

DR OLUMUYIWA IGBALAJOBI

info@olumuyiwaigbalajobi.com

Michael Smith Laboratories
University of British Columbia
2185 East Mall, Vancouver, BC
V6T 1Z4

RESEARCH INTEREST

Medical Mycology
Antifungal
Pathogenesis of Infectious Diseases
Light Sensing in Filamentous Fungi
Plant-Microbe Interactions

EDUCATION

- PhD** Karlsruhe Institute of Technology, Germany, Microbiology October 2019
Dissertation: Molecular characterization of the light response in
Alternaria alternata
Committee: Professor Martin Bastmeyer (chair), Professor Tilman Lamparter
(member), Dr. Markus Schmidt-Heydt (member), Professor Reinhard Fischer
(supervisor)
- MSc** Daejeon University, South Korea, Microbiology August 2016
Thesis: Molecular characterization of the roles of *AfuRax1* (RGS)
in signal transduction in *Aspergillus fumigatus*
Advisor: Professor Kwang- Soo Shin
- BSc** University of Ado- Ekiti, Nigeria, Microbiology August 2010
Second class upper division
Thesis: Antibiotic resistance pattern of *Escherichia coli* and *Enterococcus*
faecalis strains isolated from 16 local government areas of Ekiti State, Nigeria
Advisor: Professor David Oluwole

RESEARCH EXPERIENCE

Postdoctoral Fellow

Michael Smith Laboratories, University of British Columbia, Canada 2020-Present
Mechanisms of capsule polysaccharide synthesis and trafficking to the cell surface
in *Cryptococcus neoformans*
Supervisor: Professor Jim Kronstad

- Performed DNA and RNA extractions from *Cryptococcus neoformans*

- Designed plasmids for protein interaction analysis
- Performed fast cloning for gene construct and complementation of mutant strains
- Performed capsule assay for strains
- Carried out several spot assays for effect of different stressors on strains

Doctoral & Postdoctoral Fellow

Karlsruhe Institute of Technology, Germany

2016-2020

Molecular characterization of the light response in *Alternaria alternata*

Supervisor: Professor Reinhard Fischer

- Designed and generated battery of mutants using CRISPR Cas 9 gene editing tool
- Performed DNA and RNA extractions from *Alternaria alternata*
- Performed various gene expression analysis (PCR & qPCR)
- Analyzed mutants for secondary metabolites profiling
- Used fluorescence and confocal microscopy for protein interaction and germ tube analysis
- Designed plasmids for protein interaction analysis
- Designed luciferase construct for circadian clock assays
- Performed virulence assay on fruits
- Supervised bachelor and master students

Graduate student

Daejeon University, South Korea

2014-2016

Molecular characterization of the roles of *AfuRax1* (RGS) in signal transduction in

Aspergillus fumigatus

Supervisor: Professor Kwang- Soo Shin

- Designed primers for constructs
- Performed DNA AND RNA extractions from *Aspergillus fumigatus*
- Performed cloning of constructs
- Designed and generated *rax1* mutant using double joint PCR method
- Analyzed mutant for phenotypic defects
- Performed gene expression analysis (PCR & qPCR)
- Performed native gel electrophoresis to analyze catalase activity

Research Assistant

Nigerian Institute of Science Laboratory Technology, Ibadan

2010-2011

Advisor Name: Dr Odeseye

- Performed plasmid purification
- Performed DNA extraction from plants and bacteria
- Designed primers for the amplification of gene of interest

HONOURS AND AWARDS

- Deutsche Forschungsgemeinschaft (DFG), Grant** 2016-2020
Karlsruhe Institute of Technology, Germany
- Korean Government Scholarship Award** 2013-2016
Full funding scholarship for Master program
- Ekiti State Government Scholarship Graduate Award** 2013
The award was a one-time payment of 150,000 naira to support postgraduate research
- Ekiti State Government Scholarship Undergraduate Award** 2008&2009
The award was a one-time payment of 50,000 naira to support undergraduate thesis

TEACHING EXPERIENCE

- Ekiti State University, Nigeria** April 2021- Present
Visiting Lecturer, Department of Microbiology
Courses- Mycology & Immunology
- University of British Columbia, Canada** January 2021- April 2021
Seasonal Lecturer, Department of Microbiology, and Immunology
Course- BIOL 346(Microbes and Society)
- Karlsruhe Institute of Technology, Germany** August 2016- March 2020
Scientific researcher, Institute of Applied Biosciences
- Taught Bachelor- and Master students' practical courses.

PUBLICATIONS

Journal Publications

Yu, Z., Gao, J., **Igbalajobi, O.A.**, Skoneczny, M., Sienko, M., Maciejewska, A.M., Brzywczy, J. & Fischer, R. The sulfur metabolism regulator MetR is a global regulator controlling phytochrome-dependent light responses in *Aspergillus nidulans*. Sci. Bulletin Vol 66 no. 6, 2021, pp592-602

Igbalajobi, O.A., Gao, J. & Fischer, R. The HOG pathway plays different roles in conidia and hyphae during virulence of *Alternaria alternata*. Mol Plant Micr Int, vol 33, no 13, 2020, pp 1405-1410

Choi, Y-H., Lee, M-W., **Igbalajobi, O.A.**, Yu, J-H., and Shin, K-S. Transcriptomic and functional studies of the RGS protein Rax1 in *Aspergillus fumigatus*. *Pathogen*, vol. 9. no. 1, 2020, pp. 36

Yu, Z., Ali, A., Streng, C., **Igbalajobi, O.A.**, Leister, K., Krauß, N., Lamparter, T. and Fischer, R. Two hybrid histidine kinases, TcsB and the phytochrome FphA, are involved in temperature sensing in *Aspergillus nidulans*. *Mol Microbiol*, vol.112, no.6, 2019, pp. 814-1830

Igbalajobi, O., Yu, Z., and Fischer, R. Red- and blue-light sensing in the plant pathogen *Alternaria alternata* depends on phytochrome and the white-collar protein LreA. *mBio*, vol. 10. no. 2, 2019 e00371-19

Igbalajobi, O.A., Yu, J. H., and Shin, K.S. Characterization of the rax1 gene encoding a putative regulator of G protein signaling in *Aspergillus fumigatus*, *Biochemical and Biophysical Research Communications*, vol. 487, no. 2, 2017, pp. 426-432

Babalola, J.A., Oluyeye, A.O., Lawal. O.U., Akinduro, O.T., and **Igbalajobi, A.O.** Antibiotics susceptibility profile of extended spectrum beta lactamase producing gram negative bacteria from widal positive patients in Ekiti State University Teaching Hospital. *British Microbiology Research Journal* vol. 12. no. 3, 2016, pp.1-9

Igbalajobi, O.A., Oluyeye., A.O., Oladeji, A.C., and Babalola, J.A. Antibiotic Resistance Pattern of *Pseudomonas aeruginosa* isolated from clinical samples in Ekiti State university teaching hospital, Ado-Ekiti, Ekiti State of Nigeria. *British Microbiology Research Journal* vol.12, no. 4, 2016, pp. 1-6

Igbalajobi, O. A., David, O.M., Agidigbi, K.S., and Babalola, J.A. Antibiotic Resistance Pattern of Two Indicator Bacteria Isolated from Cow Dungs across Ten Local Government Areas of Ekiti State, Nigeria. *Int.J. Curr.Microbiol. App.Sci*, vol.4, no.11, 2015, pp. 8-14

Oluyeye, A.O., Babalola, J. A., **Igbalajobi, A.O.**, and Oloruntuyi, A.B. Isolation and characterization of *Salmonella typhi* from Widal Positive Patients Attending Ekiti State University Teaching Hospital. *Int.J.Curr.Microbiol. App.Sci* vol.4, no.10, 2015, pp. 774-784

Odeyemi, A.T., Ajayi, A.O., and **Igbalajobi, O.A.** Plasmid Profile of isolated Bacteria from Arinta Waterfall in Ipole-Iloro Ekiti. *Journal of Microbiology Research*, vol.3, no.1, 2013, pp. 32-38

David, O. M., Ayeni, S. K., Akinmoji, O. P., and **Igbalajobi, A.** Incidence of Antibiotic-Resistant Enterococci in Three Edible Land Snails Consumed in Nigeria. *Wayamba Journal of Animal Science*. vol. 4, 2012, pp. 270-274

Conference Papers

(Abstract-Reviewed)

Igbalajobi, O., and Fischer, R. Molecular characterization of the role of phytochrome in *Alternaria alternata*. Proceedings of XII International Fungal Biology Conference, Incheon, South Korea Aug. 22-25, 2017, pp. 44

PRESENTATIONS AND INVITED LECTURES

Paper Presentation

Igbalajobi, O., and Fischer, R. Molecular characterization of the role of phytochrome in *Alternaria alternata*. Proceedings of XII International Fungal Biology Conference, Incheon, South Korea, Aug. 22-25, 2017

Igbalajobi, O.A., and Shin, K.S. Molecular characterization of the roles of AfuRax1 (RGS) in signal transduction in *Aspergillus fumigatus*. The 19th Fungal Genetics and Biology Conference of the Microbiological Society of Korea, Cheonan, Chugnam, Korea, Feb. 23-24, 2016

Odeyemi, A.T., Ajayi, A.O., and **Igbalajobi, O.A.** Plasmid Profile of isolated Bacteria from Arinta Waterfall in Ipole-Iloro Ekiti. The 36th Annual Conference of Nigerian Society for Microbiology held at Nnamdi Azikwe University, Awka, Anambra State, Nigeria, Oct. 7-11, 2012

Invited Lectures/Talks

Mentoring and Mycology: the Nigerian experience and way forward. Invasive Fungal Infection Forum organized by the Medical Mycology Society of Nigeria. April 14-15, 2021

Career opportunities for international Students. Careers Resource Symposium organized by the Ecological Society of America Student (ESA). Jan, 29, 2021

Light response in *Alternaria alternata*. Graduate student Colloquium, Department of Microbiology, Ekiti State University, Ado-Ekiti, Nigeria Nov. 21, 2019

Light response in *Alternaria alternata*. Faculty of science student Colloquium, Kings University, Ode-Omu, Osun State, Nigeria, Nov. 27, 2019

PROFESSIONAL DEVELOPMENT TRAINING

Workshop

Galaxy for linking bisulfite sequencing with RNA sequencing, Freiburg, Germany, Oct. 9-11, 2019. Hands-on training on the use of tools for analyzing RNA seq data

International Phytochrome Workshop, Freie Universität, Berlin, Germany, Oct. 9-10, 2018). Seminar on phytochromes in plants and microbes.

The 43rd Annual meeting and International Symposium of the Korean Society for Microbiology and Biotechnology, DCC, Daejeon, Korea, June 22-24, 2016

The 2015 Korea Society of Mycology Spring Meeting and KSM-ICWG-GSP Joint Clubroot Symposium, Daejeon Convention Center, Daejeon, Korea, May 13-15, 2015

Seminars/Webinars

CDC/CHAI/Unitaid Global Webinar Series- Ending Cryptococcal Meningitis Deaths by 2030: A New Global Initiative. May 13, 2021

PROFESSIONAL AFFILIATIONS

Vice President-External, Postdoctoral Association, University of British Columbia	2021-Present
Member, Canadian Black scientists Network	2021-Present
Member, Canadian Society for Microbiologists	2020-Present
Member, International Society for Human and Animal Mycology (ISHAM)	2020-Present
Member, GBM Society for Biochemistry and Molecular Biology,	2018-Present
Member, Society for Applied Microbiology (SFAM)	2017-Present
Member, Euroscience	2018-Present
Member, British Mycological Society (BMS)	2018-Present
Member, Genetic Society of America (GSA)	2018-Present
Member, American Society for Microbiology (ASM)	2013-Present
Member, Nigerian Society for Microbiology (NSM)	2012-Present

PROFESSIONAL SERVICE

Peer-Reviewed Articles for:

- Microbiological Research, Elsevier
- International Journal of Pathogen Research
- Journal of Advances in Medicine and Medical Research

COMMUNITY SERVICE

National Blood Transfusion Service, Nigeria 2008-Present
Blood donor

Department of Microbiology and Botany, University of Abuja 2020
Introductory Microbiology online class for undergraduate students via zoom

Founder: Scholarship Café 2020-Present
Scholarship and funding opportunities platform for undergraduate, graduate, postdoc and faculty

Co-Founder: Voices in STEM Nigeria 2020-Present
A non-governmental organization committed to the development of STEM in Nigeria

Fraser Foundation 2020-Present
Provide mentoring for prospective graduate school applicants

LANGUAGES

English: Native Language, Distinguished levels in Listening, Speaking, Reading, and Writing.

Korean: Intermediate levels in Listening, Speaking, Reading, and Writing.

OTHER SKILLS AND COMPETENCES

Python and R programming languages

OTHERS

Mentoring students on career paths and public speaking

REFERENCES

Dr James Kronstad, Professor
The Michael Smith Laboratories
Department of Microbiology and Immunology
329-2185 East Mall
University of British Columbia
Vancouver, BC, Canada
V6T 1Z4
604-822-4732
kronstad@msl.ubc.ca
Relationship: Postdoc supervisor

Dr. rer. nat. Reinhard Fischer, Professor
Institute for Applied Biosciences
Department of Microbiology
Fritz-Haber-Weg 4
D-76131 Karlsruhe
Germany.
+49721608-44630
reinhard.fischer@kit.edu
Relationship: PhD supervisor

Dr. Kwang- Soo Shin, Professor
Department of Microbiology
Daejeon University, Daejeon 34520
South Korea.
+82-42-280-2439
shinks@dju.kr
Relationship: MSc supervisor