

Curriculum Vitae (Abridged)

Arinze S. Okoli (PhD)

Educational Summary

2010-2012	Individual courses: (1) Introduction to Bioinformatics for Biosystematics, University of Tromsø (UiT); (2) Immunology (UiT)
2004-2009	PhD – Medical Sciences School of Medical Sciences, The University of New South Wales, Sydney, Australia Thesis: Molecular studies of the response of <i>Helicobacter hepaticus</i> to bile, and the effects of <i>Helicobacter bilis</i> on human hepatoma cells
2000-2002	MSc –Medical & Environmental Microbiology Department of Microbiology, University of Nigeria, Nsukka, Nigeria
1993-1998	BSc (Honours) –General Microbiology Department of Microbiology, University of Nigeria, Nsukka, Nigeria

Skills & Fields of Expertise

Systems Biology	Demonstrable experience in the use of large scale analytical techniques, such as Proteomics and Transcriptomics, in combination with Bioinformatics to answer relevant biological questions
Molecular Biology	Experience in several molecular biology techniques including (1) nucleic acid isolation, quantification, quality control and downstream analysis: qPCR, RT-qPCR, microarray. (2) Protein expression, extraction, purification and quantification; mass spectrometry procedures. (3) blotting techniques: Western and Southern blotting; enzymatic assays; flow cytometry
Biosafety Science	Design and conduct of research related to safety of genetically modified organisms – in particular of transgenic vaccines including genetically modified live virus vaccine vectors; genetically modified organisms in water treatment and response of relevant bacterial strains to pesticides used in the treatment of genetically modified plants. Expert advice to the Norwegian Ministry of Environment, European Food Safety Authority and European Medical Agency on environmental safety of genetically modified foods and transgenic vaccines.
Cancer Biology	Experience with research in cancer biology related to studies on <i>Helicobacter</i> species involvement in hepatocellular carcinoma.
Microbiology & Cell Biology	Demonstrable experience with bacterial physiology, tissue culture techniques, host-pathogen interactions
Virology	Demonstrable experience in Pox virology, in particular Vaccinia virus, Modified Vaccinia virus Ankara and Cowpox virology: cultivation and assay techniques; genetics and physiology of Vaccinia virus strains
Natural Product	Demonstrable research experience in natural products of plant origin

Data Analysis Extensive experience in computer based data analysis using various analytical tools including SPSS and Advanced Microsoft Word Excel Analytical Tool Kit

Research Grants

- 2014-2016** **SANCOOP- Project Grant Number 234196:** South Africa-Norway Cooperation: Development of efficient bio-flocculants by exploring the microbial diversity of South African Eastern Cape Province for Novel Bioflocculants. Funder: Norwegian Research Council (NOK 2.9 Million). **Role: Principal Investigator**
- 2011-2013** **Project Number – 212110:** Collaboration initiatives towards the developments of natural plant and marine based products for medical and biotechnological use. Funder: Norwegian Research Council (NOK 500.000). **Role: Co-investigator**

Scholarships & Awards

- 2013** **ASM & Batelle Postdoctoral Award,** American Society for Microbiology & Batelle Foundation
- 2012** **Norwegian Proteomic Grant Award**
- 2010-2013** **Postdoctoral Fellowship,** Norwegian Research Council
- 2004-2009** **Endeavour International Postgraduate Scholarship (EIPRS),** Australian Research Council
- 2007** **ESCMID Grant** for the 14th International Workshop on *Campylobacter*, *Helicobacter* and Related Organisms
- 2007** **Postgraduate Research Scholarship Scheme (PRSS),** Graduate Research School, The University of New South Wales.
- 2007** **School of Medical Sciences Conference Travel Grant,** The University of New South Wales.
- 2006** **Travel Grant from ARC supported project** to attend the 2006 Australian Society for Microbiology Meeting
- 2005** **Becton & Dickinson Award,** Australian Society for Microbiology Meeting 2005.

Peer-Reviewed Publications

- Okeke, M.I., **Okoli, A.S.**, Nilssen, O., Moens, U., Tryland, M., Bøhn, T., and Traavik, T. (2014). «Molecular characterization and phylogenetics of Fennoscandian cowpox virus isolates based on the p4c and atip genes». *Virology Journal*. 2014 Jun 27;11(1):119. doi: 10.1186/1743-422X-11-119.
- A. C. Krelle, **A.S. Okoli**, G. L. Mendz (2013). Huh-7 Human Liver Cancer Cells: A Model System to Understand Hepatocellular Carcinoma and Therapy. *Journal of Cancer Therapy*. Pages 606-631. DOI: 10.4236/jct.2013.42078
- A.S. Okoli**, M.J. Raftery and G.L. Mendz. (2012). Comparison of *Helicobacter bilis*-Associated Protein Expression in Huh7 Cells Harbouring HCV Replicon and in Replicon-Cured Cells. *International Journal of Hepatology*. Vol 2012, Article ID 501671, 16 pages. DOI: 10.1155/2012/501671

4. **A.S. Okoli**, M.J. Raftery and G.L. Mendz. (2012). Effects of Human and Porcine bile on the proteome of *Helicobacter hepaticus*. *Proteome Science*. **10**:27
5. Tania E. Farrar, **A.S. Okoli**, George L. Mendz. (2012). “*Campylobacter* spp. Responses to the Environment and Adaptations to Hosts”. In Hin-chung Wong (ed), *Stress Response of Foodborne Microorganisms*, Nova Science Publishers, Hauppauge, NY, Chapter 8. ISBN: 9781611228106.
6. **A.S. Okoli**, M.R. Wilkins, M.J. Raftery and G.L. Mendz. (2010). The Response of *H. hepaticus* To Bovine Bile. *J Proteome Res*. **9**(3):1374-84.
7. **A.S. Okoli**, C. Armalle and G.L. Mendz. (2009) The Year in *Helicobacter*: Other *Helicobacter* species. *Helicobacter*. **14** (1): 69-74.
8. Q. V. Tu, **A.S. Okoli**, Z. Kovach and G. L. Mendz. (2009). Hepatocellular Carcinoma: Prevalence of *Helicobacter* spp. and Molecular Pathogenesis. *Future Microbiol*. **4**:1283-13301.
9. Megan Duckworth, **A.S. Okoli** and G.L. Mendz. (2009). Novel *Helicobacter pylori* therapeutic targets: the unusual suspects. *Expert Rev. Anti. Infect. Ther*. **7**(7): 835-867.
10. **A.S. Okoli** (2010). Insight into Host Adaptation of Enterohepatic *Helicobacter* Bacteria: A molecular study of the response of *Helicobacter hepaticus* to bile, and the effect of *Helicobacter bilis* on human hepatoma cells. PhD Thesis. University of New South Wales, Sydney, Australia. VDM Verlag Dr. Muller Aktiengesellschaft & Co. KG. ISBN: 978-3-639-27414-1
11. **A.S. Okoli**, T. Wadstrom and G.L. Mendz. (2007). Bioinformatic Study of Bile Responses in Campylobacterales. *FEMS Immunology & Medical Microbiology* **49**: 101-103.
12. **A.S. Okoli**, E.M. Fox, M.J. Raftery and G.L. Mendz. (2007). Effects of *Helicobacter hepaticus* on the proteome of HEp-2 cells. *Antonie van Leeuwenhoek*. **92**: 289-300.
13. C.O. Okoli, P. A. Akah, and **A.S. Okoli** (2007). Potentials of leaves of *Aspilia africana* (Compositae) in wound care: an experimental evaluation. *BMC Complement & Alternative Medicine*. **7**:24. Doi:10.1186/1472-6882-7-24.
14. **A.S. Okoli** and C.U. Iroegbu (2005). *In Vitro* Antibacterial Activity of *Synclisa Scabruda* Whole Root Extracts. *African Journal of Biotechnology* **4**: 946-952.
15. **A.S. Okoli**, and C.U. Iroegbu (2004). Evaluation of Extracts of *Anthocleista Djalonensis*, *Nauclea Latifolia* and *Uvaria Afzalii* for Activity against Bacterial Isolates from cases of Non-Gonococcal Urethritis. *Journal of Ethnopharmacology*. **92**: 135-144.
16. **A.S. Okoli**, M.I. Okeke, C.U. Iroegbu and P.U. Ebo (2002). Antibacterial Activity of *Harungana madagascariensis* Leaf Extracts. *Phytotherapy Research* **15**: 1-6.
17. M.I. Okeke, C.U. Iroegbu, E.N. Eze, **A.S. Okoli** (2001). Evaluation of Extracts of the Root of *Landolphia owerrience* for Antibacterial Activity. *Journal of Ethnopharmacology*. **78**: 119-127.
18. M.I. Okeke, C.U. Iroegbu, C.O. Jidefor, **A.S. Okoli**, and C.O. Esimone (2000). Antimicrobial Activity of Ethanol Extracts of two Indigenous Nigerian Spices. *Journal of Herbs, Spices and Medicinal Plants* **8**: 39-46.

Selected Conference Presentations

1. **A.S. Okoli**, M. I. Okeke, C. Tummler, U. Moens, Ø. Nilssen, M. Tryland, J. A. Bruun, T. Bøhn and T. Traavik. (2013). Host cell response to a recombinant modified vaccinia virus Ankara-based vaccine. 11th ASM Biodefense and Emerging Diseases Research Meeting. Washington, DC, USA. February 25th-27th [Highlighted Oral Presentation]; [ASM & Battelle Post-Doc Grant Award Recipient].
2. **A.S. Okoli**, M.I. Okeke, U. Moens, Ø. Nilssen, M. Tryland, J.A. Bruun, T. Bøhn and T. Traavik. (2012). Delineating the infectome of modified virus Ankara using quantitative proteomics. 6th European Summer School. Kloster Neustift (Brixen/Bressanone, South Tirol, Italy. August 19th -25th [Poster Presentation]; [Norwegian Proteomic Grant Award Recipient].
2. **A.S. Okoli**, M.I. Okeke, U. Moens, Ø. Nilssen, M. Tryland, J.A. Bruun, T. Bøhn and T. Traavik. (2012). SILAC-based quantitative proteomics provides insight into the infectome of modified virus Ankara (MVA) and its transgenic variant (hanpMVA) in BHK-21 infected cells. 7th Norwegian National Proteomic Meeting. Tromsø, Norway. March 19th-20th [Oral Presentaion].
3. **A.S. Okoli**, M.I. Okeke, U. Moens, Ø. Nilssen, M. Tryland, J.A. Bruun, T. Bøhn and T. Traavik. (2011). Quantitative Proteomic Evaluation of nrMVA- and hanpMVA-infected BHK-21 cells. 2nd Nordic Proteomic Symposium. Copenhagen, Denmark. November 27th-29th P1 [Poster Presentation].
4. **A.S. Okoli**, M.I. Okeke, U. Moens, Ø. Nilssen, M. Tryland, J.A. Bruun, T. Bøhn and T. Traavik. (2011). Quantitative Proteomic Evaluation of nrMVA- and hanpMVA Infected BHK-21 cells. 2nd Specialist Biosafety Conference: Tough Choices: New Biosafety Decision in High Stake Arenas. Tromsø, Norway. August 22nd-24th. P1 (Poster Presentation).
5. M.I. Okeke, Ø. Nilssen, U. Moens, M. Tryland, **A.S. Okoli**, T. Traavik (2010). The evolutionary analysis of cowpox virus isolates and other orthopoxviruses based on the *p4c* and *atip* genes. 10th session of the congress for Molecular Epidemiology and Evolutionary Genetics of Infectious Diseases. Amsterdam, The Netherlands. November 3-5. O49 [Oral Presentation].
6. **A.S. Okoli** and G.L. Mendz (2009). Changes in Protein Expression of Human Hepatoma Cells Induced by *Helicobacter bilis* are Modulated by Bile. 22nd International Workshop on *Helicobacter* and Related Bacteria in Chronic Digestive Inflammation. Porto, Portugal. September 17-19 W4.2 [Oral Presentation]
7. Z. Kovach, Q. V. Tu, G. L. Mendz, **A.S. Okoli**, and M. J. Raftery (2008). A proteome and transcriptome analysis of the response of human liver carcinoma Huh7 and HepG2 cells to *Helicobacter bilis* co-culture. 21st International Workshop on *Helicobacter* and Related Bacteria in Chronic Digestive Inflammation. Riga, Latvia. September 18-20. [Oral presentation]
8. **A.S. Okoli**, M.R. Wilkins, M.J. Raftery and G.L. Mendz. (2007). Comparative Proteomics Study of Effects of *Helicobacter bilis* on Huh7, Huh7 Nneo3-5B(RG) and Cured-Huh7 Nneo3-5(RG) Cell Lines. 20th International Workshop on *Helicobacter* and Related Bacteria in Chronic Digestive Inflammation. Istanbul, Turkey. September 20-22. W2.03. *Helicobacter*. **12**: 382. [Oral presentation].
9. **A.S. Okoli** and G.L. Mendz. (2007). A proteomics investigation Revealed Differences in the Modulation of the Expression of *Helicobacter hepaticus* Virulence Determinants by Bovine, Porcine and Human bile. 20th International Workshop on *Helicobacter* and Related Bacteria in Chronic Digestive Inflammation. Istanbul, Turkey. September 20-22. Abstract No. P035 [Poster presentation].
10. Z. Kovach, Q.V. Tu, G. Chang, **A.S. Okoli**, W.G. Miller and G.L. Mendz. (2007). Changes in the Expression of Virulence-Related Genes in Response to Ox Bile of six Species of Campylobacterales. 20th International Workshop on *Helicobacter* and Related Bacteria in Chronic Digestive Inflammation. Istanbul, Turkey. September 20-22. Abstract No. P036. *Helicobacter*. **12**: 418. [Poster presentation].

11. **A.S. Okoli** and G.L. Mendz. (2007). Effects of Bovine, porcine and Human Bile on the Protein Expression of *Helicobacter hepaticus*. 14th International Workshop on *Campylobacter*, *Helicobacter* and Related Organisms. Rotterdam, The Netherlands, September 2-5. Abstract No.; P137. *Zoonoses and Public Health*. **54**: 57. [**Poster presentation**]. **ESCMID Grant**.
12. **A.S. Okoli**, M.R. Wilkins, M.J. Raftery and G.L. Mendz. (2007). Proteomic Investigation of Effects of *Helicobacter bilis* on the Human Hepatoma Huh7 Cell Line. 14th International Workshop on *Campylobacter*, *Helicobacter* and Related Organisms. Rotterdam, The Netherlands, September 2-5. Abstract No.; P252. *Zoonoses and Public Health*. **54**: 88. [**Poster presentation**]. **ESCMID Grant**
13. Z. Kovach, Q.V. Tu, G. Chang, **A.S. Okoli**, W.G. Miller and G.L. Mendz. (2007). Changes in the Expression of Virulence-Related Genes in Response to Ox Bile of six Species of Campylobacterales. 14th International Workshop on *Campylobacter*, *Helicobacter* and Related Organisms. Rotterdam, The Netherlands, September 2-5. Abstract No.; P289. *Zoonoses and Public Health*. **54**: 98. [**Poster presentation**].
14. **A.S. Okoli** and George L. Mendz. (2007). Comparative Proteomic Study of the Response of *Helicobacter hepaticus* to Bovine, Porcine and Human Bile. Annual Scientific Meeting of the Australian Society for Microbiology. Adelaide. July 9-13. Abstract No.: PP08.3 [**Oral Presentation**].
15. Q.V. Tu, G. Chang, **A.S. Okoli**, Z. Kovach and G.L. Mendz. (2007). Changes in the Expression of Virulence-related Genes in Response to Ox-bile Stress of six Species of Campylobacterales. Annual Scientific Meeting of the Australian Society for Microbiology. Adelaide. July 9-13. Abstract No.: PP08.5 [**Oral presentation**].
16. C.W. Yew, **A.S. Okoli** and G.L. Mendz. (2007). Effects of *Helicobacter bilis* on the Proteome of Human Liver Cells. 107th General Meeting of the American Society for Microbiology. Ontario, Toronto. Canada. May 21-25. Abstract No.: B-326. [**Poster Presentation**].