

## LIST OF PUBLICATIONS BY AIMS SOUTH AFRICA AFFILIATED AUTHORS DURING 2019.

### 59 Publications

Authors with AIMS affiliation are highlighted in bold:

Abbott, T. M. C., Alarcon, A., Allam, S., Andersen, P., Annis, J., Asorey, J., [**Bassett, BA.**]... Fernandez, E. (2019). Cosmological Constraints from Multiple Probes in the Dark Energy Survey. *Physical Review Letters*, 122(17), 171301. <https://doi.org/10.1103/PhysRevLett.122.171301>

Abbott, T. M. C., Allam, S., Andersen, P., Angus, C., Asorey, J., ... [**Bassett, BA.**]... Zhang, Y. (2019). First Cosmology Results using Type Ia Supernovae from the Dark Energy Survey: Constraints on Cosmological Parameters. *The Astrophysical Journal*, 872(2), L30. <https://doi.org/10.3847/2041-8213/ab04fa>

**Adabor, E. S.**, & Acquaaah-Mensah, G. K. (2019). Machine learning approaches to decipher hormone and HER2 receptor status phenotypes in breast cancer. *Briefings in Bioinformatics*, 20(2), 504–514. <https://doi.org/10.1093/bib/bbx138>

An, F., Simpson, J. M., Smail, I., Swinbank, A. M., **Ma, C.**, Liu, D., ... Carey, J. R. (2019). The failure of success: cyclic recurrences of a globally invasive pest. *Ecological Applications*, 5(4), 1–12. <https://doi.org/10.1002/eap.1991>

Bingham, J., Landi, P., & **Hui, C.** (2019). Prejudice, privilege, and power: Conflicts and cooperation between recognizable groups. *Mathematical Biosciences and Engineering*, 16(5), 4092–4106. <https://doi.org/10.3934/mbe.2019203>

Bosc, C., **Hui, C.**, Roets, F., & Pauw, A. (2019). Importance of biotic niches versus drift in a plant-inhabiting arthropod community depends on rarity and trophic group. *Ecography*, 42(11), 1926–1935. <https://doi.org/10.1111/ecog.04396>

Broussard, A., Gawiser, E., Iyer, K., Kurczynski, P., Somerville, R. S., **Davé, R.**, ... Pacifici, C. (2019). Star Formation Stochasticity Measured from the Distribution of Burst Indicators, 74. <https://doi.org/10.3847/1538-4357/ab04ad>

Brout, D., Sako, M., Scolnic, D., Kessler, R., Andrea, C. B. D., Davis, T. M., ... [**Bassett, BA.**]... Lasker, J. (2019). First Cosmology Results Using Type Ia Supernovae from the Dark Energy Survey : Photometric Pipeline and Light-curve Data Release, 106. <https://doi.org/10.3847/1538-4357/ab06c1>

Brout, D., Scolnic, D., Kessler, R., Andrea, C. B. D., Davis, T. M., Gupta, R. R., ... [**Bassett, BA.**]... Kim, A. G. (2019). First Cosmology Results Using SNe Ia from the Dark Energy Survey : Analysis , Systematic Uncertainties , and Validation, 150. <https://doi.org/10.3847/1538-4357/ab08a0>

Carrón Duque, J., Buzzelli, A., **Fantaye, Y.**, Marinucci, D., Schwartzman, A., & Vittorio, N. (2019). Point Source Detection and False Discovery Rate Control on CMB Maps. *Astronomy and Computing*, 28, 100310. <https://doi.org/10.1016/j.ascom.2019.100310>

**de Villiers, J.**, & **Ranirina, D.** (2019). Shortest multi-wavelet matrix filters for refinable vector splines. *Advances in Computational Mathematics*, 3327–3365. <https://doi.org/10.1007/s10444-019-09740-7>

Degoot, A. M., **Adabor, E. S.**, Chirove, F., & Ndifon, W. (2019). Predicting Antigenicity of Influenza A Viruses Using biophysical ideas. *Scientific Reports*, 9(1), 10218. <https://doi.org/10.1038/s41598-019-46740-5>

- Djoufack, Z. I., Fotsa-Ngaffo, F., Tala-Tebue, E., Fendzi-Donfack, E., & Kapche-Tagne, F.** (2019). Modulational instability in addition to discrete breathers in 2D quantum ultracold atoms loaded in optical lattices. *Nonlinear Dynamics*, 98(3), 1905–1918. <https://doi.org/10.1007/s11071-019-05295-w>
- Dreyer, F., Espinaze, M. P. A., Matthee, S., Waller, L., & **Hui, C.** (2019). Parasite diversity associated with African penguins (*Spheniscus demersus*) and the effect of host and environmental factors. *Parasitology*, 1–14. <https://doi.org/10.1017/s0031182018002159>
- Durbach, I. N., & Montibeller, G.** (2019). Behavioural Analytics: Exploring judgments and choices in large data sets. *Journal of the Operational Research Society*, 70(2), 255–268.
- Espinaze, M. P. A., **Hui, C.**, Waller, L., & Matthee, S. (2019). The efficacy of a modified Berlese funnel method for the extraction of ectoparasites and their life stages from the nests of the African Penguin *Spheniscus demersus*. *Ostrich*, 90(3), 271–277. <https://doi.org/10.2989/00306525.2019.1616230>
- Etémé, A. S., **Tabi, C. B.**, & Mohamadou, A. (2019). Firing and synchronization modes in neural network under magnetic stimulation. *Communications in Nonlinear Science and Numerical Simulation*, 72, 432–440. <https://doi.org/10.1016/j.cnsns.2019.01.004>
- Gavhi-Molefe, M. R., & de Villiers, J.** (2019). On interpolatory subdivision symbol formulation and parameter convergence intervals. *Journal of Computational and Applied Mathematics*, 349, 354–365. <https://doi.org/https://doi.org/10.1016/j.cam.2018.06.004>
- Geza, E., Mujo, J., & et al.** (2019). A comprehensive survey of models for dissecting local ancestry deconvolution in human genome. *Briefings in Bioinformatics.*, 20(5), 1709.
- Gouba, L., Govaerts, J.** (2019). The 1 + 1 dimensional Abelian higgs model revisited: Non-perturbative Dynamics in the Physical Sector. In *Proceedings of the 5th International Workshop on Contemporary Problems in Mathematical Physics, COPROMAPH 2007* (pp. 159–163).
- Gouba, L., Govaerts, J., Hounkonnou, M. N.** (2019). The 1 + 1 dimensional Abelian higgs model revisited: Physical sector and solitons. Proceedings of the 5th International Workshop on Contemporary Problems in Mathematical Physics. In *Proceedings of the 5th International Workshop on Contemporary Problems in Mathematical Physics, COPROMAPH 2007* (pp. 164–169).
- Heywood, I., Camilo, F., Cotton, W. D. ... [**Oozer, N.**]...et al. (2019). Inflation of 430-parsec bipolar radio bubbles in the Galactic Centre by an energetic event. *Nature*, 573, 235–237.
- Hotchkiss, J., Manyisa, N., Adadey, S., Oluwole, O. G., Wonkam, E., Mnika, K., ... **Mazandu, G. K.** (2019). The Hearing Impairment Ontology : A Tool for Unifying Hearing Impairment Knowledge to Enhance Collaborative Research. *Genes*, 21(10), 12.
- Houdanou, W. K.** (2019). An a posteriori error analysis for a coupled continuum pipe-flow/Darcy model in Karst aquifers: Anisotropic and isotropic discretizations. *Results in Applied Mathematics*, 4, 9–11. <https://doi.org/10.1016/j.rinam.2019.100081>
- Hui, C., & Richardson, D. M.** (2019). Network Invasion as an Open Dynamical System: Response to Rossberg and Barab&#xe1;s. *Trends in Ecology & Evolution*, 34(5), 386–387. <https://doi.org/10.1016/j.tree.2019.01.016>
- Hui, C., & Richardson, D. M.** (2019). How to Invade an Ecological Network. *Trends in Ecology and Evolution*, 34(2), 121–131. <https://doi.org/10.1016/j.tree.2018.11.003>
- J Lasker, R Kessler, D Scolnic, D Brout, D L Burke, C B D'Andrea, T M Davis, S R Hinton, A G Kim, T S Li, C Lidman, E Macaulay, A Möller, E S Rykoff, M Sako, M Smith, M Sullivan, E Swann, B E Tucker, W Wester, **B A Bassett**, T M C Abbott, S Allam, J Annis, J. L. M., & arshall, P Martini, F Menanteau, C J Miller, R Miquel, A A Plazas, E Sanchez, V Scarpine, I Sevilla-Noarbe, R C Smith, M Soares-Santos, F

- Sobreira, E Suchyta, M E C Swanson, G Tarle, D L Tucker, A. R. W. (2019). First cosmology results using Type IA supernovae from the dark energy survey: effects of chromatic corrections to supernova photometry on measurements of cosmological parameters. *Monthly Notices of the Royal Astronomical Society*, 485(4), 5329–5344.
- Keet, J. H., Ellis, A. G., **Hui, C.**, & Le Roux, J. J. (2019). Strong spatial and temporal turnover of soil bacterial communities in South Africa's hyperdiverse fynbos biome. *Soil Biology and Biochemistry*, 136(July), 107541. <https://doi.org/10.1016/j.soilbio.2019.107541>
- Koffi, R.S. & **Tambue, A. C. E.** (2019). <https://doi.org/10.1007/s1061-019-09906-x>. (2019). A Fitted Multi-point Flux Approximation Method for Pricing Two Options. *Computational Economics*, 1–32.
- Latombe, G., Canavan, S., Hirsch, H., **Hui, C.**, Kumschick, S., Nsikani, M. M., ... Richardson, D. M. (2019). SYNTHESIS & INTEGRATION A four-component classification of uncertainties in biological invasions : implications for management. *Ecosphere*, 10(4). <https://doi.org/10.1002/ecs2.2669>
- Latombe, G., Roura-Pascual, N., & **Hui, C.** (2019). Similar compositional turnover but distinct insular environmental and geographical drivers of native and exotic ants in two oceans. *Journal of Biogeography*, 46(10), 2299–2310. <https://doi.org/10.1111/jbi.13671>
- Le Roux, J. J., **Hui, C.**, Castillo, M. L., Iriondo, J. M., Keet, J. H., Khapugin, A. A., ... Hirsch, H. (2019). Recent Anthropogenic Plant Extinctions Differ in Biodiversity Hotspots and Coldspots. *Current Biology*, 29(17), 2912-2918.e2. <https://doi.org/10.1016/j.cub.2019.07.063>
- Macaulay, E., Nichol, R. C., Bacon, D., Brout, D., Davis, T. M., Zhang, B., **Bassett, BA.**, ... Gutierrez, G. (2019). First Cosmological Results using Type Ia Supernovae from the Dark Energy Survey : Measurement of the Hubble constant, 15(April), 1–15.
- MacFadyen, S., **Hui, C.**, Verburg, P. H., & Van Teeffelen, A. J. A. (2019). Spatiotemporal distribution dynamics of elephants in response to density, rainfall, rivers and fire in Kruger National Park, South Africa. *Diversity and Distributions*, 25(6), 880–894. <https://doi.org/10.1111/ddi.12907>
- Malz, A. I., Hložek, R., Allam, T., Bahmanyar, A., Biswas, R., Dai, M., [**Lochner, M.**,]... Setzer, C. N. (2019). The Photometric LSST Astronomical Time-series Classification Challenge PLAsTiCC: Selection of a Performance Metric for Classification Probabilities Balancing Diverse Science Goals. *The Astronomical Journal*, 158(5), 171. <https://doi.org/10.3847/1538-3881/ab3a2f>
- Masakuna, J., Utete, S., & Kroon, S.** (2019). A Coordinated Search Strategy for Solitary Robots. *2019 Third IEEE International Conference on Robotic Computing (IRC)*, 433–434.
- Mbongwa, N.A., **Hui, C.**, Pulfrich, A., Von Der Heyden, S. (2019). Every beach an island — deep population divergence and possible loss of genetic diversity in *Tylos granulatus*, a sandy shore isopod. *Marine Ecology Progress Series*, 614, 111–123.
- Mnika, K., **Mazandu, G. K.**, Jonas, M., Pule, G. D., Chimusa, E. R., Hanchard, N. A., & Wonkam, A. (2019). Hydroxyurea-Induced miRNA Expression in Sickle Cell Disease Patients in Africa. *Frontiers in Genetics*, 10(May), 1–6. <https://doi.org/10.3389/fgene.2019.00509>
- Mukam, J. D., & **Tambue, A.** (2019). Optimal strong convergence rates of numerical methods for semilinear parabolic SPDE driven by Gaussian noise and Poisson random measure. *Computers and Mathematics with Applications*, (xxxx), 1–18. <https://doi.org/10.1016/j.camwa.2019.01.011>
- Muller, E.**, Shock, J. P., Bender, A., Kleeberger, J., Högen, T., Rosenfelder, M., ... Lopez-rolon, A. (2019). Outcome prediction with serial neuron-specific enolase and machine learning in anoxic-ischaemic disorders of consciousness. *Computers in Biology and Medicine*, 107(February), 145–152. <https://doi.org/10.1016/j.combiomed.2019.02.006>

- Nnakenyi, C. A., Traveset, A., Heleno, R., Minoarivelo, H. O., & **Hui, C.** (2019). Fine-tuning the nested structure of pollination networks by adaptive interaction switching, biogeography and sampling effect in the Galápagos Islands. *Oikos*, *0*(0). <https://doi.org/10.1111/oik.06053>
- Ogden, N. H., Wilson, J. R. U., Richardson, M., **Hui, C.**, Davies, S. J., Kumschick, S., ... Ogden, N. H. (2019). Emerging infectious diseases and biological invasions : a call for a One Health collaboration in science and management. *Royal Society Open Science*, *6*(3), 181577.
- Picó-Pérez, M., Ipser, J., **Taylor, P.**, Alonso, P., López-Solà, C., Real, E., ... Soriano-Mas, C. (2019). Intrinsic functional and structural connectivity of emotion regulation networks in obsessive-compulsive disorder. *Depression and Anxiety*, *36*(2), 110–120. <https://doi.org/10.1002/da.22845>
- Rafieerantsoa, M., **Davé, R.**, & Naab, T. (2019). mufasa: Time-scales for H i consumption and SFR depletion of satellite galaxies in groups. *Monthly Notices of the Royal Astronomical Society*, *486*(4), 5184–5196. <https://doi.org/10.1093/mnras/stz1199>
- Rivi, M., **Lochner, M.**, Balan, S. T., Harrison, I., & Abdalla, F. B. (2019). Radio galaxy shape measurement with Hamiltonian Monte Carlo in the visibility domain. *Monthly Notices of the Royal Astronomical Society*, *482*(1), 1096–1109. <https://doi.org/10.1093/mnras/sty2700>
- Roberts, N., **Tshuma, L.**, Mpalami, N., & Saka, T. (2019). Mathematical learning and its difficulties in Southern Africa. *International Handbook of Mathematical Learning Difficulties: From the Laboratory to the Classroom*, 231–252. [https://doi.org/10.1007/978-3-319-97148-3\\_15](https://doi.org/10.1007/978-3-319-97148-3_15)
- Rossberg, A. G., Barabás, G., Possingham, H. P., Pascual, M., Marquet, P. A., **Hui, C.**, ... Meszéna, G. (2019). Let's Train More Theoretical Ecologists – Here Is Why. *Trends in Ecology and Evolution*, *34*(9), 759–762. <https://doi.org/10.1016/j.tree.2019.06.004>
- Senou, BR., Dégila, J., Chabi, E., Chabi, E., & **Djoussou P M.** (2019). ScienceDirect Blockchain for Child Labour Decrease in Cocoa Production in West and Central Africa Blockchain for Child Labour Decrease in Cocoa Production in West and Central Africa. *IFAC PapersOnLine*, *52*(13), 2710–2715. <https://doi.org/10.1016/j.ifacol.2019.11.617>
- Shi, P., Zhao, L., Ratkowsky, D. A., Niklas, K. J., Huang, W., Lin, S., **Hui, C.**, ... Li, B.-L. (2019). Influence of the physical dimension of leaf size measures on the goodness of fit for Taylor's power law using 101 bamboo taxa. *Global Ecology and Conservation*, *19*, e00657. <https://doi.org/10.1016/j.gecco.2019.e00657>
- Steidinger, B. S., Liang, J., Nuland, M. E. Van, Werner, G. D. A., Nabuurs, G., Zhou, M., **Hui, C.**, ... Peay, K. G. (2019). Climatic controls of decomposition drive the global biogeography of forest-tree symbioses. *Nature*, *569*(7756), 404–408. <https://doi.org/10.1038/s41586-019-1128-0>
- Tambue, A.**, & Mukam, J. D. (2019). Strong convergence of the linear implicit Euler method for the finite element discretization of semilinear SPDEs driven by multiplicative or additive noise. *Applied Mathematics and Computation*, *346*, 23–40. <https://doi.org/10.1016/j.amc.2018.09.073>
- Tambue, A.**, & Mukam, J. D. (2019). STRONG CONVERGENCE AND STABILITY OF THE SEMI-TAMED AND TAMED EULER SCHEMES FOR STOCHASTIC DIFFERENTIAL EQUATIONS WITH JUMPS UNDER NON-GLOBAL LIPSCHITZ CONDITION. *International Journal of Numerical Mathematics and Modeling*, *16*(6), 847–872.
- Vafaei Sadr, A., **Lochner, M.**, **Oozeer, N.**, **Bassett, B. A.**, Vos, E. E., & Hosenie, Z. (2019). DeepSource: point source detection using deep learning. *Monthly Notices of the Royal Astronomical Society*, *484*(2), 2793–2806. <https://doi.org/10.1093/mnras/stz131>
- Vicente, J. R., Kue, C., Richardson, D. M., So, A., Cabral, J. A., **Hui, C.**, ... Honrado, J. P. (2019). Forest Ecology and Management Different environmental drivers of alien tree invasion affect different life-

stages and operate at different spatial scales, *433*(November 2018), 263–275.  
<https://doi.org/10.1016/j.foreco.2018.10.065>

Vos, E. E., Francois Luus, P. S., Finlay, C. J., & **Bassett, B. A.** (2019). A Generative Machine Learning Approach to RFI Mitigation for Radio Astronomy. *IEEE International Workshop on Machine Learning for Signal Processing, MLSP, 2019-October*, 1–6. <https://doi.org/10.1109/MLSP.2019.8918820>

Yu, X., Shi, P., **Hui, C.**, (...), Zhang, Q., Feng, C. (2019). Effects of Salt Stress on the Leaf Shape and Scaling of. *Symmetry*, *11*(8), 1–15.

Zhao, Z., Hui, C., Plant, R. E., & (.Hui, C...), Li, Z., Carey, J. R. (2019). Life table invasion models : spatial progression and species-specific partitioning. *Ecology*, *100*(5), 1–11. <https://doi.org/10.1002/ecy.2682>

Zhao, Z., **Hui, C.**, Gadi, V. P., & Ge, F. (2019). Plant Species Richness Controls Arthropod Food Web : Evidence From an Experimental Model System. *Annals of the Entomological Society of America*, *112*(October 2018), 27–32. <https://doi.org/10.1093/aesa/say038>

Zhao, Z., **Hui, C.**, Plant, R. E., Su, M., Papadopoulos, N. T., Carpenter, T. E., ... Carey, J. R. (2019). The failure of success: cyclic recurrences of a globally invasive pest. *Ecological Applications*, *29*(8), 1–12. <https://doi.org/10.1002/eap.1991>