



**SMITH Stella Ifeanyi (Ph. D)**

**DEPUTY DIRECTOR / HOD  
MOLECULAR BIOLOGY & BIOTECHNOLOGY DIVISION**

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Dr (Mrs) S.I Smith (nee Ebigwei) a native of Delta State in Nigeria joined NIMR in August 1988 as a Junior Research Fellow. She holds a PhD in Medical Microbiology from the College of Medicine; University of Lagos in 1996. She did her pre- and post-doctoral training at Manchester and Germany/France respectively. She trained on Molecular epidemiology of *Campylobacter jejuni/coli* and *Helicobacter pylori*. Her skills are in the area of PFGE Ribotyping, PCR, RFLP, W/Blot, FISH and RAPD.

She has been the HOD, Molecular Biology and Biotechnology since July, 2004. She was the recipient of Fellowships and grants from EEC, Alexander von Humboldt (AvH), Germany, INSERM, France, TWAS, Italy and Currently IFS (Sweden) and ICGEB grant. She has trained and supervised PhD, Msc students in various PCR techniques. Her Department is in collaboration with other colleagues at both National and International levels. She has over 70 publications to her credit. .

### **Personal profile:**

I am a very hard working person who is committed to everything I am involved in. Challenges bring out the best in me. My area of specialty is molecular epidemiology of infectious diseases such as *Campylobacter*, *Helicobacter pylori*, *Salmonella Typhi* and Enterohaemorrhagic *E. coli* (EHEC).

### **Education/Qualification:**

University of Ilorin, Kwara State. **B. Sc. (Hons) Microbiology** **1986**  
(2nd Class Upper Division)

College of Medicine, University of Lagos, Idi- Araba. **M. Sc. Medical** **1988**  
**Microbiology & Parasitology** (Distinction)

College of Medicine, University of Lagos, Idi-Araba. **Ph.D. Medical Microbiology** **1996**  
Diploma in word perfect and MS DOS (BenchMark Computer solutions). **1995**

Goethe Institut, Berlin(2 months) **1999**  
**Pre-doctoral Training with European Union Scholarship**

**Public Health Laboratory, Withington, Hospital, Manchester.** **1992-1993**  
(Molecular epidemiology of local strains of *Campylobacter jejuni/coli*)

### **Postdoctoral Training with Alexander von Humboldt and INSERM fellowships**

Technical University Hospital, Dresden, Germany **1999- 2000**  
Laboratoire de Bacteriologie, Universite **May – July 2001**  
Victor Segalen, Bordeaux II, Bordeaux, France

Max von Pettenkoffer Institut, München **April – September 2003**

## **General Training**

1. Workshop on Ethical Issues in Health Research, Rockview Hotel, Abuja Nigeria (organized and sponsored by Harvard School of Public Health) Dec 3 – 7 2001
2. Good clinical Practice, NIMR, Yaba, Lagos 5 – 7 May 2004
3. FHI, Training of the Trainers, Ibadan, Nigeria 10 -14 May 2004
4. Lagos TOT with SAVVY staff
5. FHI, Training of the Trainers, Ikeja, Lagos August 2004
6. Training of the outreach workers, clinicians, counselors and nurses by Lab Staff 2004
7. Training on project planning, monitoring and evaluation, Lagos 2006
8. Training on Ethics, June 2007
9. Training on Health Research Ethics, Ethiopia 2007

## **Consultancy**

1. Syndromic management of STIs for nurses, doctors (FHI local) 2004
2. Laboratory supervisor, SAVVY ( a microbicide) 2004-7
3. Laboratory facilitator, Field Epidemiology and Laboratory Training Programme 2007
4. Head, Annual Molecular Biology and Biotechnology Workshop series 2009 Till date

**Languages spoken:** English, (German and French little)

## **Work Experience:**

**National Youth Service Corp,** Gbagada General Hospital. 1986 – 1987

**Jnr. Research Fellow,** Nigerian Institute of Med. Research, Yaba. 1988

**Research Fellow II** “ 1993 – 1996

**Research Fellow I** “ 1997 - 1999

**Senior Research Fellow** “ 2000 - 2002.

**Chief Research Fellow** 2003 – 2007

**Head of Division, Molecular Biology and Biotechnology Division** Jul. 2004 to date

**Lab Supervisor for Laboratory staff on Phase III Randomized SAVVY (C31G, a Microbicide) clinical trial in collaboration with FHI North Carolina USA** 2004 -2007

**Deputy Director (Research)** 2008 - date

## **Key Skills**

- Use of PCR, Plasmid profiles, PCR-RFLP, Southern /western blotting, PFGE, REA, FISH techniques for diagnosis of infectious diseases, especially the fastidious organisms using FISH (fluorescent in situ hybridization) technique.
- Lab SOP for general laboratory methods.  
Training of outreach workers (Microbicide study) on Good Laboratory Practices and laboratory diagnosis of STIs including HIV/AIDS

## **Other Research Activities**

Supervision of student's project.

B.Sc students: 20+

M.Sc students: 14

Ph.D students:

1. Dr. K. S. Oyedeji, A study of *Helicobacter pylori* infection in patients with upper gastrointestinal pathology in Western Nigeria (2005), CMUL, University of Lagos, completed.
2. Dr. A. O. Oluyemi, Prevalence of markers of *H. pylori* infection in type 2 diabetes mellitus patients in Lagos, FWACP (2009). Completed.
3. Mrs. Abimbola Ezeh, Phenotypic and genomic characterization of *Cronobacter sakasaki* isolated from powdered infant formula milk in Nigeria. (started March 2008, and ongoing).
4. Mr. F. Alao, Molecular epidemiology of *Staphylococcus saprophyticus* virulence genes isolated from patients presenting with urinary tract infections in Lagos, State (December 2010 and ongoing).
5. Mr. C.O. Ezeamagu, Methicillin resistance study and plasmid profile of *Staphylococcus* species isolated from clinical and community/environmental samples in Ibadan South West Nigeria.
6. Mrs. M. Fowora: 'Correlation of *Helicobacter pylori* virulence factors with gastro-duodenal diseases: improvement of diagnosis and treatment' (Started 2012 – and on-going). Trained for 6 months in Max von Pettenkofer Institute Munich from DFG grant.
7. Mrs. A. Seriki: 'Correlation of *Helicobacter pylori* virulence factors with gastro-duodenal diseases: improvement of diagnosis and treatment' (Started 2012 – and on-going).
8. Mr. Nwankwo Innocent Okwundu, Prevalence and Molecular Epidemiology of *Campylobacter species* in poultry and humans in Sokoto, Nigeria (Dec 2012 and on-going).

## **Other Scientific activities**

1. Involved in assessing of student's seminars from M.Sc to PhD ( 2007 – date).
2. Chairperson of the Infection subcommittee at the inaugural launch of AstraZeneca in Nigeria. 13<sup>th</sup> October 2009.
3. Guest Speaker in a round table discussion on DFG sponsored conference on Partners of German-African grant in Berlin June 2010.
4. Co-chair of first Scientific session of DFG sponsored conference on Partners of German-African grant in Ghana March 2011.
5. External Examiner, PhD project titled 'Antimicrobial susceptibility and molecular epidemiology of *Clostridium difficile* in Lagos metropolis' on 23rd May 2011 by Dr. T. Egwuatu.
6. Member of sub-committee for health on the review of National Science, Technology and Innovation (STI) policy 9<sup>th</sup>, 11<sup>th</sup> May 2011.
7. Trained for one month in the lab of Prof R. Haas, MvP Munich, GERMANY: Mr. E. A. Omonigbehin: Animal studies with *Helicobacter pylori* from DFG sponsored grant.

## Other positions held in my Establishment

- Management staff and HOD and as HOD, I coordinate and supervise all the Research activities in the Division and the Division till date has been able to get over 70 publications in works done in the Department or as collaboration 2004 - date
- Member of the NIMR Resident Due Process 2004 - 2011
- Member, Project Evaluation and Monitoring Committee, NIMR 2004 – 2007
- Chairperson, Housing loan committee 2004 - 2011
- Member 2004 – 2005 draft of NIMR Annual Report
- Member Management Tender's Board 2000 – 2003, 2012 - date
- Member Editorial Board of Nigerian Journal of Clinical and Biomedical Research 2005 - 2010
- Chairperson D-G advisory committee on staff matters 2002 - 2006
- Member, Formulators of Service Charter for NIMR 2004
- Assessment of manuscripts sent for publications both within and outside the Institute.
- Member NIMR IRB Board and have been involved in Peer reviewing proposals sent for IRB approval 2004 - 2012
- Organizing training workshops on Biotechnology 2004 - date
- Member, Project Procurement Committee (PPC) 2008 – 2011
- Leader, Annual Molecular Biology and Biotechnology Workshop 2009 till date.
- Acting Director-General (NIMR, Yaba) May 27<sup>th</sup> – 28<sup>th</sup> 2010
- Coordinator, first Bioinformatics workshop in NIMR June 13<sup>th</sup> to 16<sup>th</sup> 2011
- Coordinator, 3<sup>rd</sup> Annual Molecular Biology Workshop August 1<sup>st</sup> – 5<sup>th</sup> 2011
- Head, Emergency Preparedness and Response Research Group 2012
- Chairperson, D-G's second year anniversary symposium 2012
- Coordinator, one-day training for EPRG members June 2012
- Coordinator, two-day training for EPRG members facilitated By UNICEF 17-18 Oct 2012

## Part-time academic appointment

- Reviewer Journal of Public Health, Germany 2007
- Reviewer, Journal of Health and Epidemiology 2009
- Reviewer, Current Microbiology 2010
- Reviewer, Journal of Microbiology and Antimicrobials 2010
- Reviewer, African Journal of Microbiology Research 2011
- Reviewer, African Journal of Biotechnology 2011
- Reviewer, International Research Journal of Microbiology 2011
- Member, Faculty of 1000, Journal of Public Health and Epidemiology 2010
- Reviewer, Vaccine 2012
- Reviewer, Gastroenterology Research and Practice 2012

## Grants / Awards/scholarship

1. Letter of commendation from NYSC August 1988
2. European Union Scholarship award for PhD thesis on “Molecular Epidemiology of *Campylobacter jejuni/coli*” (Manchester, U.K.) November 1993
3. Roche Foundation Research Grant for *Helicobacter pylori* August, 1999
4. Recipient of Alexander von Humboldt Fellowship Sept.1999 – Dec. 2000.
5. Recipient of INSERM Fellowship May – July 2001.
6. Recipient of Alexander von Humboldt book and equipment award May 2002
7. Recipient of TWAS equipment grant April, 2003
8. Recipient of Alexander von Humboldt book award October 2003
9. Recipient of International Foundation for Science (IFS) grant April, 2006
10. Recipient of International Centre for Genetic Engineering and Biotechnology (ICGEB) grant Sept. 2007

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| 11. Recipient of International Foundation for Science (IFS) grant | June 2009 |
| 12. Recipient of Deutsche Forschungsgemeinschaft (DFG) grant      | May 2010  |
| 13. Recipient, Alexander von Humboldt, equipment grant            | May 2011. |

### **Travel Grants**

1. International Congress of Bacteriology and Applied Microbiology Division Prague, Czech Republic. July 3 - 6, 1994.
2. 15<sup>th</sup> International Workshop on Gastrointestinal Pathology and *Helicobacter*, Athens, Greece. 11<sup>th</sup> – 14<sup>th</sup> September 2002.
3. **16<sup>th</sup> International Workshop on Gastrointestinal Pathology and *Helicobacter*, Stockholm, Sweden, 3<sup>rd</sup> – 6<sup>th</sup> September 2003.**
4. **17<sup>th</sup> International Workshop on Gastrointestinal Pathology and *Helicobacter*, Vienna Austria, 21<sup>st</sup> to 23<sup>rd</sup> September 2004.**
5. Microbicides conference, 23- 26 April, 2006, Cape Town, South Africa.
6. IFS sponsored, Food Microbiology Conference, Bologna, Italy. August 28<sup>th</sup> to 3<sup>rd</sup> September 2006.
7. Health Research Ethics workshop, Ethiopia. 23<sup>rd</sup> to 29<sup>th</sup> September 2007.
8. ICGEB sponsored collaboration between Molecular Biology and Biotechnology Division and Dr. M. Contreras, IVIC Venezuela. Sept. 2008.
9. ICGEB sponsored Gastro conference, London, November 2009.
10. DFG sponsored conference on Partners of German-African grant June 20th – 22nd 2010.
11. DFG sponsored 23rd International Workshop on European *Helicobacter* study group 2010.
12. DFG sponsored conference on Partners of German-African grant Ghana, March 24th – 26th 2011.
13. DFG sponsored conference on Partners of German-African grant Bonn, June 26<sup>th</sup> – June 29<sup>th</sup> 2012.

### **Theses/list of concluded work:**

Isolation and characterization of petroleum utilizing organisms in garage soils. B.Sc. thesis.  
 Effect of temperature and pH on the growth rate of *Campylobacter jejuni* and *C. coli*. M.Sc. thesis.  
 Molecular epidemiology of local strains of *Campylobacter jejuni* and *C. coli*. PhD thesis.  
 Plasmid profiles of *Bacillus* sp from locally fermented foods.  
 Development of Dogik: An improved ogi with potentials for use in diarrhoea control.  
*Campylobacter* infections in HIV/AIDS patients

### **Reports**

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|--|-------------|
| <b>Molecular epidemiology of <i>H. pylori</i> isolated from patients with gastritis and peptic ulcer.</b>  | <b>1999</b> |
| <b>Molecular epidemiology of <i>Salmonella Typhi</i> from different sources.</b>   | <b>2004</b> |
| <b>Molecular epidemiology of <i>H. pylori</i> from patients with gastritis, peptic ulcer and gastric cancer</b>                                  | <b>2003</b> |
| <b>Isolation and Molecular Characteristics of <i>S. Typhi</i> from food handlers in bukbas and farm animals</b>                                  | <b>2008</b> |
| Diagnostic methods for the detection of <i>Helicobacter pylori</i> and epidemiology of enteric helicobacter infections from patients in Nigeria. | 2010        |
| Prevalance and molecular typing of <i>Salmonella</i> spp isolated from foods sold by food handlers   | 2011        |

Dr. S. I. Smith has 42 contributions to scientific meetings and over 90 peer-reviewed scientific contributions.

## Current scientific publications from 2011 – date

- 1) **Stella I. Smith, Muinah A. Fowora, Helen A. Goodluck, Francisca O. Nwaokorie, Olusimbo O. Aboaba, Bolanle Opere (2011). Molecular typing of *Salmonella* spp isolated from food handlers and animals in Nigeria. Int. J. Mol. Epidemiol. Genet. 2: 73 – 77.**
- 2) **Stella I. Smith**, Moses Bamidele, Muinah Fowora, Helen T. Goodluck, Emmanuel A. Omonigbehin, Kehinde A. Akinsinde, Toun Fesobi, Rob Pastoor, Theresia H. Abdoel, Henk L. Smits (2011). Application of a point-of-care test for the serodiagnosis of typhoid fever in Nigeria and the need for improved diagnostics. Journal of Infection in Developing Countries 5 (7): 520 - 526.
- 3) **Stella I. Smith**, Muinah A. Fowora MA, Jesse A. Otegbayo JA, Fatimah B. Abdulkareem F, Emmanuel A. Omonigbehin, Akere Adegboyega, Monica Contreras, Rainer Haas (2011). Comparison of PCR with other diagnostic techniques for the detection of *H. pylori* infection in patients presenting with gastroduodenal symptoms in Nigeria. Int. J. Mol. Epidemiol. Genet. 2 (2): 178 – 184.
- 4) **Smith SI**, Oyedeji KS, Goodluck HA, Fowora MA, Anomneze E, Lesi F. (2011). **The use of *Helicobacter pylori* stool antigen test for the diagnosis of *Helicobacter pylori* in Lagos, Nigeria. West Indian Medical Journal 60, No. 1, 33-36.**
- 5) Omonigbehin EA, Deji-Agboola MA, **Smith SI**, Ezeh BR, Bamidele M, Oluwadun A (2011). *Piper guineense*: a possible alternative treatment for multidrug resistant EHEC 0157:H7. International Journal of Applied Science and Technology. **2012**
- 6) **Stella Smith**, Olaniyi O. Ganiyu, Rachael John, Muinah Fowora, Kehinde Akinsinde and Peter Odeigah (2012). Antimicrobial resistance and Molecular typing of *Pseudomonas aeruginosa* isolated from surgical wounds in Lagos, Nigeria. Acta Medica Iranica 50: 433- 438.
- 7) **Stella Smith**, Bolanle Opere, Muinah Fowora, Abdulrahman Aderohunmu, Rita Ibrahim, Emmanuel Omonigbehin, Moses Bamidele and Adeniyi Adeneye (2012). Molecular characterization of *Salmonella* spp directly from snack and food commonly sold in Lagos, Nigeria. South East Asian Journal of Tropical Medicine and Public Health, 43(3):718-23.
- 8) Aderemi Oluyemi, Ebere Anomneze, **Stella Smith**, Olufemi Fasanmade (2012). Prevalence of a marker of active *Helicobacter pylori* infection among patients with type 2 diabetes mellitus in Lagos, Nigeria. BMC Research Notes 5: 284.
- 9) Kolawole S. Oyedeji, Mary-Theresa Niemogha, Francisca O. Nwaokorie, Tajudeen A. Bamidele, Michael Ochoga, Kehinde A. Akinsinde, Bartholomew I. Brai, David Oladele, Emmanuel A. Omonigbehin, Moses Bamidele, Toun W. Fesobi, Adesola Z. Musa, Adeniyi K. Adeneye, **Stella I. Smith**, Innocent A. Ujah (2012). **Molecular characterization of the circulating strains of *Vibrio cholerae* during 2010 Cholera outbreak in Nigeria. Accepted for publication, Journal of Health Population and Nutrition.**
- 10) David Oladele, Kolawole S. Oyedeji, Mary-Theresa Niemogha, Francisca Nwaokorie, Moses Bamidele, Adesola Z. Musa, Adeniyi K. Adeneye, Tajudeen A. Bamidele, Michael Ochoga, Kehinde A. Akinsinde, Bartholomew I. Brai, Emmanuel A. Omonigbehin, Toun W. Fesobi, **Stella I. Smith**, Innocent A. Ujah (2012). Assessment of Emergency Response among Health Workers Involved in the 2010 Cholera Outbreak in Northern Nigeria. Journal of Infection and Public Health Oct;5(5):346-53. doi: 10.1016/j.jiph.2012.06.004.
- 11) Onyenwe NE, Adeleke OE, **Smith SI**, Fowora MA, Mbata TI (2012). Detection of mutations in *gyrA* gene that codes for point mutation in fluoroquinolone resistant *Salmonella enterica* serotypes isolated from a hospital in south east Nigeria. Asian Journal of Pharmaceutical and Health Sciences 2: 517 – 521.

12) **Stella I. Smith**, Muinah A. Fowora, Olufunmilayo A. Lesi, Elizabeth Agbebaku, Peter Odeigah, Fatimah B. Abdulkareem, Charles A. Onyekwere, Chimere A. Agomo and Monica Contreras (2012). **Application of stool-PCR for the diagnosis of *Helicobacter pylori* from stool in Nigeria- a pilot study. Accepted for publication in SpringerPlus.**

### **Membership in Professional Bodies**

1. Nigerian Society for Immunology, Nigeria.
2. FADIB, Nigeria.
3. **American Society for Microbiology**
4. **Recipient of 19<sup>th</sup> Edition of Who is Who in the world**                      **2001**
5. Member, African Microbicide Advocacy Group (AMAG)
6. Member, Nigerian HIV Vaccine and Microbicides Advocacy group (NHVMAG)
7. Member, Third World Academy of Science (TWAS)
8. Member, Organization for Women in Science for the Developing World (OWSD)
9. Member, World Academy of Young Scientists (WAYS)
10. Member, List of Productive Scientists, ISI Web of Science, [www.isiknowledge.com](http://www.isiknowledge.com) 2007

### **On-going projects**

Survey and mapping: Leading causes of childhood mortality in Nigeria

Emergency response survey to outbreak with respect to cholera and meningitis.

**Correlation of *Helicobacter pylori* infection with gastroduodenal diseases in Nigeria – improvement of diagnosis and treatment.**

### **REFEREES**

1) Prof. A. O. Coker  
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