

# Jacques Davy Ibaba

Research field: Plant Virology;  
Molecular Plant Pathology

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## Introduction

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My expertise includes detection, characterization, identification, and control of viruses that infect plants, as well as molecular plant pathology. My experience includes capacity building, conducting research and presenting research results. Two viruses discovered in my research were novel species. My goal is to empower communities through research, development, and training so that they are able to achieve food security and eat healthier food.

## Work experience

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### Researcher

01 Feb 2024

Institute for Agricultural and Forestry Research (Libreville, Gabon)

- To develop and conduct high-quality research on the various aspects of Plant Pathology according to scientific standards.
- To publish and present research outcomes.
- To provide leadership and mentoring to technicians and students.
- To write project proposals.
- To initiate community service.
- To report to the hierarchical superior.

### Lecturer Plant Virology

Sept 2023 - Oct 2023

University of KwaZulu-Natal

- To teach fundamentals of Plant Virology
- To conduct practicals

### Researcher

Jan 2023 - March 2023

Institute for Commercial Forestry Research

- To develop a qPCR protocol for the detection of wattle rust
- To train interns on molecular techniques for detection of tree's pathogens

### Lecturer Plant Pathology

Feb 2022 - Nov 2022

University Of KwaZulu-Natal

- To lecture undergrad and postgrad plant virology modules remotely and in-person
- To conduct practicals
- To supervise postgraduate students in plant virology
- To set up various assessments and grade them
- To report to the module coordinator

### Adhoc Fieldwork & Marking

Sept 2021 - Nov 2021

University of KwaZulu-Natal

- To attend WESSA Virtual Fieldwork
- To grade the student reports

### Lecturer Biology

Mar 2021 - Jul 2021

University of KwaZulu-Natal

- To teach remotely
- To set up various assessments and grade them

- To engage with students
- To report to the module coordinators.

### **Adhoc Lecturer Plant Pathology**

Mar 2020 - Dec 2020

University of KwaZulu-Natal

- To Provide scientific guidance and train postgraduate students doing research in Plant Virology;
- To oversee 3rd-year student practicals;
- Information dissemination through publication in scientific journals;
- To mark Plant Virology modules of 3rd and 4th-year students' assignments.

### **Postdoctoral Researcher**

Oct 2018 - Feb 2019

University Of KwaZulu-Natal

Research Project: Near-infrared spectroscopy and bovine mastitis

- Exploring alternative more accurate methods of detection of mastitis in dairy cows.
- Writing proposals.

### **Postdoctoral Fellowship**

Sept 2016 - Aug 2017

University of Pretoria

Research Project: Genomics and enzymology of terpenes modification pathways

- To exploit the opportunities presented by recent biotechnological progress which exploits the combination of metagenomic sequencing with 21st-century data-mining techniques to identify target genes.

### **Dr Jedidah W. Danson's Research assistant**

Feb 2009 - Dec 2010

African Centre for Crop Improvement, University of KwaZulu-Natal

Responsibilities:

- To maintain the laboratories clean and tidy;
- To organize orders and purchases of lab supplies, kits, and consumables;
- To oversee practicals 3rd-year practicals on molecular biology techniques;
- To train BSc and MSc students in molecular biology techniques;
- To perform DNA sampling on FTA card, DNA extraction, PCR, agarose gels.

### **Senior practical demonstrator**

Feb 2008 - Nov 2012

University of KwaZulu-Natal

- To give introductory talks at the beginning of practicals;
- To oversee 3rd-year practicals;
- To plan practicals with the course director and the technician;
- To design practical exams;
- To mark practical reports and exams and send the marks to the admin.

## **Education**

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### **PhD plant Pathology**

Jul 2010 - May 2016

University of KwaZulu-Natal

**Research Project:** Identification and Characterization of Viruses Infecting Cucurbits in the Province of KwaZulu-Natal, Republic of South Africa, with the Purpose of Developing Transgenic Virus-resistant Cucurbits

### **Master of Science Plant Pathology**

Ferb 2008 - Dec 2009

University of KwaZulu-Natal

**Research Project:** Characterization of potato virus Y (PVY) isolates infecting solanaceous vegetables in KwaZulu-Natal (KZN), Republic of South Africa (RSA).

## Bachelor of Science Honours

Feb 2007 - Dec 2007

University of KwaZulu-Natal

Field of study: Plant Pathology

## Bachelor of Science

Feb 2005 - Dec 2006

University of KwaZulu-Natal

Field of study: Microbiology and Plant Pathology

## Skills

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### Scientific



Agarose gel electrophoresis  
Bioinformatics tools (NCBI)  
Comparative Genomics  
Conduct research  
DNA extraction  
ELISA  
High-throughput sequencing data analysis  
Molecular cloning  
Oral presentation  
Peer reviewing  
Phylogenetic analyses  
Polymerase Chain Reaction  
Primer design  
Postgraduate student training  
Reverse Transcription  
RNA extraction  
Sample preparation for TEM  
Scientific writing  
SDS PAGE  
Plant tissue culture  
Plant virus inoculation  
Plant virus purification  
Plant virus sampling

### Interpersonal



Active Learning  
Accountability & responsibility  
Analytical & Critical thinking  
Decision Making  
Integrity  
Lecturing  
Problem-solving  
Reading Comprehension  
Selective Attention  
Self-confidence & motivated  
Student Supervision  
Time management  
Teachable  
Teamwork  
Good work ethic

### Digital



Debian-based distro: Ubuntu  
Operating system: Windows  
Computer troubleshooting & repair  
Office tools: Microsoft, LibreOffice, WPS.  
Communication platform: Zoom; Teams; Google drive; emails.

Open-source learning management system: Moodle; Learn2021.  
Video editing: Handbrake

## Driving

  
Code B South African driving license

## Language proficiency

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- English: Proficient (C2)
- French: Native

## Grants

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**Doctoral Research Bursary**  
[University Of KwaZulu-Natal](#)

July 2012 - July 2013

## Certification

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**Going through peer review**  
Researcher Academy

06 January 2021

**Becoming a peer reviewer**  
Researcher Academy

06 January 2021

**Microsoft Innovative Educator**  
[Microsoft](#)

17 Sept 2020

## Scientific societies

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**Member**

November 2018 - Present

[Southern African Society for Plant Pathology](#)

The aim of the Society is to promote Plant Pathology in Southern Africa by acting as the official mouthpiece of plant pathologists in Southern Africa.

**Member**

November 2018 - Present

[Community Network for African Vector-Borne Plant Viruses](#)

The Community Network for African Vector-Borne Plant Viruses (CONNECTED) is a vector-borne disease network based at, and led from, the University of Bristol, UK. It is co-funded by the Biotechnology and Biological Sciences Research Council (BBSRC), the Medical Research Council (MRC) and the Natural Environment Research Council (NERC) as part of the UK government Global Challenges Research Fund (GCRF) which supports research on global issues affecting developing countries.

**Member**

June 2018 - Present

[World Society for Virology](#)

An Official society connecting virologists worldwide. World society for virology was established in 2017 in order to link different virologists worldwide in an official society with no restriction based on income or physical location.

**Member**

November 2016 - Present

[South African Council for Natural Scientific Professions](#)

SACNASP is the legislated regulatory body for natural science practitioners in South Africa.

## Reviewer for

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Journal	Quartile Ranking	From Year
Agriculture (MDPI)	Q2	2024
Life (MDPI)	Q2	2023
Journal of Plant Pathology (Springer Nature)	Q2	2023
Plant Disease (APS)	Q2	2022
South African Journal of Botany (Elsevier)	Q2	2022
BMC Research Notes (Springer Nature)	Q2	2022
Virus Genes (Springer Nature )	Q3	2022
Frontiers in Microbiology	Q1	2021
Biology (MDPI)	Q1	2021
Viruses (MDPI)	Q1	2021
Microorganisms (MDPI)	Q1	2021
3Biotech (Springer Nature)	Q2	2021
Journal of Plant Diseases and Protection (Springer Nature)	Q2	2021
Asian Plant Research	-	2021
International Journal of Plant & Soil Science	-	2021

## Research and Publication impact

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System	Date accessed	ID	Web-link	Citations	H-Index	I10 index
Google Scholar	19 January 2024	Jacques Davy Ibaba	<a href="https://scholar.google.com/citations?user=j_y0MYAAAAJ&amp;hl=en">https://scholar.google.com/citations?user=j_y0MYAAAAJ&amp;hl=en</a>	All: 201 Since 2019: 144	9	8

## Peer Review Articles Published

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### 2023

Karavina, C., **Ibaba, J.D.**, Gubba, A., 2023. Detection and molecular analysis of shallot latent virus infecting *Allium sativum* in Zimbabwe. *Physiological and Molecular Plant Pathology* 128,102175. <https://doi.org/10.1016/j.pmpp.2023.102175>

Ndaba, B.S., **Ibaba, J.D.**, Mafongoya, P.L., Gubba, A., 2023. First Report of Groundnut Ringspot Virus Infecting *Nicotiana tabacum* (Tobacco) in South Africa. *Plant Dis.* 107, 2566. <https://doi.org/10.1094/PDIS-09-22-2279-PDN>

### 2021

Karavina, Charles, **Jacques Davy Ibaba**, and Augustine Gubba, 'Potato Virus Y Isolates Infecting Bell Pepper from Parts of Southern Africa Display Distinct Recombination Patterns', *Physiological and Molecular Plant Pathology*, 114 (2021), 101638 <<https://doi.org/10.1016/j.pmpp.2021.101638>>

### 2020

**Ibaba, J.D.**, and A. Gubba, 'High-Throughput Sequencing Application in the Diagnosis and Discovery of Plant-Infecting Viruses in Africa, a Decade Later', *Plants*, 9.10 (2020), 1376 <<https://doi.org/10.3390/plants9101376>>

Karavina, Charles, **Jacques Davy Ibaba**, and Augustine Gubba, 'High-Throughput Sequencing of Virus-Infected Cucurbita Pepo Samples Revealed the Presence of Zucchini Shoestring Virus in Zimbabwe', *BMC Research Notes*, 13.1 (2020), 53 <<https://doi.org/10.1186/s13104-020-4927-3>>

Karavina, Charles, **Jacques Davy Ibaba**, and Augustine Gubba, 'Full Genome Sequence of a Chrysanthemum-Infecting Tomato Spotted Wilt Virus Isolate from Zimbabwe Obtained by next-Generation Sequencing', *Acta Virologica*, 64.1 (2020), 88–92 <[https://doi.org/10.4149/av\\_2020\\_107](https://doi.org/10.4149/av_2020_107)>

## 2019

Karavina, Charles, **Jacques Davy Ibaba**, and Augustine Gubba, 'Characterization of Three Full Iris Yellow Spot Virus Genes of a Garlic-Infecting Isolate from Zimbabwe Using next-Generation Sequencing Technology', *African Journal of Biotechnology*, 18.30 (2019), 928–34. <<https://doi.org/10.5897/AJB2018.16738>>

## 2018

Karavina, Charles, **Jacques D Ibaba**, and Augustine Gubba, 'Genome Sequence of a Tomato-Infecting Tomato Mosaic Virus Isolate from Zimbabwe.', *Genome Announcements*, 6.11 (2018), e01457-17 <<https://doi.org/10.1128/genomeA.01457-17>>

## 2017

Ximba, S.P.F., **J.D. Ibaba**, and A. Gubba, 'Potato Virus Y Strains Infecting Potatoes in the Msinga District in the Province of KwaZulu-Natal, South Africa', *Crop Protection*, 96 (2017), 188–94 <<https://doi.org/10.1016/j.cropro.2017.02.010>>

**Ibaba, Jacques D.**, Benice J Sivparsad, Mark D Laing, and Augustine Gubba, 'Use of a Chimeric Transgene Construct to Confer Broad Resistance in Zucchini (Cucurbita Pepo L.) Plants against Cucurbit-Infecting Potyviruses Occurring in KwaZulu-Natal, South Africa', *South African Journal of Plant and Soil*, 34.3 (2017), 235–37 <<https://doi.org/10.1080/02571862.2016.1245791>>

**Ibaba, Jacques D.**, Mark D. Laing, and Augustine Gubba, 'Pepo Aphid-Borne Yellows Virus: A New Species in the Genus Polerovirus', *Virus Genes*, 53.1 (2017), 134–36 <<https://doi.org/10.1007/s11262-016-1390-2>>

## 2016

**Ibaba, J.D.**, M.D. Laing, and A. Gubba, 'Genome Sequence Analysis of Two South African Isolates of Moroccan Watermelon Mosaic Virus Infecting Cucurbits', *Virus Genes*, 52.6 (2016), 896–99 <<https://doi.org/10.1007/s11262-016-1372-4>>

**Ibaba, J. D.**, M. D. Laing, and A. Gubba, 'Zucchini Shoestring Virus: A Distinct Potyvirus in the Papaya Ringspot Virus Cluster', *Archives of Virology*, 161.8 (2016), 2321–23 <<https://doi.org/10.1007/s00705-016-2899-3>> **Journal Ranking: Q1; IF: 2.7**

Karavina, C., **J. D. Ibaba**, and A. Gubba, 'First Report of Tomato Spotted Wilt Virus Infecting Butternut Squash (Cucurbita Moschata) in Zimbabwe', *Plant Disease*, 100.4 (2016), 870 <<http://apsjournals.apsnet.org/doi/full/10.1094/PDIS-09-15-1021-PDN>> **Journal Ranking: Q1; IF: 4.5**

Karavina, C., S. Ximba, **J. D. Ibaba**, and A. Gubba, 'First Report of a Mixed Infection of Potato Virus Y and Tomato Spotted Wilt Virus on Pepper (Capsicum Annuum) in Zimbabwe', *Plant Disease*, 100.7 (2016), 1513 <<https://doi.org/doi.org/10.1094/PDIS-02-16-0185-PDN>>

Karavina, C., **J. D. Ibaba**, and A. Gubba, 'First Report of Iris Yellow Spot Virus Infecting Onion in Zimbabwe', *Plant Disease*, 100.1 (2016), 235–235 <<https://doi.org/10.1094/PDIS-07-15-0814-PDN>>

Karavina, C., **J. D. Ibaba**, A. Gubba, and H. R. Pappu, 'First Report of Iris Yellow Spot Virus Infecting Garlic and Leek in Zimbabwe', *Plant Disease*, 100.3 (2016), 657–657 <<https://doi.org/10.1094/PDIS-09-15-1022-PDN>>

## 2015

**Ibaba, J.D.**, M.D. Laing, and A. Gubba, 'Incidence and Phylogeny of Viruses Infecting Cucurbit Crops in KwaZulu-Natal, Republic of South Africa', *Crop Protection*, 75 (2015), 46–54 <<https://doi.org/10.1016/j.cropro.2015.04.019>>

**Ibaba, J. D.**, M D Laing, and A Gubba, 'First Report of a Novel Potyvirus from the Papaya Ringspot Virus Cluster Infecting Zucchini (Cucurbita Pepo) in KwaZulu-Natal, Republic of South Africa', *Plant Disease*, 99.9 (2015), 1289 <<https://doi.org/10.1094/PDIS-02-15-0143-PDN>>

## 2014

Moodley, Vaneson, **JD Ibaba**, Naidoo Roobavathie, and Augustine Gubba, 'Full-Genome Analyses of a Potato Virus Y (PVY) Isolate Infecting Pepper (*Capsicum Annuum* L.) in the Republic of South Africa', *Virus Genes*, 49.3 (2014), 466–76 <<https://doi.org/10.1007/s11262-014-1121-5>> **Journal Ranking: Q2; IF: 1.6**

## 2012

**Ibaba, JD**, and A Gubba, 'Phylogenetic Studies of Selected Isolates of Potato Virus Y (PVY) Infecting Vegetable Crops in KwaZulu-Natal, Republic of South Africa', *South African Journal of Plant and Soil*, 29.2 (2012), 117–20 <<https://doi.org/10.1080/02571862.2012.700738>>

## 2011

**Ibaba, J.D.**, and A. Gubba, 'Diversity of Potato Virus Y Isolates Infecting Solanaceous Vegetables in the Province of KwaZulu-Natal in the Republic of South Africa', *Crop Protection*, 30.11 (2011), 1404–8 <<https://doi.org/10.1016/j.cropro.2011.07.006>>

## Conferences

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Charles Karavina, **Jacques Davy Ibaba** & Augustine Gubba. Phylogenetic analysis and characterization of a Tomato spotted wilt orthotospovirus isolate infecting Chrysanthemum (*Dendranthema morifolium*) in Zimbabwe. Paper presented at the 10th International Virology Summit. Vienna, Austria. 02 04 July 2018

JP Havugimana, **JD Ibaba**, V Moodley, KS Yobo & MD Laing. Discovering a novel biocontrol agent to control soybean rust. Poster presented at University of KwaZulu-Natal research day. Republic of South Africa. October 2017.

**Ibaba, J. D.**, Laing, M. D. & Gubba, A. 2015. Development of transgenic baby marrow (*Cucurbita pepo* L.) Plants with broad resistance to potyviruses occurring in KwaZuluNatal. Paper presented at the 49th congress of the Southern African Society for Plant Pathology. Bloemfontein; Republic of South Africa. 19-21 January 2015.

**Ibaba, J.D.** & Gubba, A. 2011. Characterization of Potato virus Y (PVY) isolates infecting solanaceous vegetables in KwaZulu-Natal. Paper presented at the 47th congress of the Southern African Society for Plant Pathology, Kruger National Park; Republic of South Africa. 23-26 January 2011.

Ibaba, J.D. & Gubba, A. 2007. Identification of viruses infecting tomato in KwaZuluNatal. Paper presented at the 20th annual Symposium of the South African Society of Microbiology KZN Branch, Durban; Republic of South Africa

## Referees

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### **Prof Augustine Gubba**

Professor and Chair of Plant Pathology  
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