



Prof Focke is Professor in die Departement Chemiese Ingenieurswese en Direkteur van die Instituut vir Toegepaste Materiale. Hy doseer Materiaalkunde en Fase-ewewig-termodinamika op voorgraadse vlak en Polimeerprosessering en Polimeer-bymiddel tegnologie op nagraadse vlak. Sy navorsing fokus op chemiese produkontwerp met nadruk op koolstofmateriale, polimeerbymiddels, pirotegnieke en profilaktiese malariabeheer. Verskeie termiese ontledingstegnieke word aangewend vir die karakterisering en beheer van oksidasieprosesse in pirotegnieke, biodiesel en materiale soos polimere en grafiet.

Prof Focke het befondsing ontvang vir navorsing oor veiliger metodes om malariamuskiete te beheer. Sasol het die ontwikkeling van 'n duursame polipropileenmuskietnet ondersteun. Daar word gepoog om die aktiewe leeftyd van Wêreldgesondheidsorganisasie-goedgekeurde insekdoders te verbeter as alternatiewe vir DDT. Die Bill en Melinda Gates-stigting steun navorsing vir die ontwikkeling van 'n insekdodende verf as interne residuele sproei (IRS). Prof Focke se navorsingsgroep ondersoek die gebruik van plaaslike kleisoorte in die beheerde vrystelling van IRS-insekdoders, gesamentlik befonds deur Suid-Afrika en Mosambiek wat ook die Eduardo Mondlane Universiteit, Maputo, betrek. Prof Focke is 'n geregistreerde Professionele Ingenieur, lid van die American Chemical Society en die Suid-Afrikaanse Instituut van Chemiese Ingenieurs.

Die Instituut vir Toegepaste Materiale is 'n interdisciplinêre materiaalnavorsingsgroep wat die SARChI-leerstoel in Koolstoftegnologie en -materiale huisves. Dié leerstoel word tans deelyds beklee deur prof Brian Rand, 'n wêreldleier op die gebied van koolstofmateriaalnavorsing. Prof Focke en prof Rand werk aan navorsing oor koolstofmateriaal, saam met beide die Leibniz-instituut vir Polimeernavorsing in Dresden en die Martin Luther Universiteit van Halle-Wittenberg in Duitsland op die gebied van polimere. Prof Focke is lid van die redaksies van die *Journal of Vinyl and Additive Technology*, die *International Journal of Adhesion & Adhesives* en *International Polymer Processing*. Hy het meer as 90 referate in portuurbeoordeelde vaktydskrifte gepubliseer. Sy huidige Scopus h-indeks is 7 en sy publikasies wat in Scopus gelys word, is 1033 keer aangehaal met 'n h-indeks van 11. Hy het 'n C1-gradering van die NNS.

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Prof Focke is a Professor in the Department of Chemical Engineering and Director of the Institute of Applied Materials. He teaches Materials Science and Engineering and Phase Equilibrium Thermodynamics at undergraduate level and Polymer Processing and Polymer Additive Technology at postgraduate level. His research competence is focused on chemical product design with emphasis on carbon materials, polymer additive technology, pyrotechnics and prophylactic malaria control. Various thermal analysis techniques are employed to characterise and control oxidative processes in pyrotechnics, biodiesel and materials such as polymers, and graphite.

Prof Focke has received significant funding support for safer ways to control malaria vector mosquitoes. Sasol supported the development of a long-life polypropylene mosquito net. One research aim is to prolong the activity of World Health Organisation-approved insecticides as replacements for DDT currently used in indoor residual spraying (IRS). The Bill and Melinda Gates Foundation supported this research for an insecticidal paint approach for indoor residual spraying (IRS) research and development on an insecticidal paint for IRS. Prof Focke's research group also had a Mozambique-South Africa research grant to explore the use of local clays as controlled release devices for IRS insecticides, involving the Eduardo Mondlane University in Maputo. Prof Focke is a registered Professional Engineer, a member of the American Chemical Society and the South African Institute of Chemical Engineers.

The Institute of Applied Materials is an interdisciplinary materials research group hosting the SARChI Chair in Carbon Technology and Materials since 2006. Prof Brian Rand, a world leader in carbon materials research, is the part-time Chair Holder. Prof Focke has active research collaboration activities with Prof Rand on carbon materials, with the Leibniz Institute of Polymer Research, in Dresden, Germany and the Martin Luther University of Halle-Wittenberg, Germany, on polymers. He is a member of the editorial boards of the *Journal of Vinyl and Additive Technology*, and the *International Journal of Adhesion & Adhesives* and *International Polymer Processing*. Prof Focke has published more than 90 papers in peer-reviewed journals. His current Scopus h-index is 7 and his publications listed in Scopus have been cited 1033 times with an h-index of 11. He received a C1-rating from the NRF.

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Prof Focke ke profesa ka botlalo ka Kgorong ya Boentšenera bja Dikhemikhale le go ba Molaodi wa Instiitšhute ya Dimateriale tšeo di Dirišitšwego (*Applied Materials*). O ruta Saense ya Dimateriale le Boentšenera bja Tshipi le Tekanelo ya Ditshepelo tša Phišo (*Equilibrium Thermodynamics*) mo maemong a baithutatlakirii, le *Polymer Processing* le *Polymer Additive Technology* go sealogasegolwane. Dinyakišišo tša gagwe di nepile pharologantšhong le taolong ya ditshepedišo tša booksetšene ka dimaterialeng tše bjalo ka pholima (*polymer*) le krafaete le ka go diphaerotehniki (*pyrotechnics*).

Prof Focke o amogetše thekgo ya mašelang go tšwa go Sasol gore a kgone go hlabolla nete ya sekapolastiki ya menang ya go kgotlelela nako e telele. Sekhwama sa *Bill and Melinda Gates Foundation* se lefela diphatišišo ka taolong ya malaria - ka fase ga tlhahlo ya gagwe - ka maikemišetšo a go hwetša ditsela tšeo di bolohegilego go laola menang yeo e rwelego malaria ka tsela ya go diriša pente ya sebolayadikhunkhwane sa go gašwa ka dintlong ka sefothedi sa go šia mašaledi (IRS) ao a theilwego seemalegatong sa go go tšosa dipolelo sa DDT, nete ya sebolayadikhunkhwane sa go kgotlelela nako e telele le diširamenang tša theko ya fase. Phatišišo ya gagwe e nepile gape go telefatša mošomo wa dibolayadikhunkhwane tšeo di dumeletšwego ke Mokgatlo wa Lefase wa tša Maphelo bjalo ka peobakeng ya DDT ka go IRS. Sehlopha sa gagwe sa dinyakišišo se na le thušo ya mašelang go tšwa Mozambique le Afrika-Borwa go hlotletša tšhomišo ya letsopa la gae bjalo ka didirišwa tšeo di laolwago go tšweletša dibolayadikhunkhwane tša IRS. Prof Focke ke moentšenera wa profešenale yo a ingwadišitšego, leloko la *American Chemical Society* le *South African Institute of Chemical Engineers*.

Instiitšhute ya Dimateriale tšeo di Dirišitšwego ke sehlopha sa dinyakišišo tša dimateriale tša makala ao a fapafapanego e swerego Bodulasetulo bja SARChI ka Theknolotšing ya Khapone le Dimateriale go tloga ka 2006 le Prof Brian Rand yo a di swerego pele lefaseng ka dinyakišišo tša dimateriale tša khapone, bjalo ka modulasetulo wa nakwana. Prof Focke o na le mešomo ya phatišišommogo ya mafolofolo le Prof Rand go dimateriale tša khapone, le bobedi Instiitšhute ya Diphatišišo tša Pholima ya Leibniz le University of Halle-Wittenberg, bobedi di le ka Jeremane, ka ga dipholima, gape le University of Eduardo Mondlane ka Maputo, Mozambique ka ga letsopa. Ke leloko la diboto tša borulaganyi tša *Journal of Vinyl and Additive Technology*, *International Journal of Adhesion & Adhesives* le *International Polymer Processing*. Prof Focke o phatlaladitše dipampiri tša go feta 90 ka ditšenaleng tša go sekasekwa ke ba mphato wa gagwe dithutong. Maemo a gagwe a Scopus ya hintekse ke 7 gomme diphatlalatšo tša gagwe tšeo di lego lenaneong la Scopus di tsopotšwe makga a 992 ka h-index ya 11.