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Dr. rer. nat. Yahya Zakaria Abdou Gaafar

Research Experience

<i>Apr 2022 – Currently</i>	Research Scientist Canadian Food Inspection Agency, Centre for Plant Health, North Saanich, Canada
<i>Feb 2020 – Mar 2022</i>	Research Scientist Julius Kühn-Institut, Institute for Epidemiology and Pathogen Diagnostics, Braunschweig, Germany
<i>Apr 2016 – Sep 2019</i>	PhD Student/ Researcher Julius Kühn-Institut, Institute for Epidemiology and Pathogen Diagnostics, Braunschweig, Germany
<i>Nov 2017 – Dec 2017</i>	Visiting Researcher French national institute for agricultural research, Montpellier, France
<i>Oct 2014 – Nov 2014</i>	Visiting Researcher Julius Kühn-Institut, Institute for Epidemiology and Pathogen Diagnostics, Braunschweig, Germany
<i>Feb 2014 – Aug 2014</i>	Master's Student Wageningen University & Research, Laboratory of Nematology, Wageningen, Netherlands
<i>Oct 2008 – Mar 2009</i>	Biotechnology Specialist Suez Canal University, Faculty of Science, Department of Biology, Suez, Egypt

Education

<i>Jun 2016 – Dec 2019</i>	Doctor of natural sciences Georg-August-Universität Göttingen, Göttingen, Germany International PhD Program for Agricultural Science (IPAG), Thesis: Plant virus identification and virus-vector-host interactions
<i>Sep 2012 – Sep 2014</i>	Master of science Ghent University, Gent, Belgium European Master of Science in Nematology, Thesis: <i>Caenorhabditis elegans</i> - Orsay virus interaction: infection dynamics, antiviral inheritance, and genetic architecture of susceptibility
<i>Sep 2003 – Jul 2007</i>	Bachelor of sciences Cairo University, Giza, Egypt B.Sc. in Agricultural sciences, Major: Biotechnology

Skills & Activities

<i>Major Skills</i>	Nucleic acid extraction, Molecular cloning, PCR based techniques, ELISA, Virus taxonomy, Virus identification, Electrical penetration graphs, Fluorescent microscopy, Plant transformation techniques, Virus purification, Cell culture, High throughput sequencing, Bioinformatic analysis (CLC, Geneious Prime, Galaxy platform, Python and Linux based tools), Statistical analysis (Excel, R statistical package and SPSS) and Biosafety.
<i>Languages</i>	Arabic (Native), English (Fluent), German (Intermediate), French (Basics)
<i>Driving license</i>	Canadian class 5, German B class, Egyptian and International driving licenses.
<i>Scientific Memberships</i>	International Committee on Taxonomy of Viruses The Association of Applied Biologists Microbiology Society The British Society for Plant Pathology

Projects

- Development of one-step rRT-PCR for the identification of ARWV-1 and ARWV-2 for routine diagnostics.
- EUPHRESCO NGS-detect: The application of next-generation sequencing technology for the detection and diagnosis of non-cultural organisms: Viruses and viroids.
- EUPHRESCO PHBN: Plant Health Bioinformatics Network.
- EUPHRESCO PRONC: Phytosanitary risks of newly introduced crops.
- EUPHRESCO Virfast: Faster, cheaper identification of emerging virus problems.
- Pea virome in Germany and New Zealand.
- TEMPER: The influence of temperature on the sensitivity of rapeseed varieties and genotypes to turnip yellows virus and pests.

Awards & Grants

<i>Sep 2019</i>	Stegemann Stiftung
<i>Sep 2019</i>	Gemeinschaft der Förderer und Freunde des Julius Kühn-Instituts e. V. (GFF)
<i>Oct 2018</i>	Gemeinschaft der Förderer und Freunde des Julius Kühn-Instituts e. V. (GFF)
<i>Sep 2016</i>	Gemeinschaft der Förderer und Freunde des Julius Kühn-Instituts e. V. (GFF)
<i>Sep 2015</i>	Scholarship: German-Egyptian Research Long-Term Scholarship (GERLS)
<i>Sep 2012</i>	Scholarship: Erasmus Mundus

Teaching at Kassel University, Germany

<i>Feb 2021</i>	Plant virus cycles
<i>Feb 2021</i>	Plant-vector interactions
<i>Feb 2021</i>	Molecular diagnostic methods for virus identification
<i>Nov 2020</i>	Applications of RNA silencing in agriculture

Supervision

<i>Mar 2021– Mar 2022</i>	Shin yee Tan - Research project
<i>Sep 2020 – Jul 2021</i>	Amjad Zia - Research project
<i>Aug 2020 – Sep 2020</i>	Xiao-Hua Yan - Research project
<i>Jun 2017 – Sep 2017</i>	Antonia Pilic - Bachelor thesis
<i>Jun 2016 – Aug 2016</i>	Lisa Husmann - Research project
<i>Jun 2016 – Jul 2016</i>	Oriana Köhler - Research project

Trainings and Workshops

<i>Sep 2021</i>	EURL online training on seed testing certificate	Council for Agricultural Research and Economics, Research Centre for Plant Protection and Certification (CREA-DC)
<i>Oct 2018</i>	DNA Barcoding	European and Mediterranean Plant Protection Organization (EPPO), Paris, France
<i>Nov 2017</i>	Immunolocalization	French National Institute for Agricultural Research, Montpellier, France
<i>Nov 2017</i>	Electrical penetration graphs	Leibniz Hannover University, Hannover, Germany
<i>Apr 2017</i>	Project management fundamentals	Göttingen University, Göttingen, Germany
<i>Apr 2012</i>	Intellectual property patents	King Saud University, Riyadh, Saudi Arabia
<i>Aug 2008</i>	Plant cell and tissue culture	Cairo University, Giza, Egypt
<i>Jul 2008</i>	Diploma of bioinformatics	Scientific informatics research academy, Giza, Egypt
<i>Jul 2005</i>	Molecular genetics	Agricultural genetic engineering research institute, Giza, Egypt

Conferences and Meetings

<i>Mar 2022</i>	Presentation	Identification of a novel nepovirus, development and validation of detection assays for nepoviruses	DPG meeting of plant virus diseases working group, JKI Dossenheim, Germany, ONLINE, Presenter Shin yee Tan
<i>Sep 2021</i>	Presentation	Characterization of an emergent viral disease on vegetables in Europe	Les rencontres de virologie végétales" in Aussois, Presenter Coline Temple
<i>Apr 2021</i>	Poster	Raising awareness among plant virologists on the richness of their high-throughput sequencing data	International Advances in Plant Virology 2021, ONLINE, Presenter Annelies Haegeman
<i>Oct 2020</i>	Presentation	Plant virus identification and virus-vector-host interactions	Kassel University, Germany
<i>June 2019</i>	Poster	Legume viruses	EP-colloquium, JKI Braunschweig, Germany

<i>Mar 2019</i>	Presentation	Plant viruses identified using high throughput sequencing	DPG meeting of plant virus diseases working group, Göttingen, Germany
<i>Sep 2018</i>	Presentation	Comparative study on three RNA-based pipelines for plant virus/viroid detection using high throughput sequencing	EUPHRESKO meeting, NPPO Wageningen, The Netherlands
<i>Sep 2018</i>	Presentation	EUPHRESKO project (2015-F-172) report	EUPHRESKO meeting, NPPO Wageningen, The Netherlands
<i>Aug 2018</i>	Poster	Plant virus detection and identification, and virus-vector-host interactions	EP-Minisymposium, JKI Braunschweig, Germany
<i>Aug 2018</i>	Poster	Legume viruses	EP-Minisymposium, JKI Braunschweig, Germany
<i>Mar 2017</i>	Presentation	Legume viruses in Germany 2016	Dutch and German Plant Virologists meeting, Bonn, Germany
<i>Nov 2016</i>	Presentation	Insights into the Nanovirus-legume-aphid interactions	Young Scientists Meeting (YSM) JKI Quedlinburg, Germany
<i>Oct 2016</i>	Presentation	dsRNA immunocapturing	EUPHRESKO meeting, JKI Braunschweig, Germany
<i>Sep 2016</i>	Poster	The current status of legume viruses in Germany	Advances in Virology conference, Association of Applied Biologists, University of Greenwich London, The UK

References

- Dr. Heiko Ziebell Senior Scientist, Institute for Epidemiology and Pathogen Diagnostics, Julius Kühn Institute, Braunschweig, Germany
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+49 (0)5312993802
- Prof. Dr. Stefan Vidal Professor, Department for Crop Sciences - Agricultural Entomology, Georg-August University Göttingen, Göttingen, Germany
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- Prof. Dr. Jan Kammenga Professor, Laboratory of Nematology - Department of Plant Sciences, Wageningen University and Research, Wageningen, The Netherlands
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- Prof. Dr. Edgar Maiss Professor, Institute for Horticultural Production Systems - Department of Phytomedicine, Faculty of Natural Sciences, Leibniz University Hannover, Hannover, Germany
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Publications

- 2022
 1. Baiome, B. A.; Ye, X.; Yuan, Z.; **Gaafar, Y. Z. A.**; Melak, S.; Cao, H. (2022). Identification of volatile organic compounds produced by *Xenorhabdus indica* strain AB and investigation of their antifungal activities. In *Appl. Environ. Microbiol.* DOI : 10.1128/aem.00155-22.
 2. Temple, C.; Blouin, A. G.; De Jonghe, K.; Foucart, Y.; Botermans, M.; Westenberg, M.; Schoen, R.; Gentit, P.; Visage, M.; Verdin, E.; Wipf-Scheibel, C.; Ziebell, H.; **Gaafar, Y. Z. A.**; Denis Kutnjak, D.; Vučurović, A.; Rivarez, M.; Richert-Pöggeler, K. R.; Ulrich, R.; Zia, A.; Yan, X.-H.; Massart, S. (2022). Biological and genetic characterization of Physostegia chlorotic mottle virus in Europe based on host range, location, and time. In *Plant Dis.* DOI: 10.1094/PDIS-12-21-2800-RE
- 2021
 3. **Gaafar, Y. Z. A.**; Westenberg, M.; Botermans, M.; László, K.; Jonghe, K. de; Foucart, Y.; Ferretti, L.; Kutnjak, D.; Pecman, A.; Mehle, N.; Kreuze, J.; Muller, G.; Vakirlis, N.; Beris, D.; Varveri, C.; Ziebell, H. (2021). Interlaboratory comparison study on ribodepleted total RNA high-throughput sequencing for plant virus diagnostics and bioinformatic competence. In *Pathogens* 10. DOI: 10.3390/pathogens10091174.
 4. **Gaafar, Y. Z. A.**; Rabenstein, F.; Zia, A.; Gaafar, A. Z. A.; Ziebell, H. (2021): Molecular characterisation of a new tenuivirus from *Festuca* sp. In *Virus Res.* 304, 198509. DOI: 10.1016/j.virusres.2021.198509.
 5. **Gaafar, Y. Z. A.**; Zia, A.; Nothnagel, T.; Ziebell, H. (2021): Asparagus. In Awasthi, L. P., ed. *Viral Diseases of Field and Horticultural Crops*, Elsevier. (In Press)
 6. **Gaafar, Y. Z. A.**; Ziebell, H. (2021): Triviruses (*Betaflexiviridae*). In Roitberg B. D., ed. *Encyclopedia of Virology*, Elsevier. DOI: 10.1016/B978-0-12-809633-8.21533-1.
- 2020
 7. **Gaafar, Y. Z. A.**; Herz, K.; Hartrick, J.; Fletcher, J.; Blouin, A. G.; MacDiarmid, R.; Ziebell, H. (2020): Investigating the pea virome in Germany - old friends and new players in the field(s). In *Front. Micro.* 11, 583242. DOI: 10.3389/fmicb.2020.583242.
 8. **Gaafar, Y. Z. A.**; Ziebell, H. (2020): Novel targets for engineering Physostegia chlorotic mottle and tomato brown rugose fruit virus-resistant tomatoes: *In silico* prediction of tomato microRNA targets. In *PeerJ* 8, e10096. DOI: 10.7717/peerj.10096.
 9. **Gaafar, Y. Z. A.**; Richert-Pöggeler, K. R.; Hartrick, J.; Lüddecke, P.; Maaß, C.; Schuhmann, S.; Wilstermann A.; Ziebell, H. (2020): A new tobamovirus infecting Hoya spp. In *New Dis. Rep.* 42, 10. DOI: 10.5197/j.2044-0588.2020.042.010
 10. **Gaafar, Y. Z. A.**; Ziebell, H. (2020): Comparative study on three viral enrichment procedures based on RNA extraction for plant virus/viroid detection using high throughput sequencing. In *PLOS One.* 15, e0237951. DOI: 10.1371/journal.pone.0237951.
 11. **Gaafar, Y. Z. A.**; Ziebell, H. (2020): Complete sequence of soybean dwarf virus isolated from white clover in Germany. In *Microbiol. Resour. Announc.* 9. DOI: 10.1128/MRA.00637-20.
 12. **Gaafar, Y. Z. A.**; Ziebell, H. (2019): Aphid transmission of nanoviruses. In *Arch. Insect Biochem. Physiol.* 104, e21668. doi: 10.1002/arch.21668.
 13. Di Mattia, J.; Vernerey, M. S.; Yvon, M.; Pirolles, E.; Villegas, M.; **Gaafar, Y. Z. A.**; Ziebell, H.; Michalakakis, Y.; Zeddami, J. L.; Blanc, S. (2019): Route of a multipartite (nano)virus across the body of its aphid vector. In *J. Virol.* 94. doi: 10.1128/JVI.01998-19.
- 2019
 14. **Gaafar, Y. Z. A.**; Lüddecke, P.; Heidler C.; Hartrick, J.; Sieg-Müller, A.; Hübert, C.; Wichura, A.; Ziebell, H. (2019): First report of southern tomato virus in German tomatoes. In *New Dis. Rep.* 40, 1. DOI: 10.5197/j.2044-0588.2019.040.001.
 15. **Gaafar, Y. Z. A.**; Sieg-Müller, A.; Lüddecke, P.; Hartrick, J.; Seide, Y.; Müller, J.; Maaß, C.; Schuhmann, S.; Richert-Pöggeler, K. R.; Blouin, A.; Massart, S.; Ziebell, H. (2019): First report of natural infection of beetroot with beet soil-borne virus. In *New Dis. Rep.* DOI: 10.5197/j.2044-0588.2019.040.005.
 16. **Gaafar, Y. Z. A.**; Richert-Pöggeler, K. R.; Sieg-Müller, A.; Lüddecke, P.; Herz, K.; Hartrick, J.; Seide, Y.; Vetten, H.-J.; Ziebell, H. (2019): A divergent strain of melon chlorotic spot virus

- isolated from black medic (*Medicago lupulina*) in Austria. In *Virol. J.* 16, 297. DOI: 10.1186/s12985-019-1195-8.
17. **Gaafar, Y. Z. A.**; Richert-Pöggeler, K. R.; Sieg-Müller, A.; Lüddecke, P.; Herz, K.; Hartrick, J.; Maaß, C.; Ulrich, R.; Ziebell, H. (2019): Caraway yellows virus, a novel nepovirus from *Carum carvi*. In *Virol. J.* 16, 529. DOI: 10.1186/s12985-019-1181-1.
18. **Gaafar, Y. Z. A.**; Ziebell, H. (2019): Complete genome sequence of highly divergent carrot torradovirus 1 strain from *Apium graveolens*. In *Arch. Virol.* DOI: 10.1007/s00705-019-04272-3.
19. **Gaafar, Y. Z. A.**; Richert-Pöggeler, K. R.; Maaß, C.; Vetten, H.-J.; Ziebell, H. (2019): Characterisation of a novel nucleorhabdovirus infecting alfalfa (*Medicago sativa*). In *Virol. J.* 16 (1), p. 113. DOI: 10.1186/s12985-019-1147-3.
20. **Gaafar, Y. Z. A.**; Ziebell, H. (2019): Two divergent isolates of turnip yellows virus from pea and rapeseed and first report of turnip yellows virus-associated RNA in Germany. In *Microbiol. Resour. Announc.* 8 (17), p. 2254. DOI: 10.1128/MRA.00214-19.
21. **Gaafar, Y. Z. A.**; Sieg-Müller, A.; Lüddecke, P.; Herz, K.; Hartrick, J.; Maaß, C. Schuhmann, S.; Richert-Pöggeler, K. R.; Ziebell, H. (2019): First report of turnip crinkle virus infecting garlic mustard (*Alliaria petiolata*) in Germany. In *New Dis. Rep.* 39, p. 9. DOI: 10.5197/j.2044-0588.2019.039.009.
- 2018 22. **Gaafar, Y. Z. A.**; Cordsen Nielsen, G.; Ziebell, H. (2018): Molecular characterisation of the first occurrence of pea necrotic yellow dwarf virus in Denmark. In *New Dis. Rep.* 37, p. 16. DOI: 10.5197/j.2044-0588.2018.037.016.
23. **Gaafar, Y. Z. A.**; Abdelgalil, M. A. M.; Knierim, D.; Richert-Pöggeler, K. R.; Menzel, W.; Winter, S.; Ziebell, H. (2018): First report of physostegia chlorotic mottle virus on tomato (*Solanum lycopersicum*) in Germany. In *Plant Dis.* 102 (1), p. 255. DOI: 10.1094/PDIS-05-17-0737-PDN.
- 2017 24. **Gaafar, Y. Z. A.**; Timchenko, T.; Ziebell, H. (2017). First report of pea necrotic yellow dwarf virus in The Netherlands. In *New Dis. Rep.* 35, 23. DOI: 10.5197/j.2044-0588.2017.035.023.
- 2016 25. **Gaafar, Y. Z. A.**; Grausgruber-Gröger, S.; Ziebell, H. (2016). *Vicia faba*, *V. sativa* and *Lens culinaris* as new hosts for pea necrotic yellow dwarf virus in Germany and Austria. In *New Dis. Rep.* 34, 28. DOI: 10.5197/j.2044-0588.2016.034.028.

Publications in non-peer-reviewed journals:

- 2021 1. Ulrich, R.; Ziebell, H.; **Gaafar, Y. Z. A.** (2021): Das physostegia chlorotic mottle virus (PhCMoV) an Tomaten. In *Gartenprofi.* 03/2021.
- 2020 2. Ulrich, R.; Ziebell, H.; **Gaafar, Y. Z. A.** (2020): Das Karottentorradovirus-1 (Stamm Sellerie) an Sellerie. In *Gemüse.* 10/2020. <https://www.gemuese-online.de/Magazin/Archiv/Das-Karottentorradovirus-1-Stamm-Sellerie-an-Sellerie,QUIEPTY2OTAxOTkmTUIEPTewOTY5NQ.html?UID=D15C6C0151ED55AE3EB7672C6A1F14E45973767172>.