige Scholar, University of the Free State**
 S. Bareetseng Ph.D. **Position: Deputy Director, Biotechnology, Department of Science and Technology, Ministry of Science and Technology, South Africa**
 D.M. Ncango Ph.D. **Position: Post Doctoral Fellow & Prestige Scholar of The University of the Free State (2011-)**
 C.W. Swart Ph.D. **Position: Post Doctoral Fellow & Prestige Scholar of The University of the Free State (2011-)**

18. **Other contributions**

A. Conferences

International

IUMS CONGRESSES 1994, 7TH INTERNATIONAL CONGRESS OF BACTERIOLOGY AND APPLIED MICROBIOLOGY DIVISION, Prague, Czech Republic, July 3 - 8, 1994.

Title : Changes in lipid composition and arachidonic acid turnover in *Dipodascopsis tothii*.

A. Botha, J.L.F. Kock and D. Jansen van Vuuren.

Title : The distribution of the omega 3 and omega 6 series of fatty acids in fungi and its implications.

J.L.F. Kock, A. Botha and J.P.J. van der Westhuizen.

Title : The production of eicosanoids by the yeast *Dipodascopsis uninucleata*.

J.L.F. Kock, A. Botha and M.S. van Dyk.

9TH INTERNATIONAL CONFERENCE ON PROSTAGLANDINS AND RELATED COMPOUNDS. FLORENCE, ITALY, JUNE 6 - 10, 1994.

Title : Activation of Phospholipase A2 by 3-HETE, a novel aspirin-sensitive arachidonic acid metabolite from the yeast *Dipodascopsis uninucleata* UOFS Y128. J.L.F. Kock, M.S. van Dyk, D.J. Coetzee, H. Bühler, Hong Zhang and S. Nigam.

10th INTERNATIONAL CONFERENCE ON PROSTAGLANDINS AND RELATED COMPOUNDS. AUSTRIA CENTRE, VIENNA, AUSTRIA. SEPTEMBER, 1996.

***Title**: The production of biologically active eicosanoids by yeasts. J.L.F. Kock, A. Botha, D. Coetzee and S. Nigam.

***Title**: The production of eicosanoid precursors by mucoralean fungi. A. Botha, J.L.F. Kock and S. Nigam.

***Title**: Biological effects of 3-HETE, a novel compound from the yeast *Dipodascopsis uninucleata*, on mammalian cells. S. Nigam, G.S. Kumar and J.L.F. Kock.

5th INTERNATIONAL CONFERENCE OF EICOSANOIDS AND OTHER BIOACTIVE LIPIDS IN CANCER, INFLAMMATION AND RELATED DISEASES, LA JOLLA, U.S., 1997.

***Title**: The production of 3-hydroxy fatty acids by the yeast family Lipomycetaceae. Kock, J.L.F., Venter, P., Botha, A., Coetzee, D.J. and Nigam, S.

***Title**: Signaltransducing effects of 3-HETE, a novel compound from the yeast *Dipodascopsis uninucleata*, on human neutrophils. Nigam, S., Kumar, G.S., Fox, S., Friend, J. and Kock, J.L.F.

14th SAAFOST INTERNATIONAL CONGRESS, CSIR, PRETORIA, 1997.

***Title**: The quality of used cooking oil in South Africa. Kock, J.L.F., Botha, A., Coetzee, D.J. and Nigam, S.

6th INTERNATIONAL MYCOLOGICAL CONGRESS (IMC6), JERUSALEM, ISRAEL, AUGUST, 1998.

***Title** - The distribution and biotechnological value of fatty acids and oxylipins in the yeast family Lipomycetaceae. 6th International Mycological Congress (IMC6). Jerusalem, Israel. August, 1998. Kock, J.L.F. and Nigam, S.

6th INTERNATIONAL CONFERENCE OF EICOSANOIDS AND OTHER BIOACTIVE LIPIDS IN CANCER, INFLAMMATION AND RELATED DISEASES, BOSTON, MASS., U.S.A., 12- 15 SEPTEMBER 1999.

***Title** - Studies on 3-hydroxy-oxylipins, a group of novel eicosanoids produced by fungi. Sixth International Conference on Eicosanoids & Other Bioactive Lipids in Cancer, Inflammation & Related Diseases. Boston, Mass. 12-15 September 1999. NIGAM, S., VENTER, P., DEVA, R., WAICZIES, H., PASHA, M.K., KOCK, J.L.F., SCHEWE, T., SMITH, D.

***Title** - The distribution of oxylipins in the yeast *Dipodascopsis uninucleata* as investigated by immunofluorescence and electron microscopy. Sixth International Conference on Eicosanoids & Other Bioactive Lipids in Cancer, Inflammation & Related Diseases. Boston, Mass. 12-15 September 1999. SMITH, D.P., KOCK, J.L.F., VAN WYK, P.W.J., VENTER, P., COETZEE, D.J., NIGAM, S.

*Title - The production of 3-hydroxy fatty acids by yeasts. Sixth International Conference on Eicosanoids & Other Bioactive Lipids in Cancer, Inflammation & Related Diseases. Boston, Mass. 12-15 September 1999. VENTER, P., KOCK, J.L.F., COETZEE, D.J., BOTES, P.J., NIGAM, S.

*Title - Ingestion of repeatedly heated edible oil activates phospholipase A2 and protein kinase C in rat liver, kidney and colonic mucosa. Sixth International Conference on Eicosanoids & Other Bioactive Lipids in Cancer, Inflammation & Related Diseases. Boston, Mass. 12-15 September 1999. ROUX-VAN DER MERWE, M.P., KOCK, J.L.F., NIGAM, S.

*Title - Ultrastructural evidence for oxylipin-lectin-mediated cell adherence and aggregation. Sixth International Conference on Eicosanoids & Other Bioactive Lipids in Cancer, Inflammation & Related Diseases. Boston, Mass. 12-15 September 1999. VAN WYK, P.W.J., VENTER, P., KOCK, J.L.F., NIGAM, S.

INTERNATIONAL SYMPOSIUM ON NON-MAMMALIAN EICOSANOIDS AND OTHER BIOACTIVE LIPIDS. BERLIN, 29-31 MAY 2000.

Title – The role of 3-hydroxy oxylipins in the life cycle of yeasts. By J.L.F. KOCK, D.P. SMITH, P. VAN WYK, S. NIGAM

Title – Exploring the life cycle of *Mucor* for the presence of oxylipins. By A. BOTHA, C.H. POHL, J.L.F. KOCK, D.J. COETZEE, P. BOTES, T. SCHEWE, S. NIGAM

Title – Electron microscopy of oxylipins in yeasts. By P.W.J. VAN WYK, J.L.F. KOCK, D.P. SMITH, P. VENTER, S. NIGAM

Title – Arachidonic acid metabolism and formation of oxylipins in *Candida albicans*: Pharmacological implications. By S. NIGAM, R. DEVA, R. CICCOLI, J.L.F. KOCK, T. SCHEWE

Title – Ascospore aggregation and oxylipin distribution in the yeast *Dipodascopsis tothii*. By D.P. SMITH, J.L.F. KOCK, M.I. MOTAUNG, P.W.J. VAN WYK, P. VENTER D.J. COETZEE, S. NIGAM

Title – Mapping the distribution of 3-hydroxy oxylipins in the Mucorales using immunofluorescence microscopy. By T. STRAUSS, A. BOTHA, J.L.F. KOCK, I. PAUL, D.P. SMITH, D. LINKE, T. SCHEWE, S. NIGAM

Title – Aspirin sensitive oxylipins in *Candida albicans*. Implications for treatment of vulvovaginal candidiasis. By R. DEVA, R. CICCOLI, I. LEO-ROSSBERG, D.P. SMITH, J.L.F. KOCK, T. SCHEWE, S. NIGAM

Title – Metabolism of arachidonic acid and formation of 3,18 diHETE in *Candida albicans*. By R. DEVA, R. CICCOLI, D.P. SMITH, J.L.F. KOCK, T. SCHEWE, S. NIGAM

Title – PI-3-kinase pathway is stimulated by fungal oil containing gamma- linolenic acid and cocoa butter equivalents in fMLP- and PMA- challenged human neutrophils. By M.P. ROUX, J.L.F. KOCK, S. NIGAM

21ST INTERNATIONAL SPECIALISED SYMPOSIUM ON YEASTS (21ST ISSY 2001), L'VIV, UKRAINE, 21 – 25 August 2001.

Title – The distribution of 3-hydroxy oxylipins in yeasts. By J.L.F. KOCK, D.P. SMITH, C.H. POHL, P.W.J. VAN WYK, S. NIGAM

Title - The distribution and function of 3-hydroxy oxylipins in the ascomycetous yeast *Dipodascopsis uninucleata*. By D.P. SMITH, J.L.F. KOCK, P.W.J. VAN WYK, C.H. POHL, S. NIGAM

22ND INTERNATIONAL SPECIALISED SYMPOSIUM ON YEASTS, Pilanesberg National Park, South Africa, March 2002.

Title: Lipids and fungal taxonomy, J.L.F. Kock, C.J. Strauss, D.P. Smith, C.H. Pohl, S. Nigam.

Title: 3-Hydroxy oxylipins in yeasts, D.P. Smith, J.L.F. Kock, P.W.J. van Wyk, C.H. Pohl, S. Nigam.

Title: Comparison of preservation methods in the maintenance of brewing yeast, G. Morakile, E.E. Pretorius, C.H. Pohl, J.L.F. Kock.

Title: Identification and characterisation of yeasts isolated from *doro* and *mukumbi*, two Zimbabwean traditional alcoholic beverages, A. Mpofu, J.M. Bvochora, E.E. Pretorius, C. Pohl, E. Nyakudya, R. Zvauya, J.L.F. Kock.

INTERNATIONAL SYMPOSIUM ON RECENT BIOMEDICAL ADVANCES IN EICOSANOID RESEARCH, BERLIN, AUGUST 22-24, 2002.

Title: The distribution of 3-hydroxy oxylipins in fungi: an overview, J.L.F. Kock, C. Strauss, D.P. Smith, C.H. Pohl, P.W.J. van Wyk, S. Nigam (invited talk).

INTERNATIONAL CONFERENCE ON ELECTRON MICROSCOPY (ICM), DURBAN, 2002.

Title: Ultrastructure of oxylipins involved in yeast cell flocculation, P.W.J. van Wyk, J.L.F. Kock, & S. Nigam (Talk).

MANAGING FATS AND OIL SUPPLIES FOR HUMAN NEEDS, Strasbourg, France, November 2002.

Title: Fungal biotransformation in the edible oil industry, M. Joseph & J.L.F. Kock

PLANT OXYLIPINS – 2ND Joint Symposium, Göttingen, Germany, June 12 – 14, 2003

Title: 3-Hydroxyoxylipins, a group of novel fungal eicosanoids. S. Nigam, R. Deva, R. Ciccoli, I. Ivanov, H. Ruter, S. Sahi, J.L.F. Kock, et al.

Title: The distribution of 3-hydroxyoxylipins in fungi and its implications. J.L.F. Kock, C.J. Strauss & S. Nigam.

23RD INTERNATIONAL SPECIALIZED SYMPOSIUM ON YEASTS (INTERACTIONS BETWEEN YEASTS AND OTHER ORGANISMS), Budapest, Hungary, August 2003.

KALORIZAS, M., KOCK, J.L.F., POHL, C.H., BOTES, P.J., ALBERTYN, A. The value of RFLP analysis and lipid composition in the taxonomy of the genus *Kluyveromyces*.
 BAREETSENG, A.S., KOCK, J.L.F., POHL, C.H., PRETORIUS, E.E., VAN WYK, P.W.J. Variation in functional ascospore parts in the ascomycetous yeast *Dipodascopsis uninucleata*. **(Received award for best presentation)**.
 TARR, S., KOCK, J.L.F., PRETORIUS, E., BOTES, P. Lipomycetaceous yeasts from the Lesotho highlands.
 VENTER, T., KOCK, J.L.F., SMIT, M.S., HUGO, A., JOSEPH, M. The influence of acetate on citric acid production by *Yarrowia lipolytica* when cultivated on sunflower oil.
 STRAUSS, C.J., KOCK, J.L.F., VAN WYK, P.W.J., HULSE, G., NIGAM, S. Inverse flocculation patterns in *Saccharomyces cerevisiae* UOFS Y 2330.
 KOCK, J.L.F. Lipids and yeast taxonomy **(Invited talk)**.

11th INTERNATIONAL CONGRESS ON YEASTS. 15 – 20 AUGUST 2004, Rio de Janeiro, Brazil.

Kock, J.L.F. et al. Yeast mechanics in micron-space.
 Van Wyk, P.W.J., Strauss, C.J., Kock, J.L.F. et al. Evidence for oxylipin-lectin- mediated yeast cell aggregation mechanism using electron microscopy and laser confocal microscopy.

XXIV INTERNATIONAL SPECIALIZED SYMPOSIUM ON YEASTS (24TH ISSY). 28 September – 2 October 2005, Oropesa del Mar, Castellon, Spain. (Partially sponsored by Kock-group).

Van Heerden, A., Kock J.L.F. et al. Message in a bottle.
 Strauss, C.J., Kock, J.L.F. et al. Cell walls and yeast flocculation: the role of oxylipins (Lecture).

2ND INTERNATIONAL CONFERENCE ON NONMAMMALIAN EICOSANOIDS, BIOACTIVE LIPIDS AND PLANT OXYLIPINS, 24 – 27 MAY, 2006, BERLIN, GERMANY. (Partially sponsored by Kock-group).

Yeast biomechanics: Message in a bottle. A. van Heerden, CJ Strauss, CH Pohl, PWJ van Wyk, S Nigam and JLF Kock
 Oxylipin covered ascospores of *Eremothecium coryli*. NJ Leeuw, CH Pohl, AS Bareetseng, OM Sebolai, M Joseph, CJ Strauss, PJ Botes, PWJ van Wyk, S Nigam and JLF Kock
 Forced release of hat-shaped ascospores in *Ascoidea corymbosa*. MD Ncango, CH Pohl, OM Sebolai, PJ Botes, CJ Strauss, M Joseph, PWJ van Wyk, S Nigam and JLF Kock
 Phenotypic variation in oxylipin-producing *Dipodascopsis uninucleata*. ME Goldblatt, PJ Botes, PWJ van Wyk, CJ Strauss, S Nigam, CH Pohl and JLF Kock
 3-Hydroxy oxylipins associated with *Candida magnolia*. CW Swart, PJ Botes, PWJ van Wyk, CJ Strauss, S Nigam, CH Pohl and JLF Kock.
 Message in a bottle: 3-hydroxy oxylipins and yeast biomechanics. JLF Kock, CJ Strauss, CH Pohl, PWJ van Wyk and S Nigam (Invited talk).
 Yeast flocculation and role of oxylipins. CJ Strauss, PWJ van Wyk, EJ Lodolo, PJ Botes, S Nigam and JLF Kock (Invited talk).
 Application of electron and confocal laser scanning microscopy in observing oxylipins in fungal cells. PWJ van Wyk, CJ Strauss, JLF Kock and S Nigam (Invited talk).
 Oxygenation by COX-2 and 5-, 12- and 15- lipoxygenases of 3-hydroxy-eicosatetraenoic acid, a fungal mimetic of AA, produces a cascade of novel bioactive 3-hydroxy-eicosanoids. R Ciccoli, S Sahi, R Deva, S Singh, M-P Zafriou, JLF Kock and S Nigam.
 Inverse flocculation in *Sacch. cerevisiae*. CJ Strauss, JLF Kock, PWJ van Wyk, PJ Botes and S Nigam.
 A novel aspirin-sensitive 3-hydroxy oxylipin release mechanism in *Cryptococcus neoformans*. OM Sebolai, CH Pohl, PJ Botes, CJ Strauss, PWJ van Wyk and S Nigam.

INTERNATIONAL SPECIALISED SYMPOSIUM ON YEASTS (ISSY 25). June 18-21, 2006, Hanasaari, Espoo, Finland. (Partially sponsored by Kock-group)

Title: Yeast “nanobots”. CH Pohl, CJ Strauss, PWJ van Wyk and JLF Kock

III EUROPEAN CONFERENCE ON COMPUTATIONAL MECHANICS SOLIDS, STRUCTURES AND COUPLED PROBLEMS IN ENGINEERING. LISBON, PORTUGAL, 5-8 JUNE 2006.

Title: Kock, J.L.F., Strauss, C.J., Pohl, C.H., Van Wyk, P.W.J. and P.J. Botes 2006. Yeast Biomechanics. Proceedings: III European Conference on Computational Mechanics Solids, Structures and Coupled Problems in Engineering. Lisbon, Portugal, 5-8 June 2006, Eds. C.A. Mota Soares et al. p. 725. ISBN-10 1-4020-4994-3 (HB) & ISBN-13 978-1-4020-4994-1 (HB). Springer, The Netherlands.

DGF SYMPOSIUM. 25-27 FEBRUARY 2007, HAMBURG, GERMANY. Oleochemicals under changing global conditions.

Title: Fungal transformations of waste oils by *Mucor*. Joseph, M., Kock, J.L.F., Pohl, C., van Heerden, E., Viljoen, B.C. and Hugo, A.

ISSY 26, 2007, SORRENTO, ITALY, 3-7 JUNE 2007. (Partially sponsored by Kock-group).

Keynote Lecture: The yeast *Saccharomyces cerevisiae* – the main character in beer brewing. 2007. Lodolo, E.J., Kock, J.L.F., Axcell, B.C., Brooks, M.D.

Title: Oxylipin production, inhibition and function in fermentative and other yeasts. 2007. Kock, J.L.F. et al.

ASIAN MYCOLOGY CONGRESS (AMC 6). PENANG, MALAYSIA, 2-6 DEC., 2007.

- Title: OXYLIPINS IN YEAST - A REVIEW . J.L.F. Kock, O.M. Sebolai, C.H. Pohl, P.W.J. van Wyk and E.J. Lodolo
 Title: OXYLIPIN ACCUMULATION IN FERMENTATIVE AND NON-FERMENTATIVE YEASTS. C.W. Swart, C.H. Pohl, P.W.J. van Wyk and J.L.F. Kock
 Title: OXYLIPIN AND MITOCHONDRION PROBES TO TRACK ASCI OF *ASCOIDEA*. D.M. Ncango, J.L.F. Kock, C.W. Swart, C.H. Pohl, C.J. Strauss, P.W.J. Van Wyk and P.J. Botes (**First prize for best presentation**).
 Title: ASCOSPORE RELEASE AND OXYLIPIN PRODUCTION IN THE YEAST *DIPODASCOPSIS*. M.E. Goldblatt, P.W.J. van Wyk, C.H. Pohl and J.L.F. Kock
 Title: ACETYSALICYLIC ACID AS ANTIFUNGAL IN *EREMOTHECIUM* AND OTHER YEASTS. N.J. Leeuw, C.W. Swart, D.M. Ncango, C.H. Pohl, O.M. Sebolai, C.J. Strauss, P.J. Botes, P.W.J. van Wyk and J.L.F. Kock
 Title: OXYLIPIN RELEASE IN *CRYPTOCOCCUS NEOFORMANS*. O.M. Sebolai, C.H. Pohl, P.J. Botes, C.J. Strauss, P.W.J. van Wyk and J.L.F. Kock (Lecture).
 Title: EFFECT OF ARACHIDONIC ACID ON *CANDIDA DUBLINIENSIS*. R. Ells, J.L.F. Kock, P.J. Botes, P.W.J. van Wyk and C.H. Pohl

IST INTERNATIONAL CONFERENCE ON DRUG DESIGN & DISCOVERY, DUBAI, 4-7 FEBRUARY, 2008

- Title: Aspirin: The Anti-Inflammatory Antifungal. Kock, J.L.F. (invited presentation).

CONFERENCE: THE 46th ANNUAL CONFERENCE OF THE MICROSCOPY SOCIETY OF SOUTHERN AFRICAN. GABARONE, BOTSWANA, 23-25 JULY, 2008.

- Title: Electron and confocal microscopic examination of oxylipin accumulation in fermentative and non-fermentative yeasts. C.W. Swart, P.W.J. van Wyk and J.L.F. Kock (**Won Leica Prize for best presentation in confocal microscopy**).

12th INTERNATIONAL CONGRESS ON YEASTS. KIEV, UKRAINE, 11-15 AUGUST, 2008.**(Partially sponsored by Kock-group)**

- Title: Effect of arachidonic acid on biofilm formation and antifungal susceptibility of two closely related *Candida* species. R. Ells, J.L.F. Kock, P.W.J. Van Wyk, P.J. Botes and C.H. Pohl (Poster & Lecture)
 Title: Oxylipin and mitochondrion probes to track asci of *Ascoidea* II. D.M. Ncango, J.L.F. Kock, C.W. Swart, C.H. Pohl, C.J. Strauss, P.W.J. Van Wyk and P.J. Botes
 Title: Oxylipin studies expose aspirin as antifungal. C.H. Pohl, M.D. Ncango, C.W. Swart, P.W.J. van Wyk, E. Lodolo and J.L.F. Kock (Lecture).
 Title: Oxylipin accumulation in fermentative and non-fermentative yeasts II. C.W. Swart, C.H. Pohl, P.W.J. van Wyk and J.L.F. Kock

6th EURO FED LIPID CONGRESS. OILS, FATS AND LIPIDS IN THE 3RD MILLENNIUM CHALLENGES, ACHIEVEMENTS AND PERSPECTIVES. ATHENS, GREECE, 7-10 SEPTEMBER, 2008.

- Title: Utilization of Palm Oil Breakdown Products by *Cryptococcus curvatus*. N.J. Leeuw, M. Joseph, C.H. Pohl and J.L.F. Kock.
 Title: The Quality of Fried Foods in South Africa. M. Joseph, V.J. Reid, C.H. Pohl, A. Hugo, A. Van Wyk and J.L.F. Kock.

17th Congress of the International Society for Human and Animal Mycology, Tokyo, Japan, May 2009.

- Title: Oxylipin studies expose antifungals with dual action in *Candida albicans* and *Cryptococcus neoformans*: a review. Kock, JLF, Pohl CH & Van Wyk PWJ.
 Title: The life cycle of *Nadsonia*: a novel antifungal screen. Swart CW, Van Wyk, PWJ, Pohl CH & Kock JLF.
 Title: Asci: indicators of novel antifungals. Ncango DM, Pohl CH, Van Wyk PWJ, Swart CW & Kock JLF.
 Title: Anti-inflammatory drugs selectively target sporangium development in *Mucor*. Leeuw NJ, Swart CW, Ncango DM, Joseph MJ, Kriel WM, Pohl CH, Van Wyk PWJ & Kock JLF.
 Title: Eicosanoids of *Candida dubliniensis*. Ells R, Kock JLF & Pohl CH (Poster & Talk).

6th International Conference on environmental, cultural, economic and social sustainability, Cuenca, Ecuador, 5-7 Jan. 2010.

- Title: The effective management of unhealthy fat waste in South Africa: A case study. Kock, JLF (Lecture).

28th INTERNATIONAL SPECIALISED SYMPOSIUM ON YEASTS: METABOLIC AND BIOPROCESS ENGINEERING FOR SUSTAINABLE DEVELOPMENT, BANGKOK, THAILAND, 15-18 SEPTEMBER 2010.

- Title: NanoSAM: a first application to yeast. Swart CW, Swart HC, Coetsee E, Pohl CH, Van Wyk PWJ and Kock JLF (Invited Lecture).
 Title: Yeast metabolite studies lead to antifungals with dual action. Kock JLF, Pohl CH, Sebolai OM, Swart CW and Van Wyk PWJ.

GORDON RESEARCH CONFERENCES (GRC): IMMUNOLOGY OF FUNGAL INFECTIONS. GALVESTON, TX, USA, JANUARY, 2011.

Title: Interactions of *Candida* species with sciadonic acid treated epithelial cells *in vitro*. Ells R, Kock JLF, Albertyn J, van Wyk PWJ and Pohl CH.

4th WORLD CONGRESS OF INDUSTRIAL BIOTECHNOLOGY: 2011 (IBIO – 2011), DALIAN, CHINA, 25 -29 APRIL, 2011.

Title: A New Nanotechnology for Biology. Kock JLF, Swart CW, Swart HC, Coetsee E, Pohl CH and Van Wyk PWJ. (Invited Lecture).

8th INTERNATIONAL CONFERENCE ON *CRYPTOCOCCUS* AND *CRYPTOCOCCOSIS*; CHARLESTON, SOUTH CAROLINA; 1 - 5 MAY, 2011.

Title: Acetylsalicylic acid: A possible prophylactic agent against *Cryptococcus neoformans*? Sebolai OM, Pohl CH, Botes PJ, Van Wyk PWJ and Kock JLF.

Title: Association of 3-hydroxy oxylipins with capsules of *Cryptococcus neoformans*. Sebolai OM, Pohl CH, Botes PJ, Van Wyk PWJ and Kock JLF.

KEY NOTE ADDRESS: BIT's 2nd ANNUAL INTERNATIONAL CONFERENCE OF MEDICHEM-2011. THEME: MASTER DRUG DISCOVERY CHEMISTRY, BEIJING, CHINA, 9 TO 11 AUGUST, 2011.

Title: A new Imaging Nanotechnology for Drug Development. Kock JLF, Swart CW, Pohl CH, Swart HC, Coetsee E and Van Wyk PWJ. (Invited Keynote Lecture on nanotechnology discovery in Biology).

MAIN KEY NOTE ADDRESS: INTERNATIONAL CONFERENCE & EXHIBITION ON PHARMACEUTICAL REGULATORY AFFAIRS, 6-7 SEPTEMBER 2011, BALTIMORE, USA.

Title: A new nanotechnology for novel cell based assays. Kock JLF & Swart CW. (Invited Main Keynote Address following Opening Ceremony on bio-assay linked to nanotechnology discovery).

KEY NOTE ADDRESS: XVI CONGRESS OF EUROPEAN MYCOLOGISTS, SITHONIA, HALKIDIKI, GREECE, 19 TO 23 SEPTEMBER, 2011.

Title: A new Imaging Nanotechnology for Mycology. Kock JLF, Swart CW, Pohl CH, Ncango DM, Swart HC, Coetsee E and Van Wyk PWJ. (Invited Keynote Lecture on nanotechnology discovery in Biology under the auspices of the European Mycological Association).

4th CONGRESS OF EUROPEAN MICROBIOLOGISTS, FEMS 2011, GENEVA, SWITZERLAND, 26 TO 30 JUNE, 2011.

Title: A novel nanotechnology for yeast. Swart CW, Swart HC, Coetsee E, Pohl CH, Van Wyk PWJ and Kock JLF.

Title: Association of 3-Hydroxy oxylipins with capsules of *Cryptococcus neoformans*. Sebolai OM, Pohl CH, Botes PJ, Swart CW, Van Wyk PWJ and Kock JLF.

Title: Novel antifungal indicators uncovered in yeast. Ncango DM, Pohl CH, Van Wyk PWJ, Swart CW and Kock JLF.

Title: *Lipomyces*: Indicator of novel antifungals. Maartens MMJ, Swart HC, Coetsee E, Swart CW, Van Wyk PWJ, Swarts JC, Pohl CH, Ncango DM and Kock JLF.

Title: "NanoSAM investigates smart spore movement". Olivier APS, Swart HC, Coetsee E, Swart CW, Van Wyk PWJ, Schoombie SW, Pohl CH and Kock JLF.

Title: Marine polyunsaturated fatty acids inhibit biofilm formation of *Candida albicans* and *Candida dubliniensis*. Thibane VS, Kock JLF, Ells R, Van Wyk PWJ and Pohl CH.

Title: Biofilm formation by *Candida glabrata* and related species. Janse van Rensburg R, Kock JLF, Ells R and Pohl CH.

Local

SOUTH AFRICAN SOCIETY FOR MICROBIOLOGY CONGRESS, GRAHAMSTOWN 26 - 29 JUNE, 1994.

Title : Acetic acid - a novel substrate for the production of gamma - linolenic acid. J.L.F. Kock and A. Botha.

Title : The presence of cellular long - chain fatty acids in fungi and its implications. J.L.F. Kock, A. Botha and J.P.J. van der Westhuizen.

Title : Lipid turnover in *Dipodascopsis tothii*. A. Botha, J.L.F. Kock, D. Jansen van Vuuren and D.J. Coetzee.

Title : The value of lipid composition in the taxonomy of the yeast family Lipomycetaceae. E.L. Jansen van Rensburg, J. Jeffery, J.L.F. Kock, A. Botha and D.J. Coetzee.

Title : *Mucor* - a novel source of cocoa butter equivalents. M.P. Roux, J.L.F. Kock, A. Botha, M. Immelman and J.C. du Preez.

9th BIENNIAL MICROBIOLOGY CONGRESS, UNIVERSITY PRETORIA, 8 - 10 JULY 1996.

- Title: The Mucoralean fungi: carbon source utilization, isolation media and products. A. Botha and J.L.F. Kock.
Title: The value of lipid composition in the taxonomy of the *Schizosaccharomycetales*. J. Jeffery, J.L.F. Kock, A. Botha, D.J. Coetzee and P.J. Botes.
Title: The establishment of an UNESCO MIRCEN in the Southern African Region. B.A Prior and J.L.F. Kock.
Title: Lipomycetaceous yeasts from the northern province of South Africa. A. Mothibeli, J.L.F. Kock, A. Botha, D.J. Coetzee and P.J. Botes.
Title: Carbon source utilization and gamma-linolenic acid production by mucoralean fungi. T. Strauss, A. Botha, J.L.F. Kock, C.H. Pohl and D.J. Coetzee.
Title: The production of gamma-linolenic acid by selected members of the Dikaryomycota grown on different carbon sources. C.H. Pohl, A. Botha, J.L.F. Kock, D.J. Coetzee and P.J. Botes.
Title: *Smithiozyma* gen.nov. (Lipomycetaceae). J.L.F. Kock, J.P. v d Walt and Y. Yamada.
Title: *Myxozyma monticola* sp.nov. (Candidaceae), a new species from South African soil. E.E. Pretorius, J.P. v d Walt and J.L.F. Kock.
Title: A novel alternative to DNA:DNA hybridisation. C.D. Viljoen, B.D. Wingfield, J.L.F. Kock and M.J. Wingfield.

AFMA SYMPOSIUM, UNIVERSITY PRETORIA, 1997.

- *Title: Restaurant oil as an energy source. Kock, J.L.F. and Botha, A.

10th BIENNIAL MICROBIOLOGY CONGRESS, International Convention Centre, Durban, 5 - 8 JULY 1998.

- *Title: Changes in lipids during utilisation of vegetable oil by *Mucor* in the presence of acetate. J. Jeffery, J.L.F. Kock, J.C. du Preez, A.S. Bareetseng, D.J. Coetzee, P.J. Botes, A. Botha, S. Nigam.
*Title: Maintenance of brewing inocula through cryopreservation. G.I. Morakile, E.E. Pretorius, C.H. Pohl, J.L.F. Kock, J. Jeffery.
*Title: The distribution of oxylipins in the yeast *Dipodascopsis uninucleata* as investigated by immunofluorescence - and electron microscopy. D.P. Smith, J.L.F. Kock, P.W.J. van Wyk, P. Venter, D.J. Coetzee, S. Nigam.
*Title: The production of 3-OH fatty acids by the yeast *Dipodascopsis uninucleata*. P.Venter, J.L.F. Kock, A. Botha, D.J. Coetzee, P.J. Botes, S. Nigam.
*Title: Eicosatetraenoic acid biotransformation by *Mucor genevensis*. C.H. Pohl, A. Botha, J.L.F. Kock, S. Nigam
*Title: Uptake and incorporation of eicosatetraenoic acid into the lipids of *Mucor genevensis*. C.H. Pohl, A. Botha, J.L.F. Kock, D.J. Coetzee.
*Title: Using selective media to isolate mucoralean fungi from dry Sandy Highveld Grassland soil. T. Strauss, A. Botha, T. Mostert, J.L.F. Kock.
*Title: Isolation of *Mortierella* from Alti Mountain Grassland soil. I. Paul, A. Botha, C. Roux, J.L.F. Kock, T. Strauss, C.Maree.
*Title: Utilisation of different nitrogen sources by saprophytic mucoralean fungi. B.O. Seabi, A. Botha, J.L.F. Kock, T. Strauss.
*Title: Mucoralean fungi present in cold moist Highveld Grassland soil. D. Greyling, T. Strauss, A. Botha, P.J. du Preez, J.L.F. Kock.

2nd NATIONAL CONFERENCE ON THE PUBLIC UNDERSTANDING OF SCIENCE AND TECHNOLOGY IN SOUTHERN AFRICA, 23- 25 NOVEMBER 1998, PRETORIA, SOUTH AFRICA.

- Title A community awareness campaign to tackle a potential health hazard. J.L.F. Kock and D.J. Coetzee

38th ANNUAL CONFERENCE OF THE MICROSCOPY SOCIETY OF SOUTHERN AFRICA, UNIVERSITY FREE STATE, 30 NOV. – 3 DEC. 1999.

- Title - Notes on the morphology of the genus *Mortierella* (FUNGI: MUCORALES). PAUL, I., ROUX, C., BOTHA, A., KOCK, J.L.F.
Title - Useful techniques of specimen preparation for fungal structures: studies in light microscopy. PAUL, I., ROUX, C., BOTHA, A., KOCK, J.L.F.

THE 15th BIENNIAL INTERNATIONAL CONGRESS AND EXHIBITION OF THE SOUTH AFRICAN ASSOCIATION FOR FOOD SCIENCE AND TECHNOLOGY IN ASSOCIATION WITH THE INSTITUTE OF PACKAGING (SA), BELLVILLE CIVIC CENTRE, CAPE TOWN, 27-29 SEPTEMBER 1999.

- *Title - Mutagenicity found in South African used cooking oil. ROUX, M.P., KOCK, J.L.F., COETZEE, D.J., ANELICH, L.E.
*Title - The quality of used frying fats in different regions of South Africa. ANELICH, L.E., KOCK, J.L.F., ROUX, M.P., BOTHA, A., BEZUIDENHOUT, S.M., COETZEE, D.J., VENTER, P.

BIOY2K COMBINED MILLENNIUM MEETING. GRAHAMSTOWN, 23 –28 JANUARY 2000.

- Title – Tall oil utilization by fungi in the presence of acetate. By A.S. BAREETSENG, J.L.F. KOCK, L. CHRISTOV, D.J. COETZEE.
Title – The quality of used frying fat in South Africa and its biotransformation to high value lipids. By T.R. PELESANE, J.L.F. KOCK, D.J. COETZEE.
Title – The distribution of palmitoleic acid in the phospholipid fraction of yeasts representing the Lipomycetaceae. By D.J. LEKEKISO, J.L.F. KOCK, D.J. COETZEE, P.J. BOTES, E. PRETORIUS, S. NIGAM.
Title – Ascospore aggregation and oxylipin distribution in the yeast *Dipodascopsis tothii*. D.P. SMITH, J.L.F. KOCK, M.I. MOTAUNG, P.W.J. VAN WYK, P. VENTER, D.J. COETZEE, S. NIGAM.

Title – Mapping the distribution of 3-OH oxylipins in the Mucorales. By T. STRAUSS, A. BOTHA, J.L.F. KOCK, S. NIGAM, I. PAUL, D.P. SMITH.

Title – Comparison of preservation methods for maintenance of brewing inocula. By G. MORAKILE, E.E. PRETORIUS, C.H. POHL, J.L.F. KOCK.

SONNEBLUM KUNDIGHEIDSFORUM, PRETORIA, 20 JULIE 2000.

Title- Herbruikte olie. J.L.F. KOCK.

12th BIENNIAL CONGRESS OF THE SOUTH AFRICAN SOCIETY FOR MICROBIOLOGY, UNIVERSITY OF THE FREE STATE, BLOEMFONTEIN, APRIL 2002.

Title: Immunocytochemical detection of 3-hydroxy oxylipins in ascomycetous yeasts, D.P. Smith, J.L.F. Kock, P.W.J. van Wyk, C.H. Pohl, S. Nigam.

Title: Ascospore morphology and lipid turnover in the yeast *Nadsonia fulvescens* A.S. Bareetseng, J.L.F. Kock, C.H. Pohl, P.W.J. van Wyk.

Title: Lipid turnover during growth and development of *Mucor genevensis*, C.H. Pohl, A. Botha, J.L.F. Kock, D.J. Coetzee, P.J. Botes, S. Nigam.

Title: The presence of oxylipins in yeast flocculation, J.L.F. Kock, C.J. Strauss, P. Venter, D.P. Smith, P.W.J. van Wyk, P.J. Botes, C.H. Pohl, S. Nigam.

Title: The influence of the environment on the lipid content of the yeast genus *Kluyveromyces* and its taxonomic implications, M. Kalorizas, J.L.F. Kock, C.H. Pohl.

Title: The biotransformation of overused frying fats by indigenous isolates of mucoralean fungi, L.C.M.E. Anelich, J.L.F. Kock, A. Botha, M.P. Roux-Van der Merwe.

Title: Fungal biotransformation in the edible oil industry M. Joseph, S. Tarr, T.R. Pelesane, J.L.F. Kock, C.H. Pohl, B.C. Viljoen.

Title: Differentiation of brewing and related yeasts based on PCR amplification and restriction fragment length polymorphism of ribosomal DNA. G. Morakile, C.H. Pohl, J.L.F. Kock, W.B. van Zyl, B.C. Viljoen.

IBUYA CONGRESS: ICC DURBAN SOUTH AFRICA, 22 MARCH, 2002.

Title: Recycling: giving back to the community. A. Venter, J.L.F. Kock, C.H. Pohl.

ENVIRONMENTAL HEALTH CONFERENCE, ICC, DURBAN, 19 NOVEMBER, 2002.

Title: the development of an educational program to address the distribution of potentially hazardous cooking oils to the informal sector. A. Venter, J.L.F. Kock & C.H. Pohl (Talk).

18th CONGRESS OF THE SOUTH AFRICAN GENETICS SOCIETY/SOUTH AFRICAN MICROBIOLOGY SOCIETY, STELLENBOSCH, 4-7 APRIL 2004

Fungal transformations in the frying oil industry. M. Joseph, J.L.F. Kock, C.H. Pohl and B.C. Viljoen.

Variation in functional ascospore parts. A.S. Bareetseng, J.L.F. Kock, C.H. Pohl, E.E. Pretorius and P.W.J. van Wyk.

The presence of 3-hydroxy palmitic acid in *Saccharomycopsis malanga*. O.M. Sebolai, J.L.F. Kock, C.H. Pohl, D.P. Smith, P.J. Botes, E.E. Pretorius, P.W.J. van Wyk and S. Nigam.

Lipomycetaceous yeasts from Southern Africa. S. Tarr, J.L.F. Kock, E.E. Pretorius, C.H. Pohl and J. Albertyn.

Yeast mechanics in micron-space II. J.L.F. Kock (Invited talk and co-chair of session).

Inverse flocculation patterns in *Saccharomyces cerevisiae* UOFS Y-2330. C.J. Strauss, J.L.F. Kock, P.W.J. van Wyk, B.C. Viljoen, P.J. Botes and S. Nigam.

44th ANNUAL CONFERENCE OF THE MICROSCOPY SOCIETY OF SOUTHERN AFRICA, 2005, PIETERMARITZBURG, PROCEEDINGS 35, 36.

Macro-messages in a micro-bottle. P.W.J. van Wyk, J.L.F. Kock, A. van Heerden, C.J. Strauss, C.H. Pohl, S.W. Schoombie and S. Nigam (Talk).

THE 14th BIENNIAL CONGRESS OF THE SOUTH AFRICAN SOCIETY FOR MICROBIOLOGY, 9-12 APRIL 2006, CSIR, PRETORIA.

Yeast biomechanics: Message in a bottle. A. van Heerden, CJ Strauss, CH Pohl, PWJ van Wyk, S Nigam and JLF Kock

Yeast biomechanics: The function of spindle-shaped ascospores in *Eremothecium coryli*. NJ Leeuw, CH Pohl, AS Bareetseng, OM Sebolai, M Joseph, CJ Strauss, PJ Botes, PWJ van Wyk, S Nigam and JLF Kock

Yeast biomechanics: Forced release of hat-shaped ascospores in *Ascoidea corymbosa*. MD Ncango, CH Pohl, OM Sebolai, PJ Botes, CJ Strauss, M Joseph, PWJ van Wyk, S Nigam and JLF Kock

Yeast biomechanics: Phenotypic variation in oxylipin-producing *Dipodascopsis uninucleata*. ME Goldblatt, PJ Botes, PWJ van Wyk, CJ Strauss, S Nigam, CH Pohl and JLF Kock

3-OH oxylipins associated with *Candida magnolia*. CW Swart, PJ Botes, PWJ van Wyk, CJ Strauss, S Nigam, CH Pohl and JLF Kock. (Won second prize for best poster presentation overall).

2nd PAN AFRICAN MEDICAL MYCOLOGY SOCIETY CONFERENCE, CAPE TOWN, SOUTH AFRICA, 6 -8 MAY 2007.

Effect of eicosapolyenoic fatty acids on metabolism and biofilm formation of *Candida albicans*. R Ells, CH Pohl, JLF Kock & PJ Botes.

BIO-08, SOUTH AFRICAN SOCIETY OF MICROBIOLOGY (SASM) GRAHAMSTOWN, 20-22 JANUARY 2008.

Title: Effect of eicosapolyenoic fatty acids on metabolism and biofilm formation of *Candida albicans*

Authors: R. Ells, C.H. Pohl, J.L.F. Kock and P.J. Botes

Title: Ascospore release and oxylipin production in the yeast *Dipodascopsis*

Authors: M.E. Goldblatt, P.W.J. van Wyk, C.H. Pohl, and J.L.F. Kock

Title: Acetylsalicylic acid as antifungal in *Eremothecium* and other yeasts

Authors: N.J. Leeuw, C.W. Swart, D.M. Ncango, C.H. Pohl, O.M. Sebolai, C.J. Strauss, P.J. Botes, P.W.J. van Wyk and J.L.F. Kock

Title: Oxylipin and mitochondrion probes to track asci of *Ascoidea*

Authors: D.M. Ncango, J.L.F. Kock, C.W. Swart, C.H. Pohl, C.J. Strauss, P.W.J. van Wyk and P.J. Botes (**Awarded 3rd prize for best presentation**)

Title: Oxylipin release in *Cryptococcus neoformans*

Authors: O.M. Sebolai, C.H. Pohl, P.J. Botes, C.J. Strauss, P.W.J. van Wyk and J.L.F. Kock

Title: Oxylipin accumulation in fermentative and non-fermentative yeasts

Authors: C.W. Swart, C.H. Pohl, P.W.J. van Wyk and J.L.F. Kock

16th BIENNIAL CONGRESS OF THE SOUTH AFRICAN SOCIETY FOR MICROBIOLOGY, DURBAN, SOUTH AFRICA, 20-23 SEPTEMBER 2009

Title: Antifungal fatty acids

Authors: C.H. Pohl, J.L.F. Kock, R. Ells and V. Thibane (**Lecture**)

B. Workshops presented

Since 1995, more than 90 workshops on oxidised frying oils and fats have been presented in all major provinces in South Africa. These are aimed at Environmental Health Officials (EHOs), Tertiary Education Institutions and Frying Establishments.

PROGRAMME: OXIDISED OILS AND FATS

1.	Free State Health Dept.	30 August 1995
2.	Major Gauteng Frying Establishments	9-10 February 1996
3.	Major Gauteng Frying Establishments	9-10 February 1996
4.	Major Gauteng Frying Establishments	9-10 February 1996
5.	Major Gauteng Frying Establishments	9-10 February 1996
6.	Major Gauteng Frying Establishments	6 March 1996
7.	Major Durban Frying Establishments	8 March 1996
8.	Major Cape Town Frying Establishment	12 March 1996
9.	Major Bloemfontein Frying Establishments	13 March 1996
10.	Northern Province Health Dept.	8 March 1996
11.	Gauteng Province Health Dept.	29 March 1996
12.	KwaZulu-Natal Health Dept.- Ladysmith	1 July 1996
13.	KwaZulu-Natal Health Dept.- Empangeni	2 July 1996
14.	KwaZulu-Natal Health Dept.- Durban	3 July 1996
15.	KwaZulu-Natal Health Dept-Port Shepstone	4 July 1996
16.	KwaZulu-Natal Health Dept-Pietermaritzburg	5 July 1996
17.	Western Cape Health Dept	14 June 1996
18.	Gauteng (Pretoria) Health Dept.	31 July 1996
19.	Symposium (Bloemfontein)	7 December 1995
20.	Symposium (Bloemfontein)	26 November 1996
21.	Port Elizabeth (Health Dept)	7 February 1997
22.	Bloemfontein(Health Dept)	21 February 1997
23.	Tongaat (Voermol)	28 February 1997
24.	Potchefstroom (Health Dept)	7 March 1997
25.	Bloemfontein (Health Dept)	1 July 1997
26.	Somerset West (Fedhasa)	19 August 1997
27.	Mpumalanga (Kriel) (Health Dept)	26 September 1997
28.	Alberton (Health Dept)	16 October 1997
29.	Bloemfontein (Health Dept)	7 November 1997
30.	Bethlehem (Health Dept)	5 May 1998
31.	Durban (Health Dept)	6 July 1998
32.	Krugersdorp (COM-CHEM)	5 March 1999
33.	Durban (IOP)	9 March 1999
34.	Durban (ML Sultan Technikon)	9 March 1999
35.	Cape Town (SPUR Group)	23 March 1999
36.	Cape Town (SPUR Group)	24 March 1999
37.	Sandton (NEDAN Oil Mills)	25 June 1999
38.	Randfontein (Continental Oil Mills)	22 September 1999

39.	Randfontein (Nola Oil Mills)	23 September 1999
40.	Bloemfontein (Meadows Feed)	18 October 1999
41.	Bloemfontein (Continental Oil Mills)	2 December 1999
42.	Gauteng (FR Waring)	2 March 2000
43.	Irene (Pet Food Institute)	2 March 2000
44.	Pretoria (Sunflower-Soya Forum)	11 August 2000
45.	Pretoria (Grain SA)	20 July 2000
46.	Durban (SAIEH)	3 August 2000
47.	Randfontein (Continental Oil Mills; Pick & Pay)	16 February 2001
48.	Port Elizabeth (Dept Health)	9 March 2001
49.	Durban (Energy Oils)	6 April 2001
50.	Kimberley (Dept Health – N. Cape)	4 May 2001
51.	Vereeniging (Dept Health – Gauteng)	11 May 2001
52.	Vereeniging (Sebokeng)	22 June 2001
53.	Graskop (Mpumalanga)	30 November 2001
54.	Unilever (Durban)	15 March 2002
55.	Ladysmith (Dep. Health)	25 March 2003
56.	Durban (Dep. Health)	26 March 2003
57.	Empangeni (Dep. Health)	27 March 2003
58.	Kokstad (Dep. Health)	28 March 2003
59.	Kimberley (Dept. Health)	9 May 2003
60.	Bloemfontein (Dept. Health)	16 May 2003
61.	Vereeniging (Dept. Health)	6 June 2003
62.	Malaysian Palm Oil Board, UFS	26 June 2003
63.	King Pie, Johannesburg	27 June 2003
64.	Frymore, UFS	9 July 2003
65.	MPOPC, Sandton	22 July 2003
66.	Grain SA, UFS	29 July 2003
67.	Olive Fair, Cape Town	25-26 October 2003
68.	Johannesburg, Felda Bridge Launch	29 October 2003
69.	Potchefstroom, SA Army	17 November 2003
70.	MPOB (at UFS)	21 January 2004
71.	McDonalds (Gauteng)	28 January 2004
72.	National Brands (Gauteng)	28 January 2004
73.	Mikes Kitchen (Gauteng)	10 February 2004
74.	Refill Oils (at UFS)	12 March 2004
75.	National Brands (at UFS)	26 March 2004
76.	Felda Bridge (Road show-Durban)	2 April 2004
77.	Felda Bridge (Road show-Cape Town)	6 April 2004
78.	Central University of Technology, Free State	30 March 2004
79.	Consumers' Goods Council (Gauteng)	18 May 2004
80.	Refill oils (at UFS)	7 June 2004
81.	Refill oils (at UFS)	29 June 2004
82.	Workshop North West Dept. Health (Vryburg)	4 March 2005
83.	Workshop Gauteng Dept. Health (Johannesburg)	12 August 2005
84.	Workshop Port Elizabeth Dept. Health (Port Elizabeth)	28 October 2005
85.	National workshop UFS (Oil Industry)	24 January 2006
86.	Workshop (Central University of Technol.)	12 May 2006
87.	Workshop (North West Health Department)	25 September 2007
88.	Workshop (North West Health Department)	27 June 2008
89.	SAFOI Award presentation to Felda Foods	2 July 2008
90.	SAFOI Presentation Vergezocht Oils (Bainsvlei)	5 August 2009
91.	Workshop Shoprite Checkers (UFS)	21 August 2009
92.	Workshop AfgriFoods (Boksburg)	14 September 2009
93.	Workshop NutriFeeds (Potchefstroom)	15 October 2009
94.	Workshop Pet Food Industry SA (UFS)	4 November 2009
95.	Workshop Pet Food Industry SA (Johannesburg)	2 December 2009
96.	Presentation: AFMA (Gauteng)	20 April 2010
97.	Presentation/workshop: Frylow (UFS)	28 July 2010
98.	Presentation/workshop: University Quito, Ecuador	9 December 2010
99.	Presentation/workshop: Felda Foods (Meulstroom)	3 February 2011

PROGRAMME: UNESCO MIRCEN ACTIVITIES

The following workshops were organised by Prof. J.L.F. Kock – Director UNESCO MIRCEN:

These were attended by various scientists from Africa.

Fundamentals of Growth Kinetics of batch and Continuous Cultures (19 – 23 April 1999)

Presenters: Prof. J.C. du Preez & Prof. S. Kilian
Yeast Preservation, Identification and Quantification (26 – 30 September 2000)
Presenters: Prof. J.L.F. Kock & Prof. B.C. Viljoen
Yeast Preservation, Identification and Quantification (1-5 October 2001)
Presenters: Prof. J.L.F. Kock & Prof. B.C. Viljoen

UNESCO FELLOWSHIPS

The following 3-months UNESCO Fellowships have been organised by Prof. J.L.F. Kock:

Dr. O.U. Ezeronye (Nigeria) – Supervisor Prof. S. Kilian
Mr. T. Tepeny (Kenya) – Supervisor – Prof. J.L.F. Kock
Mr. A. Mpofu (Zimbabwe) - Supervisor – Prof. J.L.F. Kock
Miss J. Bvochora (Zimbabwe) - Supervisor – Prof. J.L.F. Kock
Dr. Ahmed Mohamed (Egypt) – Supervisor – Prof. J.L.F. Kock