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KARATINA UNIVERSITY

STAFF PROFILE TEMPLATE

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Designation: Lecturer

1. Employment details

School: School of Agriculture and Biotechnology

Department: Agricultural Sciences

2. Contact Information

Email Address (rbirithia@karu.ac.ke and rbirithia@gmail.com):

Research Links:

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Bibliography

Dr Birithia is a renowned lecturer at Karatina University where she has served since 2015. She holds a PhD in Crop Protection from University of Nairobi. She has over 13 years of research for development experience in Kenya. Her remarkable research contributions focus on; Development of sustainable of Integrated Pest Management (IPM) strategies for horticultural and staple food crops; Biopesticide research; Computerized technology crop disease diagnostics and food safety She has published extensively, with over 20 publications in peer-reviewed articles in high impact journals as well as made several presentations in local and international conferences. Additionally, she is actively engaged strengthening partnerships and resource mobilization.

Dr. Rael is also extremely passionate on building African capacity having supervised three postgraduate students to completion of their studies. Currently, she is mentoring four postgraduate students carrying out research in various areas of sustainable crop protection. Apart from her professional crop health research focus, she serves as a consultant in matters of crop health and has a keen interest in community outreach.

5. **Area/ Field of specialization:** Crop protection

6. **Research interests:** Crop protection/ integrated pest and disease management /food security and food safety

Selected peer-reviewed publications since appointment as a Lecturer

1. Musah. S.M. **Birithia, R.K.** Kamiri H.W. and Kahariri. E. **2023**. Effect of Intercropping on Potato Bacterial Wilt Disease and Tuber Yield in Kenya. African Crop Science Journal, Vol. 31, No. 4, pp. 449 - 462. Available at DOI: [10.4314/acsj.v31i4.6](https://doi.org/10.4314/acsj.v31i4.6)
2. Murimi, M.M., **Birithia R.K**, Mugambi, C., Kinyua, M., and Too, B. **(2023)**. Identification of Maize leaf diseases based on Support Vector Macina and Convolutional Neural Networks Alex Net and ResNet-. Indonesia Journal of Computer Science, 12(4). DOI: [10.33022/ijcs.v12i4.3270](https://doi.org/10.33022/ijcs.v12i4.3270)

3. **Birithia R.K** and Kuria, D.K. (2023). Farmer knowledge, management practices and occurrence on tomato root-knot nematodes (*Meloidogyne spp.*) in Kenya. African Crop Science Journal. 31 (3), 337-347
DOI:[10.4314/acsj.v31i3.5](https://doi.org/10.4314/acsj.v31i3.5)
4. **Birithia R.** Subramanian, S. Kuria, D. (2021). Farmers' preference for onion varieties and implications of knowledge of Iris yellow spot disease in Kenya. African Crop Science Journal. 29 (2), 229 - 239.
DOI: [10.4314/acsj.v31i3.5](https://doi.org/10.4314/acsj.v31i3.5)
5. Githinji, G.G., Kinyua, M. G. Kiplagat, O. and **Birithia, R.K.** (2016). Evaluation of drought tolerance in some Kenyan bread wheat (*Triticum Aestivum* L.) at seedling stage. Journal of contemporary agricultural practices. 1 (1), 1-8.
6. **Birithia, R.**, Subramanian, S., Muthomi, J.W. and Narla, R.D. (2018). Seasonal dynamics and alternate hosts of thrips transmitted Iris yellow spot virus in Kenya. African Journal of Crop Science. 26 (3), 365 - 376.
DOI: [10.4314/acsj.v26i3.3](https://doi.org/10.4314/acsj.v26i3.3)
7. **Birithia, R.**, Subramanian, S., Muthomi, J.W. and Narla, R.D. (2018) Effects of entomopathogenic fungus and spider plant intercrop in control of onion thrips and iris yellow spot virus. International Journal of Agronomy and Agricultural Research 12 (6), 39-47.
8. Githinji, G.G., Kinyua, M.G., Kiplagat, O. and **Birithia, R.K.** (2016). Evaluation of drought tolerance in mutant Kenyan bread wheat (*Triticum aestivum* L.) using in vitro techniques. International Journal on Agronomy and Agricultural Research. 9(2), 180-189
9. Githinji G.G., and **Birithia R.K** (2015). Effects of induced mutagenesis and single backcrossing on agronomic traits of wheat (*Triticum L.*). Journal of Agricultural and Life Sciences. 2 (2), 31-37.

Conferences/Workshops Attended and Presented

1. Matika, S.M, **Birithia, R.K**, Kamari, H.K., Khairi, E. (2021). Effects of intercropping on potato bacterial wilt disease incidence and potato tuber yield in Kenya. Paper presented at the 21st Horticultural Association of Kenya Workshop held at Karatina University
2. Aloo, L.A. Madadi, V. A., Shem O. Wandiga, S.O. and **Birithia R. K.** (2020). Determination of Aflatoxins and Nutritive Levels associated with *Rastrineobola Argentea* in selected localities in Kenya. The African Network

for Chemical Analysis of Pesticides and her Pollutants (ANCAP). Virtual Symposium organized from Dar es Salaam, Tanzania on 22nd -23rd December 2020.

3. **Birithia, R.K.**, Narla, R.D., Muthomi, J.W. and Subramanian, S. (2017). Iris yellow spot virus in, Kenya: Incidence, severity and characterization of alternate hosts. Paper presented at the 16th Horticultural Association of Kenya Workshop held at Pwani University.
4. Subramanian S, Manianai, N.K Nyasani, J.O., Niassy, S., Muvea, A.M., **Birithia, R.K.**, Pappu, H., Meyhoefer, R., Moritz, G., Wainright, H., Ekesi, S., (2016). Development and dissemination of thrips and tospovirus management strategies for vegetable production systems of East Africa. International Congress of Entomology. Held in Orlando, Florida, USA. September, 25-30, 2016
5. Narla, R.D., Muthomi, J.W, Subramanian, S. (2016). Management Strategies of onion thrips and Iris yellow spot virus by use of intercropping, insecticide and entomopathogenic fungus. Paper presented at the 16thHorticultural Association of Kenya Workshop held at Chuka University.
6. Githinji, G.G., Kinyua, M.G. Kiplagat, O. and **Birithia, R.K.** (2016). Evaluation of drought tolerance in mutant Kenyan bread wheat (*Triticum aestivum* L.) at seedling stage. Paper presented at the 16th Horticultural Association of Kenya Workshop held at Chuka University.