Prof. Pieter W.J. van Wyk has 63 publications in accredited journals, 44 contributions nationally and 42 internationally.

Publications in accredited journals (2008-2012):

1. Swart, C.W., Dithebe, K., Pohl, C.H., Swart, H.C., Coetsee, E., van Wyk, P.W., Swarts, J.C., Lodolo, E.J., Kock, J.L.F. (2012). Gas bubble formation in the cytoplasm of a fermenting yeast. FEMS Yeast Research, 12 (7), 867-869.

2. Swart, C., Olivier, A., Dithebe, K., Pohl, C., van Wyk, P., Swart, H., Coetsee, E., Kock, L. (2012). Yeast sensors for novel drugs: Chloroquine and others revealed. Sensors (Switzerland), 12 (10), 13058-13074.

3. Thibane, V.S., Ells, R., Hugo, A., Albertyn, J., Van Rensburg, W.J.J., Van Wyk, P.W.J., Kock, J.L.F., Pohl, C.H. (2012). Polyunsaturated fatty acids cause apoptosis in C. albicans and C. dubliniensis biofilms. Biochimica et Biophysica Acta - General Subjects, 1820 (10), 1463-1468.

4. Negussie, T.G., Bender, C.M., Van Wyk, P.W.J., Pretorius, Z.A. (2012). Hypersensitivity of rust resistance in lentil. South African Journal of Plant and Soil, 29 (1), 25-29.

5. Thibane, V.S., Kock, J.L.F., Van Wyk, P.W.J., Ells, R., Pohl, C.H. (2012). Stearidonic acid acts in synergism with amphotericin B in inhibiting Candida albicans and Candida dubliniensis biofilms in vitro. International Journal of Antimicrobial Agents, 40 (3), 284-285.

6. Swart, C.W., van Wyk, P.W.J., Pohl, C.H., Kriel, W.M., Kock, J.L.F. (2011). The influence of mitochondrial inhibitors on the life cycle of Phytophthora. African Journal of Microbiology Research, 5 (20), 3175-3180.

7. Ncango, D.M., Pohl, C.H., van Wyk, P.W.J., Kock, J.L.F. (2011). Non-steroidal anti-inflammatory drugs (NSAIDs) inhibit growth of yeast pathogens. African Journal of Microbiology Research, 5 (9), 1123-1125.

8. Leeuw, N.J., Swart, C.W., Joseph, M., Pohl, C.H., van Wyk, P.W.J., Coetsee, E., Swart, H.C., Hugo, A., Kock, J.L.F. (2010). The effects of palm oil breakdown products on lipid turnover and morphology of fungi. Canadian Journal of Microbiology, 56 (11), 883-889.

9. Swart, C.W., Swart, H.C., Coetsee, E., Pohl, C.H., van Wyk, P.W.J., Kock, J.L.F. (2010). 3-D architecture and elemental composition of fluconazole treated yeast asci. Scientific Research and Essays, 5 (22), 3411-3417.

10. 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.

11. 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.

12. 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.

13. 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 oxylipins and acetylsalicylic acid sensitivity in Cryptococcus species. Canadian Journal of Microbiology 54(2):111-8.

14. 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 oxylipin migration in *Cryptococcus neoformans* var. *neoformans* UOFS Y-1378. *Canadian Journal of Microbiology* 54(2):91-6.

15. 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. Oxylipin and mitochondrion probes to track yeast sexual cells. *Canadian Journal of Microbiology* 54(6): 450-455.

16. Sebolai, O.M., Pohl, C.H., Botes, P.J. van Wyk, P.W.J. & Kock, J.L.F. 2008. The influence of acetylsalicylic acid on oxylipin migration in *Cryptococcus neoformans* var. *neoformans* UOFS Y-1378. *Canadian Journal of Microbiology* 54(2): 91-96.

17. Sebolai, O.M., Pohl, C.H., Botes, P.J. van Wyk, P.W.J., Mzizi, R., Swart, C.W. & Kock, J.L.F. 2008. Distribution of 3-hydroxy oxylipins and acetylsalicylic acid sensitivity in *Cryptococcus* species. *Canadian Journal of Microbiology* 54(2): 111-118.

18. Swart, C.W., van Wyk, P.W.J., Pohl, C.H. & Kock, J.L.F. 2008. Variation in yeast mitochondrial activity associated with asci. *Canadian Journal of Microbiology* 54(7): 532-536.

Initial research

1. Van Wyk, P.W.J. & Wingfield, M.J. (1994). Ultrastructure of ascus arrangement and ascospore development in *Ophiostoma seticolle*. *Mycologia* **86**: 607-614.

2. Swart, W.J., Wingfield, M.J. & Van Wyk, P.W.J. (1993). Variation in conidial morphology among geographic isolates of *Sphaeropsis sapinea*. *Mycological Research* **97**: 832-838.

3. Van Wyk, P.W.J., & Wingfield, M.J. (1993). Fine structure of ascosporogenesis in *Ceratocystiopsis proteae*. *Canadian Journal of Botany* **71**: 1212-1218.

4. Van Wyk, P.W.J., & Wingfield, M.J. (1992). Ascospore development in *Ophiostoma piceae*. *Canadian Journal of Botany* **70**:2170-2176.

5. Van Wyk, P.W.J., Wingfield, M.J., & Van Wyk, P.S. (1991). Ascospore development in *Ceratocystis moniliformis*. *Mycological Research* **95:** 96-103.

6. Van Wyk, P.W.J., & Wingfield, M.J. (1991). Ultrastructural study of ascospore development in *Ophiostoma distortum* and *O. minus*. *Canadian Journal of Botany* **69:** 2529-2538.

7. Van Wyk, P.W.J., & Wingfield, M.J. (1991). Ascospore ultrastructure and development in Ophiostoma cucullatum. Mycologia 83: 698-707.

8. Van Wyk, P.W.J., & Wingfield, M.J. (1991). Ascosporogenesis in Ophiostoma davidsonii. Mycological Research 95: 725-730.

9. Van Wyk, P.W.J., & Wingfield, M.J. (1990). Ascospore development in Ceratocystis sensu lato: a review. Bothalia 20: 141-145.

Chapters in accredited scientific books of repute

1. Kock, J.L.F., Strauss, C.J., Pohl, C.H., Van Wyk, P.W.J. and Botes, P.J. (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.

International conferences

1. International Specialized Symposium on Yeasts (ISSY), Pilanesberg National Park, South Africa, March, 2002.
2. Title: 3-Hydroxy oxylipins in yeasts, D.P. Smith, J.L.F. Kock, P.W.J. van Wyk, C.H. Pohl, S. Nigam.
3. 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.

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

Managing Fats and Oil Supplies for Human Needs, Strasbourg, France, November, 2002.

1. Title: Variation in functional ascospore parts in the ascomycetous yeast Dipodascopsis uninucleata. (Awarded 1st Prize), Bareetseng, A.S., Kock, J.L.F., Pohl, C.H., Pretorius, E.E., Van Wyk, P.W.J.
2. Title: Lipomycetaceous yeasts from the Lesotho highlands, Tarr, S., Kock, J.L.F., Pretorius, E., Botes, P.
3. Title: Inverse flocculation patterns in Saccharomyces cerevisiae UOFS Y 2330, Strauss, C.J., Kock, J.L.F., van Wyk, P.W.J., Hulse, G., Nigam, S.

11th International Congress on Yeasts (ISSY), Rio de Janeiro, Brazil, August, 2004.

1. Title: Evidence for oxylipin-lectin- mediated yeast cell aggregation mechanism using electron microscopy and laser confocal microscopy, Van Wyk, P.W.J., Strauss, C.J., Kock, J.L.F. et al.

24th International Specialized Symposium on Yeasts (24th ISSY). Oropesa del Mar, Castellon, Spain, 28 September– 2 October, 2005.

1. Title: Yeast biomechanics: Message in a bottle, Van Heerden, A., Strauss, C.J., Pohl, C.H., van Wyk, P.W.J., Nigam, S., Kock, J.L.F.
2. Title: Oxylipin covered ascospores of Eremothecium coryli, Leeuw, N.J., Pohl, C.H., Bareetseng, A.S., Sebolai, O.M., Joseph, M., Strauss, C.J., Botes, P.J., van Wyk, P.W.J., Nigam, S., Kock, J.L.F.
3. Title: Forced release of hat-shaped ascospores in Ascoidea corymbosa, Ncango, M.D., Pohl, C.H., Sebolai, O.M., Botes, P.J., Strauss, C.J., Joseph, M., van Wyk, P.W.J., Nigam, S., Kock, J.L.F.
4. Title: Phenotypic variation in oxylipin-producing Dipodascopsis uninucleata, Goldblatt, M.E., Botes, P.J., van Wyk, P.W.J., Strauss, C.J., Nigam, S., Pohl, C.H., Kock. J.L.F.
5. Title: 3-Hydroxy oxylipins associated with Candida magnolia, Swart, C.W., Botes, P.J., van Wyk, P.W.J., Strauss, C.J., Nigam, S., Pohl, C.H., Kock, J.L.F.

6. Title: Message in a bottle: 3-hydroxy oxylipins and yeast biomechanics, Kock, J.L.F., Strauss, C.J., Pohl, C.H., van Wyk, P.W.J., Nigam, S. (Invited talk).
7. Title: Yeast flocculation and role of oxylipins, Strauss, C.J., van Wyk, P.W.J., Lodolo, E.J., Botes, P.J., Nigam, S., Kock, J.L.F. (Invited talk).
8. Title: Application of electron and confocal laser scanning microscopy in observing oxylipins in fungal cells, van Wyk, P.W.J., Strauss, C.J., Kock, J.L.F., Nigam, S. (Invited talk).
9. Title: Inverse flocculation in Sacch. cerevisiae, Strauss, C.J., Kock, J.L.F., van Wyk, P.W.J., Botes, P.J., Nigam, S.
10. Title: A novel aspirin-sensitive 3-hydroxy oxylipin release mechanism in Cryptococcus neoformans, Sebolai, O.M., Pohl, C.H., Botes, P.J., Strauss, C.J., van Wyk, P.W.J., Nigam, S.

International Specialized Symposium on Yeasts (ISSY 25), Hanasaari, Espoo, Finland, June 18-21, 2006.

1. Title: Yeast "nanobots", Pohl, C.H., Strauss, C.J., van Wyk, P.W.J., Kock, J.L.F.
2. III European Conference on Computational Mechanics, Solids, Structures and Coupled Problems in Engineering, Lisbon, Portugal, June, 2006.
3. Title: Yeast Biomechanics, Kock, J.L.F., Strauss, C.J., Pohl, C.H., Van Wyk, P.W.J., Botes, P.J. (Invited Talk)

National conferences

1. Biennial Congress of the South African Society for Microbiology, University of the Free State, Bloemfontein, April, 2002.
2. Title: Immunocytochemical detection of 3-hydroxy oxylipins in ascomycetous yeasts, Smith, D.P., Kock, J.L.F., van Wyk, P.W.J., Pohl, C.H., Nigam, S.
3. Title: Ascospore morphology and lipid turnover in the yeast Nadsonia fulvescens, Bareetseng, A.S., Kock, J.L.F., Pohl, C.H., van Wyk, P.W.J.
4. Title: The presence of oxylipins in yeast flocculation, Kock, J.L.F., Strauss, C.J., Venter, P., Smith, D.P., van Wyk, P.W.J., Botes, P.J., Pohl, C.H., Nigam, S.
5. Title: The biotransformation of overused frying fats by indigenous isolates of mucoralean fungi, Anelich, L.C.M.E., Kock, J.L.F., Botha, A., Roux-Van der Merwe, M.P.

Ibuya Congress: ICC Durban, South Africa, 22 March, 2002.

1. Title: Variation in functional ascospore parts, Bareetseng, A.S., Kock, J.L.F., Pohl, C.H., Pretorius, E.E., van Wyk, P.W.J.
2. Title: The presence of 3-hydroxy palmitic acid in Saccharomycopsis malanga, Sebolai, O.M., Kock, J.L.F., Pohl, C.H., Smith, D.P., Botes, P.J., Pretorius, E.E., van Wyk, P.W.J., Nigam, S.
3. Title: Inverse flocculation patterns in Saccharomyces cerevisiae UOFS Y-2330, Strauss, C.J., Kock, J.L.F., van Wyk, P.W.J., Viljoen, B.C., Botes, P.J., Nigam, S.

44th Annual Conference of the Microscopy Society of Southern Africa, Pietermaritzburg, Proceedings 35, 36, 2005.

1. Title: Macro-messages in a micro-bottle, van Wyk, P.W.J., Kock, J.L.F., van Heerden, A., Strauss, C.J., Pohl, C.H., Schoombie, S.W., Nigam, S.
2. The 14th Biennial Congress of the South African Society for Microbiology, CSIR, Pretoria, 9-12 April, 2006.
3. Title: Yeast biomechanics: Message in a bottle, Van Heerden, A., Strauss, C.J., Pohl, C.H., van Wyk, P.W.J., Nigam, S., Kock, J.L.F.
4. Title: Yeast biomechanics: The function of spindle-shaped ascospores in Eremothecium coryli, Leeuw, N.J., Pohl, C.H., Bareetseng, A.S., Sebolai, O.M., Joseph, M., Strauss, C.J., Botes, P.J., van Wyk, P.W.J., Nigam, S., Kock, J.L.F.
5. Title: Yeast biomechanics: Forced release of hat-shaped ascospores in Ascoidea corymbosa, Ncango, M.D., Pohl, C.H., Sebolai, O.M., Botes, P.J., Strauss, C.J., Joseph, M., van Wyk, P.W.J., Nigam, S., Kock, J.L.F.
6. Title: Yeast biomechanics: Phenotypic variation in oxylipin-producing Dipodascopsis uninucleata, Goldblatt, M., Botes, P.J., van Wyk, P.W.J., Strauss, C.J., Nigam, S., Pohl, C.H., Kock, J.L.F.
7. Title: 3-OH oxylipins associated with Candida magnolia, Swart, C.W., Botes, P.J., van Wyk, P.W.J., Strauss, C.J., Nigam, S., Pohl, C.H., Kock, J.L.F. (Won second prize for best poster overall).