Prof John Taylor

Prof Taylor is 'n professor in die Departement Voedselwetenskap in die Fakulteit Natuur- en Landbouwetenskappe, en temaleier vir Funksionele Biomolekules en Voedsel wat Gesondheid bevorder in die Universiteit se Instituut vir Voedsel, Voeding en Welstand. Dit is sy lewensmissie om navorsings-, ontwikkelings- en implementeringswerk te doen oor die voedingskwaliteit en verwerking van Afrika-graansoorte, veral sorghum en manna, om voedselsekuriteit te verbeter en die voedselbedryf in sub-Sahara-Afrika te ontwikkel.'n Belangrike aspek van die missie is om vaardighede van voedselwetenskaplikes, die voedselbedryf en van gemeenskappe te ontwikkel. Prof Taylor is die outeur van meer as 130 referate in portuurgeëvalueerde wetenskaplike tydskrifte, 21 hoofstukke in boeke en talle tegniese verslae vir die bedryf. Hy het kort kursusse oral in Afrika aangebied en was promotor of medepromotor van sowat 75 doktors- en meestersgraad-graduandi.

Prof Taylor se navorsing is toegespits op die probleem van die swak proteïengehalte van voedsel afkomstig van sorghum – 'n belangrike stapelvoedsel in die semidroë- tropiese streke in Afrika wat die minste voedselsekuriteit het. Sorghum het 'n uiters swak profiel wat die essensiële aminosure aanbetref en die verteerbaarheid (biobeskikbaarheid) van die proteïen word nadelig beïnvloed wanneer dit gekook word. Prof Taylor se groep het innoverende oplossings hiervoor ontwikkel. Dit sluit in die vermenging van sorghum met peulgewasse soos soja en akkerbone om voedsame koekies te maak. Twee sulke koekies voorsien 50% van 'n skoolkind se daaglikse proteïenbehoefte. Hul navorsing oor proteïen- biogefortifiseerde sorghum het die teorie bevestig dat disulfiedgebonde kruisverbindings van die kafirien-prolamienproteïene in sorghum verantwoordelik is vir die swak verteerbaarheid van die sorghumproteïen. Die navorsing is befonds deur die Africa Biofortified Sorghum-projek van die Bill & Melinda Gates-stigting. Prof Taylor het in die termyn van 2009 tot 2010 gedien as president van die Internasionale Vereniging vir Graanwetenskap en Tegnologie (ICC) en in die termyn van 2011 tot 2012 as voorsitter van die ICC se bestuurskomitee. In 2010 is hy verkies tot genoot van die Internasionale Akademie vir Voedselwetenskap en Tegnologie en in 2012 tot genoot van die ICC-akademie. Hy is 'n genoot van die Amerikaanse Vereniging vir Internasionale Chemici en 'n lid van die Wetenskapsakademie van Suid-Afrika. Prof Taylor het 'n B1-gradering van die NNS ontvang.

Prof Taylor is a professor in the Department of Food Science in the Faculty of Natural and Agricultural Sciences, and theme leader for Functional Biomolecules and Health-promoting Foods at UP's Institute for Food, Nutrition and Well-being. His life mission is to undertake research, development and implementation work into the nutritional quality and processing of African cereal grains, particularly sorghum and millets, with the aim of improving food security and developing the food industry in sub-Saharan Africa. An important aspect of this mission is to develop skills of food scientists, the food industry and communities. Prof Taylor is the author of more than 130 papers in peer-reviewed scientific journals, 21 book chapters and many technical reports to industry. He has presented short courses across Africa, and has been the supervisor and co-supervisor for some 75 doctoral and master's graduates.

Prof Taylor's research focuses on the problem of the poor protein quality of foods made from sorghum, a major staple foodstuff of many of the most food-insecure people in Africa's semi-arid tropics. Sorghum has a very poor essential amino acid profile and the digestibility (bioavailability) of its protein is adversely affected when it is cooked. Prof Taylor's group has developed innovative solutions to this problem, including compositing legumes such as soya and cowpea with sorghum to produce highly nutritious biscuits. Two of these biscuits will provide 50% of a school-age child's protein requirement. Their research into protein biofortified sorghum through the Bill & Melinda Gates Foundation's Africa Biofortified Sorghum Project has confirmed the theory that disulphide bonded cross-linking of the sorghum kafirin prolamin proteins is responsible for sorghum's low protein digestibility. In the 2009 to 2010 term, Prof Taylor served as president of the International Association for Cereal Science and Technology (ICC) and in the 2011 to 2012 term as chair of the ICC's Governing Committee. In 2010, he was elected as a fellow of the International Academy of Food Science and Technology, and in 2012 as a fellow of the ICC Academy. He is a fellow of the American Association of Chemists International and a member of the Academy of Science of South Africa. He received a B1-rating from the NRF.

Prof Taylor ke moprofesa wa Kgoro ya Thutamahale a Dijo ka Lefapheng la Thutamahlale a Temo le Tlhago, gape ke moetapele wa dikgwekgwe tša Dipayomolekhule tšeo di šomago le Dijo tšeo di godišago phepo ka Institšhuteng ya Dijo, Phepo le Boitekanelo ya UP. Morero wa gagwe wa bophelo ke go dira dinyakišišo, mošomo wa tlhabollo le tsentšhotirišong ka go boleng bja phepo le tšhilo ya dithoro tša Seafrika, kudukudu leotša le lebele ka nepo ya go hlabolla intasteri ya dijo ka Afrika ya borwa bja Sahara. Lekala le lengwe leo le lego bohlokwa la morero wo ke go thuša boramahlale ba dijo, intasteri ya dijo le maloko a setšhaba go hlabolla mabokgoni a bona. Prof Taylor ke mongwadi wa dipampiri tša go feta 130 ka ditšenaleng tša go sekasekwa ke ba mphato wa gagwe dithutong, dikgaolo ka dipukung tše 21 le dipego tše mmalwa tša setheknikhale ka intastering ye. O abile dithuthwana go kgabaganya Afrika gomme o bile gape mookamedi le mookamedimmogo wa dialoga tšeo e ka bago tše 75 tša mangwalo a bongaka le mastase.

Dinyakišišo tša Prof Taylor di beile šedi ya tšona go bothata bja boleng bja fase bja proteine ya dijo tšeo di dirilwego ka lebele, e lego dijo tša ka mehla tša batho ba bantši ka mafelong ao a lego kgakala a Afrika. Lebele ga le na fela seemo sa fasefase sa diesiti tša amino, go šilega ga proteine ya lona ka maleng go angwa gampe ge le apeilwe. Sehlopha sa Prof Taylor se tlile ka ditharollo tša boihlamedi go fediša bothata bja proteine ya boleng bja fase ya lebele go akaretšwa le go kopanya dinawa tše bjalo ka soya le erekiši le lebele go tšweletša dikukwana tša phepo ya godimo. Tše pedi tša dikukwana tše di tla aba 50% tša dinyakwa tša proteine go ngwana wa sekolo. Go tlaleletša fao, dinyakišišo tša sona ka ga lebele leo le matlafaditšwego ka proteine ka thušo ya protšeke ya Bomatlafatšiphelo bja Lebele ya Afrika ya Motheo wa Bill & Melinda Gates di netefaditše teori ya kgale le kgale ya gore go kopanya salfaete yeo e kgomaganego ya diproteine tša kafirin prolamin tša lebele di swere boikarabelo bja go se šilege gabotse ka maleng ga proteine ya lebele. Go tloga ka 2009 go fihla ka 2010 Prof Taylor o šomile bjalo ka mopresidente wa Lekgotla la Boditšhabatšhaba la Saense le Theknolotši ya Disirele (ICC) gomme go tloga ka 2011 go fihla ka 2012 e be ele modulasetulo wa Komitipušo ya ICC. Ka 2010 o kgethilwe go ba molelokomogwera wa Akatemi ya Boditšhabatšhaba ya Saense le Theknolotši ya Dijo gomme ka 2012 a ba maemong ao gape ka go Akatemi ya ICC. Ke molelokomogwera wa Lekgotla la Amerika la Borakhemisi ba Boditšhabatšhaba le go ba moleloko wa Akatemi ya Saense ya Afrika-Borwa. O na le maemo a B1 go tšwa go NRF.