

# Prof Onah, Ejembi John, D.Sc

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- Professor of Chemistry, Nanoscience and Nanotechnology
- Doctor of Science (D.Sc) Chemistry specializing in Nanotechnology with distinction in examination from University of Technology, Dresden Germany
- Synthesize nanofilms with the least dielectric constant of 1.5; a revolution to micronanoelectronics
- The first in the world to achieve this record
- Founder/President/CEO: Focus Nanotechnology Africa Inc (FONAI)
- Professor and various research positions across 3 continents of the world: Africa, Europe and USA in top institutions like Cornell University and Max-Planck Institute Germany
- Many years of experience
- Member of American Chemical Society
- USA presidential recognition
- National leadership award, Washington 2007
- Chairman Business Advisory Council, Washington 2007
- Many other international and national awards
- Many journal and other publication including 4 books
- Reviewer to many scientific journals
- Fluent in German, English and Idoma
- Editorial Board Member, Journal of Nano-Education
- Editor-In-Chief, Journal Nanotechnology Progress International (JONPI)
- Permanent Residence of the US under Extraordinary Ability category and USA Citizen
- Member of Advisory Board-World Bank Project (\$180 million-Nigeria)
- Member of Steering Committee EU-ICPC-2008-June 2009
- Chairman Steering Committee, US-EU-Africa-Asia-Pacific and Caribbean Nanotechnology Initiative (USEACANI) Covering 178 countries with a proposed approved budget of \$27 billion by President Obama for 2012
- Co-Chairman US-EU-Africa-Asia-Pacific and Caribbean Academy of Nanoscience and Nanotechnology (USEACANN)
- Columnist, Nanotechnology Now

## EDUCATION

- D.Sc.-Chemistry 2001,
- University of Technology, Dresden, Germany.
- GPA 3.9/4-Examination (Summa cum Laude).

## ACCOMPLISHMENTS

- Professor of Chemistry, Nanoscience and Nanotechnology
- Summa cum Laude graduate in Chemistry (D.Sc.)
- Proven record of academic excellence (NSF/EPA/DOD,CRDF/NIST)/ scholarship and Visiting Scientist position at Ivy Leagues College).
- Scientist with an excellent track record of publications, books and oral presentations at national and international conferences.
- Proven record of report writing, vetting reports, presentation, publication: USEACANI, EU, World Bank, etc
- Proven record of scientific research success in nanotechnology, macromolecular designs, polymer chemistry and material science with many years of experience.

## SKILLS

- Leadership, vetting reports, budgeting, recruitment, presentation and preparation of report, innovation, editing articles, publishing articles and reports, etc

- Possessed unique experimental skills and theoretical background in chemistry and biomedical research without substitution: Nanotechnology, nanoparticle, nanofilms, nanosensors, nanoenergy, nanowires, nanoelectronics, nanomedicine, nanochemistry, Organic chemistry, polymer chemistry and synthesis, surface chemistry, self assembly monolayer (SAMS), LB technique, material sciences, clean room, UV, IR, NMR, GPC, TGA, DSC, SPR, CAD, GC-MS, HPLC, Ellipsometry, nanotechniques, AFM, spin coating, dielectric spectroscopy, stereoselective synthesis, functionalization, nanosolar synthesis, fabrication and controlled polymerization and polyurethanes, teaching and quality. Creative ability, innovative thinking ability, special research skills, interpersonal skills, communication skills, adaptation to various working environment ability.

## EXPERIENCE

- President/CEO, Focus Nanotechnology Africa (FONAI) and NanoFocus, USA 2005 -Current
- Chairman Steering Committee, US-EU-Africa-Asia-Pacific and Caribbean Nanotechnology Initiative (USEACANI) Covering 158 countries including Canada-present
- Co-Chairman US-EU-Africa-Asia-Pacific and Caribbean Academy of Nanoscience and Nanotechnology (USEACANN)
- Editor-In-Chief, Journal Nanotechnology Progress International (JONPI)-present
- Columnist, Nanotechnology Now
- Collaborator-NSF/EPA/DOD/NIST University of Binghamton, NY, 2004
- Collaborator-international NSF/CRDF Yerevan State University, Armenia (USA-Armenia project)-2004
- NSF-Visiting Scientist Department of Chemistry and Chemical Biology, Cornell University, Ithaca, NY; Cornell Nanobiotechnology Center, 2002-2004:
- Post-doctoral/Research Associate, Department of Chemistry, Virginia Tech, Blacksburg, VA, 2001-2002:
- Scientist/Doctoral student, Institute of Polymer Research Inc. Dresden/ University of Technology, Dresden, Germany, 1998-2001
- Scientist- Max Planck Institute, Golm; Humboldt University, Berlin; University of Würzburg, 1997-1998.
- Lecturer (Asst. Professor with tenure) Benue State University, Nigeria, 1993-1997
- Teacher, Federal Government College Jos and Sokoto with tenure; Government Day 1985-1992

## AWARDS/HONORS

- NSF fellowship, 2002, USA.
- Postdoctoral fellowship 2001, USA
- KAAD (German) international scholarship, 1996.
- USA Presidential recognition, 2004.
- National leadership award, Washington 2007
- Chairman Business Advisory Council, Washington 2007
- Reviewer to many chemistry international journals

## MEMBERSHIP OF PROFESSIONAL ORGANIZATIONS

American Chemical Society (ACS).

## SCIENTIFIC ACHIEVEMENTS

### PUBLICATIONS (selected)

#### Journal :

- Onah E.J. Editorial J.Nanotech. Prog. Int.(JONPI) **2013**, 4, 1, 3
- Onah E.J. Editorial J. Nanotech. Prog. Int.(JONPI) **2012**, 3, 2,3
- Onah E.J. Editorial J. Nanotech. Prog. Int.(JONPI) **2012**, 3, 1, 3
- Onah E.J. Editorial J. Nanotech. Prog. Int.(JONPI) **2011**, 4, 3

- Onah E.J. Editorial J. Nanotech. Prog. Int.(JONPI) **2010** 3, 3
- Onah E.J. Nanofrontrunners; implications J. Nanotech. Prog. Int.(JONPI) **2009**, 1, 3
- Fornof A.; Onah, E.; Ghosh, C.; Frazier, C.E.; Wilkes, G.; Long T.E., Synthesis and characterization of triglyceride based polyols and tack-free coating via air oxidation of soy oil; J.App. Polymer Sci. **2006**, 102, 690
- Onah, E.J. Fluorine containing polymers and the emerging nanotechnology, Polym. News, **2005**, 30,3,79 (Feature article and cover page).
- Onah, E. J. Synthesis of polyacrylates, polyesters and polyimide, Chem. Mater. **2003**, 15, 4104.
- Elkins, C.L.; Karikari, A.S.; Lizotte, J.R.; Onah, E.; Pasquale, A.J.; Williamson, D.T.; Yamauchi, K.J.; Long, T.E. Recent trends in macromolecular design (Review paper), Plastics Eng. **2003**, 59, 58.
- Onah, E. J.; Oertel, U.; Haussler, L.; Voigt, D.; Froeck, C.; Komber, H.; Voit, B. I.; Lunkwitz, K. Fluorine containing poly (amide-imide) s: synthesis and formation of Langmuir-Blodgett monolayers Eur.Polym. J. **2003**, 39, 127.
- Onah, Ejembi J.; Oertel, Ulrich; Nagel, Jurgen; Lunkwitz, Klaus K. Monolayers and Langmuir-Blodgett films of Teflon AF, Polym. Mater. Sci. Eng. **2003**, 88, 262.
- Onah, Ejembi J.; Oertel, Ulrich; Froeck, Christian; Kratzmuller, Thomas; Steinert, Volker; Bayer, Thomas; Hartmann, Lutz; Haussler, Liane; Lunkwitz, Klaus. Ultrathin films of fluorine containing polymers: Fabrication and characterization, Macromol. Mater. Eng. **2002**, 287, 412.
- Onah Ejembi.; Shamba Tseba Production of amylases and cellulases; degradation of starch and Carboxymethylcellulose, Enzym Microb. Technol. **1987**, 9, 308.

#### Columns

- US-EU-Africa-Asia-Pacific and Caribbean Nanotechnology Initiative online workshop June 21-26, 2009, report:[http://www.nanotech-now.com/columns/contributors/?action=preview\\_article&article\\_id=359&version\\_id=0448](http://www.nanotech-now.com/columns/contributors/?action=preview_article&article_id=359&version_id=0448)
- African Nanoscience and Nanotechnology 2009: [http://www.nanotech-now.com/columns/contributors/?action=preview\\_article&article\\_id=370&version\\_id=0462](http://www.nanotech-now.com/columns/contributors/?action=preview_article&article_id=370&version_id=0462)
- Caribbean Nanotechnology 2009: [http://www.nanotech-now.com/columns/contributors/?action=preview\\_article&article\\_id=370&version\\_id=0462](http://www.nanotech-now.com/columns/contributors/?action=preview_article&article_id=370&version_id=0462)
- Pacific Nanotechnology 2009: [http://www.nanotech-now.com/columns/contributors/?action=preview\\_article&article\\_id=377&version\\_id=0469](http://www.nanotech-now.com/columns/contributors/?action=preview_article&article_id=377&version_id=0469)
- Journal Nanotechnology Progress International (JONPI) maiden edition synopsis: Nanofrontrunners; implications 2009: [http://www.nanotech-now.com/columns/contributors/?action=preview\\_article&article\\_id=381&version\\_id=0473](http://www.nanotech-now.com/columns/contributors/?action=preview_article&article_id=381&version_id=0473)

#### Press release

- FONAI Comments to G8-African Development Agenda: [http://www.nanotech-now.com/news.cgi?story\\_id=33590](http://www.nanotech-now.com/news.cgi?story_id=33590)  
[www.fonai.org/uploads/FONAI\\_comments\\_to\\_the\\_G8corr.pdf](http://www.fonai.org/uploads/FONAI_comments_to_the_G8corr.pdf)  
[www.merid.org/NDN/more.php?id=1974](http://www.merid.org/NDN/more.php?id=1974)  
<http://content.usatoday.com/topics/article/Places.+Geography/Regions/Asia/08ymf952a390N/1>  
<http://content.usatoday.com/topics/article/Places.+Geography/Regions/Africa/08ymf952a390N/1>
- US-EU-Africa-Asia-Pacific and Caribbean Nanotechnology Initiative (USEACANI) [www.nanopaprika.eu/xn/detail/1612324](http://www.nanopaprika.eu/xn/detail/1612324)  
[www.silobreaker.com/guadeloupe-11\\_80972](http://www.silobreaker.com/guadeloupe-11_80972), etc
- US-EU-Africa-Asia-Pacific and Caribbean Academy of Nanoscience and Nanotechnology (USEACANN): <http://content.usatoday.com/topics/article/Places.+Geography/Regions/Asia/0aKx21U6gv6NK/1>  
<http://content.usatoday.com/topics/article/Places.+Geography/Regions/Africa/0aKx21U6gv6NK/1>  
<http://bx.businessweek.com/nanotechnology-companies/academy-of-nanoscience-and-nanotechnology-useacann/7974121712184626775-5db079c03b7b8dcab02a2cef4a3cda0d/>  
<http://content.usatoday.com/topics/article/Places.+Geography/Regions/Africa/0aKx21U6gv6NK/1>
- Journal Nanotechnology Progress International (JONPI) various news channel google search

#### Books

- Onah, E. Questions and answers in chemistry, AE Publishers, Jos, 1995, ISBN 978-32785-1-7.
- Onah, E, ACS symposium series on polymeric nanofiber (Chapter contribution) 2006, ISBN 978-0-8412-3919-7

- Polymers with Low dielectric Constant: Synthesis and Fabrication of their ultrathin films, WEB/University Publishers 2001 ISBN 3-935712-65-0

#### Others

- US-EU-Africa-Asia-Pacific and Caribbean Nanotechnology Initiative(USEACANI) Report 2009:  
[http://fonai.org/uploads/Accomplishment\\_FONAI\\_USEACANI.pdf](http://fonai.org/uploads/Accomplishment_FONAI_USEACANI.pdf)
- US-EU-Africa-Asia-Pacific and Caribbean Nanotechnology Initiative(USEACANI) Working Document:  
<http://fonai.org/USEACANI.html>
- Journal Nanotechnology Progress International (JONPI)  
<http://fonai.org/Journal.html>
- Why Africa and Caribbean need Nanotechnology  
<http://fonai.org/Documents.html>
- Are there infrastructures for Nanotechnology in Africa and the Caribbean  
<http://fonai.org/Documents.html>

#### Oral presentations:

- Onah, E.J.; Positioning Africa for the 21<sup>st</sup> century revolution: The nanotechnology option; United Nations, July 12, 2006
- Onah, E.J.; Products of nanotechnology; United Nations, July 12, 2006
- Onah, E. J.; African Nanotechnology Initiative, United Nations, July 12, 2006
- Onah, E.J. Fluorine containing polymers and the emerging nanotechnology, Abstracts of Papers, 226<sup>th</sup> ACS National Meeting, New York, NY, United States, Sept. 7-11, 2003, American Chemical Society: Washington, DC, 2003, Poly-262.
- Onah, E. Stereoselective functionalization of pyrroglutamic acid: Building block for ion channel, Abstracts of Papers, 225th ACS National Meeting, New Orleans, LA, United States, March 23-27, 2003, American Chemical Society: Washington, DC, 2003, ORGN-286.
- Onah, E.; Fornof, A.; Frazier, C.; Wilkes, G.L.; Long, T.E. Functionalization of triglyceride: A potential well defined feedstock for polyurethane synthesis, Polyurethanes 2002 (ACS), Annapolis, Sept. 29-Oct. 2, 2002.
- Onah, E.; Oertel, U.; Nagel, J.; Lunkwitz, K. Monolayers and Langmuir-Blodgett films of poly (tetrafluoroethylene-co-bistrifluoromethyl-4,5-difluoro-1,3-dioxole)-Teflon AF, Abstracts of Papers, 225th ACS National Meeting, New Orleans, LA, United States, March 23-27, 2003, American Chemical Society: Washington, DC, 2003, PMSE-160.
- Onah, E.J.; Oertel, U.; Froeck, C.; Kratzmüller, T.; Steinert, V. Janke, A. Voigt, D.; Lunkwitz, K. Ultrathin films from fluorinated polymer: Fabrication and characterization, lecture, Third Int. Symposium on Polymer Surface Modification; May 21-23, 2001, Newark, NJ, U.S.A.

#### Poster presentations:

- Onah, E.J.; Oertel, U.; Voit, B. Lunkwitz, K. Nano films of fluorine containing polymers Abstracts of Papers, 226<sup>th</sup> ACS National Meeting, New York, NY, United States, Sept. 7-11, 2003, American Chemical Society: Washington, DC, 2003, Poly-324.
- Onah, E. J.; Kpissay, A. M.; Srivastava, M.; Sogah, D. Y. Baird, B. Direct functionalization of patterned arrays via surface living polymerization, Polymer Outreach Program 2003.
- Sohn, S.; Tamami, B.; Wilkes, G.L.; Onah, E.; Fornof, A.; Long, T.; Ghosh, S.; Frazier, C. Utilization of soy oil as a new feedstock for polyurethanes conference proceedings, Macro 2002, Sept. 4-5, 2002.
- Onah, Ejembi J.; Oertel, Ulrich; Froeck, Christian; Kratzmuller, Thomas; Steinert, Volker; Bayer, Thomas; Hartmann, Lutz; Haussler, Liane; Lunkwitz, Klaus. Ultrathin films of fluorinated polymers synthesized from

4' hexafluoroisopropylidenediphthalic anhydride and maleic anhydride copolymers; 16<sup>th</sup> International Symposium on Fluorine Chemistry, Durham, UK, July 2000, 2P-50.

- Onah, Ejembi J.; Oertel, Ulrich; Froeck, Christian; Kratzmuller, Thomas; Steinert, Volker; Bayer, Thomas; Hartmann, Lutz; Haussler, Liane; Lunkwitz, Klaus. Ultrathin films of fluorinated polymers; 9<sup>th</sup> International Conference on Organized Molecular Films, Langmuir 9 (LB9), August 28-September, 01 2000, Potsdam, Germany, P 25.
- Onah, Ejembi J.; Oertel, Ulrich; Froeck, Christian; Kratzmuller, Thomas; Steinert, Volker; Bayer, Thomas; Hartmann, Lutz; Haussler, Liane; Lunkwitz, Klaus. Synthesis and characterization of novel fluorinated poly (amid- imide) s and polyimides, Dresdener Polymer Discussion Meißen, April 23-26, 2001.
- Onah E.J.; Long T.E. Functionalization of triglyceride: A potential well defined feedstock for polyurethane synthesis, conference proceedings, Macro 2002, Sept. 4-5, 2002.
- Onah, E.; Shambe, T. Effect of cations and sulfhydryl reagents on the activity of enzymes, Abstracts of Papers, 225th ACS National Meeting, New Orleans, LA, United States, March 23-27, 2003, American Chemical Society: Washington, DC, 2003, CELL-052.
- Onah, E.; Shambe, T. Degradation of starch and carboxymethylcellulose by extracellular enzymes from four bacteria species, Abstracts of Papers, 225th ACS National Meeting, New Orleans, LA, United States, March 23-27, 2003, American Chemical Society: Washington, DC, 2003, CELL-051