

FCURRICULUM VITAE - PRISCILLA BAKER

CURRENT DESIGNATION:
Professor, Department of Chemistry,
University of the Western Cape

CONTACT DETAILS:
Tel: 072 865 7933 (mobile)
027+21+959 3051 (W)
Email: pbaker@uwc.ac.za



----- AWARDS AND RECOGNITION -----

NRF/DST South African Research Chair Initiative (SARChI) chair:

Analytical Systems and Processes for Priority and Emerging Pollutants (2018-2023)

Senior Professor (Chemistry):

Chemistry department, University of the Western Cape (2018-)

Head of Department

Chemistry department, University of the Western Cape (2017-2018)

Visiting Professor,

University Cergy Pontoise (Paris, France) 2013-2019.

Member of the international organizing committee:

14th Topical Meeting of the International Society of Electrochemistry (Electrochemistry for Life Science and Bioanalysis), 29 March to 1 April, 2014, Nanjing, China.

Winner:

Department of Science and Technology, **Distinguished Women**

Scientist award, Physical and Engineering Sciences, 15 August 2014

<http://mg.co.za/article/2014-08-18-distinguished-women-researchers>

DVC Young Researcher Award winner, University of the Western Cape, 2014

Council Member, University of the Western Cape (2015-2017)

Council Member, South African Chemical Institute (2007-2018)

Fellow of the Royal Society of Chemistry (UK). February, 2019

Fellow of the African Academy of Science (AAS), December 2018

Academy of Sciences of South Africa (Assaf) Member in good standing, (2015-)

Regional Representative (Africa) International Society of Electrochemistry (2016-2020)

Professional Awards and Distinctions

(a) Awards

- 2014: **Winner:** Department of Science and Technology, Distinguished Women Scientist award, Physical and Engineering Sciences, 15 August 2014.
- 2014: **Winner:** University of the Western Cape, **Deputy Vice Chancellor's Young Researcher award.**
- 2015: **Member:** Academy of Science of South Africa (Assaf), 14 October 2015

(b) Visiting Full Professorship Appointment

- 2012 Full Professor: University of the Western Cape, Bellville, South Africa**
- 2014: **Visiting Professor,** University Cergy Pontoise (Paris, France) 2013-2016.

(c) National and International Chemical Society Appointments

- 2013: **Chairperson :** Electrochemistry division (EletcrochemSA) of South African Chemical Institute, South Africa (SACI), 2016-2017.
- 2013: **Member of SACI Council:** South African Chemical Institute, South Africa (SACI), 2016-2017.
- 2013: **Deputy Chair, Division 1** (Analytical Electrochemistry), International Society for Electrochemistry (2013-2016)
- 2016: **Regional Representative for South Africa:** (International Society of Electrochemistry, 2016-2018)

(d) Plenary/Keynote/Public Lecture Invitations

- 2009: **Keynote Lecture:** Surface Modification for Chemical and Biochemical Sensing (SMCBS'2009). The 4th International Workshop, Cracow, Poland, 6-10 November 2009.
- 2010: **Keynote Lecture:** Analitika 2010, 4-9 December 2010, Stellenbosch.
- 2009: **Keynote Lecture** 10th International Symposium on Kinetics in Analytical Chemistry; 2-4 December 2009, Fountain Hotel, Cape Town, South Africa .
- 2014: **Invited lecture:** International Conference on Polymer Composites, 19-20 December 2014, National Institute of Technology Surathkal, Mangalore, India.

- 2016: **Public Lecture:** 22 June 2016, hosted by Royal Society of Chemistry (South Africa) and Academy of Science of South Africa (Assaf), Astronomical Observatory, Cape Town.
- 2016: **Keynote lecture:** Matériaux et applications aux dispositifs et capteurs (MADICA'2016) **Thursday, 10th November 2016**, Mahdia, Tunisia
- 2016: **Keynote lecture:** The Second All African Nanooscience And Nanotechnology Initiative (AANNI) Workshop, 20 - 22 September 2016, University of Western Cape, Bellville, Cape Town, 7535, South Africa
- 2017: **Plenary Speaker:** 9th Annual Meeting of the Kenya Chemical Society, 9-12 May 2017, (sponsored by the Royal Society of Chemistry), International University, Nairobi, Kenya
- 2017: **Keynote lecture:** New materials for New Frontiers, SACI Inorganic division and CARMAN conference , 25-29 June 2017, Hermanus , Arabella golf estate, Hermanus South Africa.
- 2017: **Guest speaker:** UWC Women in Mathematics Mini convention, 03rd August 2017, Capetonian Hotel , Cape Town South Africa

(e) Editorship of Journals

- 2008 **Guest Editor**, Electrochimica Acta (Elsevier) 55 (14); 30 May 2010
- 2011: **Guest Editor**, Analytical Letters, Volume 44 (11), June 2011.
- 2016: **Guest Editor:** Special Issue of the Journal of Nano Research, titled, "Nanomaterials for electrocatalysis and electrochemical energy applications". (Journal of Nano Research, Volume 44, November, 2016).
- 2015 - **Analytical Editor:** Editorial Board of South African Journal of Chemistry,

(f) Chairmanship/Membership of Conference Organising Committee

- 2006-: **Chairperson:** Electrochemistry Division of the South African Chemical Institute (SACI, 2006-2018)
- 2008: **Conference Chairperson:** 1st International Symposium on Electrochemistry, 8-11 July 2008, Bellville, South Africa
- 2009: **Conference Chairperson:** 10th International Symposium on Kinetics in Analytical Chemistry; 2-4 December 2009.
- 2014 **Member of the International Organizing Committee:** 14th Topical Meeting of the International Society of Electrochemistry (Electrochemistry for Life Science and Bioanalysis), 29 March to 1 April, 2014, Nanjing, China
- 2015: **Conference chairperson:** 3rd International symposium on Electrochemistry (MAPET'2015), Electrochemistry division of SACI; 26-28 May 2015, Bellville South Africa
- 2017: **Symposium organiser** (Symposium 1): 68th Annual Meeting of the International Society of Electrochemistry (ISE) 27 August to 1 September 2017, Providence, RI, USA

(g) UWC Senate and Council

- 2015: **Council Member (Elected Senate Representative)**
University of the Western Cape (2015-2017)
- 2013-2014 **Member of Institutional Forum (Elected Senate Representative)**
University of the Western Cape (2015-2017)

(h) Media Publication

- 2014: Women in Science: Advertising supplement to the Mail & Guardian, 22-28 August 2014, page 3
<http://mg.co.za/article/2014-08-18-distinguished-women-researchers>
- 2017 : National Science week (2017)
<https://www.youtube.com/watch?v=hM34QinZTp8&feature=youtu.be>
- 2014: **Magazine article** (Afrikaans): Kuier Magazine, 8 October 2014, page 28-29

EDUCATIONAL QUALIFICATIONS

Bachelor of Science (1990, University of Cape Town)

National Diploma in Analytical (1993, Cape Peninsula University of Technology)

BSc Honours (Chemistry) (1995, UWC)

MSc Chemistry: “The evaluation of trace metals in the atmosphere” (1997, University of the Western Cape)

Ph.D Chemistry: “Synthesis and Characterisation of novel metal tin oxide composites as anodes for phenol degradation” (2004, University of Stellenbosch)

PROFESSIONAL ACTIVITIES:

Journal Reviewer: Analytica Chimica Acta ; Journal of Applied polymer Science
Biosensors Bioelectronics; Talanta; Electrochimica Acta,
Analytical Letters and others

Guest editor: (i) Electrochimica Acta special issue “Sensors and Sensor
Technology”; Electrochimica Acta 55 (14), 30 May 2010
(ii) Analytical Letters, Volume 44 (11) June 2011
(iii) Journal of Nano Research 44 (2017)

POSTGRADUATE SUPERVISION

Post-Graduate (PhD)

Richard Akinyeye (2007), Immaculate Michira (2007), Vernon Somerset (2007), Michael Klink (2007), Joseph Owino (2010), Everlyne Songa (2010), Zelo Mangombo (2010), Jasmina Martinovic (2010), Omotayo Arotiba (2010), Fanelwa Rachel Ngece (2011), Munkombwe Muchindu (2011), Heidi Richards (2012), Rasaq Olowu (2012), Peter Ndangili (2012), Kanyisa Nohako (2013), Euodia Hess (2013), Milua Masikini (2013), Stepehn Mailu (2013), Oluwakemi Tovide (2014), Nolubabalo Matinise (2014), Christopher E Sunday (2014), Mawethu Bilibana (2014), Gcineka Mbambisa (2015), Xolile G Fuku (2015), Francis Nthumba Muya (2017), Meryck Ward (2017), Lisebo Phelane (2017), Shirley le Roux (2017), Xolani Ngema (2018) Ezo Nxusani (2018). Siyabulela Hamnca (2019), Al Farao (2019).

Post-doctoral fellows:

Dr Amir Al Ahmid, Dr Raju Khan, Dr Anna Ignaszak, Dr Tesfaye Waryo, Dr Faiza Iftikhar, Dr Abd Baleg, Dr Milua Masikhini. Dr Christopher Sunday.

VISITING RESEARCHERS

Prof Pierre-Henri Aubert , December December 2013, December 2015 and May 2017
Lucian Zamfir: University of Bucharest September –November 2014
Molla Tefera: University of Addis Ababa, August- November 2015
Abdellatif Ait Lahcen, University of Hassan II-Casablanca, September- November 2015
Romain Petit; May-August 2016, Master II
Jonathan Chrun, May-August 2016, Master II
Prf Fethi Bedhioui, February 2017
Prof Frederic Vidal, May 2017
Edwin Bumenn, May-August 2017, Master I
Perinne Savoyen, May-August 2017, Master I
Marine Boursier (May-July 2018)

INTERNATIONAL CONSORTIUM GRANTS/ COLLABORATION

- (1) European Union FP7-PEOPLE-2012 Marie Curie's International Research Staff Exchange Scheme (IRSES): Joint Principal Investigator (PI) for European Union FP7 Grant 2013-2016: (PIRSES-GA-2012-318053) on 'Micro/nanosensors for early cancer warning system-diagnostic and prognostic information (Smartcancersens). Grant total EUR 575, 200.00 = **8 934 955.48 ZAR**). The composition of the grant consortium included researchers from Dublin, IRELAND, Bucharest, ROMANIA, Tarragona, SPAIN, Coimbra, PORTUGAL, Linkoping, SWEDEN, Lyon, FRANCE, Cairo, EGYPT, Kyiv, UKRAINE, Nabeul, TUNISIA and Bellville South Africa.
- (2) French Embassy of South Africa grant awards: Grant award of 11728 Euros by the French Embassy to fund research exchange visits for 2 MSc students and 1 PhD student. Each student spent 4-6 months in a French partner laboratory on research exchange over the 4 year period. Co-tutelle bursary of 105 000 Euros (EU funding for French partnership) for a jointly registered PhD student. (2014-2017, Total 116 728 Euros = **1 813 211.90 ZAR**)
- (3) Water Research Commission (WRC) contract: (2006) The development of nanocomposite polysulphone membrane with reduced fouling properties for use in wastewater treatment (2012-2014, 1,235 000 ZAR) and contract (1004104): Multi array sensor technology for polycyclic aromatic hydrocarbons screening in wastewater (2015-2017; **730 000 ZAR**).
- (4) European Scientific Network for Artificial Muscles (ESNAM) COST Action MP1003. Principal Investigator for the ESNAM consortium, where South Africa was participated as a non EU member received co-funding from Department of Science and Technology for mobility actions of staff and students (2010-2013, **300 000 ZAR**)
- (5) Organisation for the prohibition of Chemical Weapons (OPCW): Principal investigator on the research project entitled "The development of a novel cytochrome c oxidase biosensor for the early detection of asphyxiants with subsequent electrochemical destruction pathways, funded by OPCW. (2009 -2012, Total 900 Euro =**1 3980.28 ZAR**)

RESEARCH PROFILE

Professor Priscilla Baker was appointed as the first female permanent staff member in the Chemistry department (UWC, 2003) and was promoted to full professor in Chemistry in 2012. Baker served the Chemistry department as deputy chairperson since 2011 and is currently the head of department. She has been the Chemistry Honours programme co-ordinator since 2014 and has grown the Honours intake from 10 (2014) to an average of 25 students per year (2015-2017). Baker was elected chairperson of the Electrochemistry division of SACI (ElectrochemSA, 2007-) and has hosted three international symposia on Electrochemistry. She currently serves on the editorial board of the SACI official journal i.e. The South African Journal of Chemistry, which celebrates its 100th anniversary in 2018.

She has served the international electrochemistry community as deputy chairperson of Electroanalytical Chemistry division of the International Society of Electrochemistry (ISE) from 2013 to 2016 and in January 2016 Baker was elected ISE regional representative for Africa. The ISE Annual meeting which draws on average 1200 participants from around the globe, will be in its 70th year running in 2019 and this prestigious international conference on electrochemistry, will be hosted in South Africa under her leadership. Prof Baker has served as external examiner of national and international MSc and PhD theses as well as journal reviewer for many prestigious publications including *Analytica Chimica Acta*, *Journal of Applied Polymer Science*, *Biosensors Bioelectronics*, *Talanta*, *Electrochimica Acta* and others. She served on the editorial board as guest editor for (1) *Electrochimica Acta* special issue "Sensors and Sensor Technology", 55 (14), 30 May 2010 ; (2) *Analytical Letters*, 44 (11) June 2011 and (3) *Journal of Nanoresearch* 40, 2016.

Since 2005- 2011 Baker was grant holder for bilateral research grants with key partners at Bangor University, Wales (UK), Coimbra University (Portugal), State University of New York, Binghamton (USA) and Neubrandenburg University (Germany). More recently Baker has participated in two FP7 European commission consortia, specifically the European Scientific Network for Artificial Muscles (ESNAM) and the Marie Curie International Research Staff Exchange Scheme (IRSES). Continued collaboration with a partner university on the ESNAM network (University Cergy Pontoise (UCP), France) has produced many tangible outputs. A very pivotal review paper in the field of electrochemical actuators was co-authored and published in *Mini Reviews in Organic Chemistry* (2015). Baker was appointed visiting professor at University Cergy Pontoise (2013-2017) where she continues to teach a course on electrochemical polymers to the CMI Master students, each year. She currently co-supervises a joint PhD co-tutelle with University Cergy Pontoise (XT Ngema, South African PhD) – a degree that will be jointly awarded and will recognise UWC and UCP as equal partners in training, according to an official MOU. Additionally, the strong collaboration with UCP has provided research exchange opportunities for French MSc students (2016 and 2017) as well as South African postgraduate students (2013, 2015 and 2017). Baker was also the UWC research manager on the Marie Curie people mobility grant (IRSES, Smartcancersens) involving 10 participating countries including Tunisia, Egypt, Romania, Ireland, France, Spain, Sweden, Portugal, Ukraine and South Africa. Baker has supervised 20+ Honours, 20 MSc, and 29 doctoral researchers as well as many post-doctoral fellows. Her graduates hold leadership positions at South African Police Services (Forensics), CSIR, Mintek, WITS university, Namibia University of Technology, Cape Peninsula University of Technology, City of Cape Town and academic and advisory positions at academic and government institutions throughout Africa. Baker was announced Winner of the Department of Science and Technology, Distinguished Woman Scientist award in the category Physical and Engineering Sciences (2014) and in the same year she was awarded the Deputy Vice Chancellor's Young researcher Award, by the University of the Western Cape. Her research profile has been featured in *Mail& Guardian* and the woman's magazine "KUIER". Baker may be found on YouTube at:

(1) Women in Science (2014): <https://m.youtube.com/watch?v=Wq2tRYaM-8I>

(2) <https://www.youtube.com/watch?v=hM34QinZTp8&feature=youtu.be>

PUBLICATIONS IN PEER REVIEWED JOURNALS :

ORCID: <https://orcid.org/0000-0002-8878-2670>

1. Y von Schirnding , A Matthee, P Robertson*, N Strauss, M Kibel . Distribution of blood lead levels in schoolchildren in selected Cape Peninsula suburbs, subsequent to reduction in petrol lead; **South African Medical Journal**, Volume 91(10), October 2001.
2. Y von Schirnding , N Strauss , A Matthee, P Robertson*, P Blignaut Sunscreen use and environmental awareness among beach goers in Cape Town, South Africa. **Public Health Reviews**, Volume 19 (1-4), 1991-1992, 2019-217.
3. PG Baker, EG Brunke, F Slemr, AM Crouch. Atmospheric mercury measurements at Cape Point, South Africa: **Atmospheric Environment** ,(36), 2002, p2549-2465.
4. PGL Baker, AM Crouch , R S Sanderson, W.J. Przybylowicz, C.C. Theron. Characterisation of mixed metal tin oxide thin films for application as electrocatalysts. **National Accelerator Centre, Annual Report**, March 2001.
5. Removal of Organic components and bacteria from Water by Electrochemical Combustion. Cronje M, Baker PGL, Knoetze J H, Sanderson R D, Crouch A M. **WRC report no. 1196/1/05, p125**.
6. Chemical synthesis and morphology of β naphthalene sulfonic acid-doped polypyrrole micro/nanotubes. Richard Akinyeye, Mantoa Sekota, Priscilla GL Baker and Emmanuel Iwuoha. **Fullerenes, Nanotubes and Carbon Nanostructures** Volume 14 (1) (2006).
7. Polyaniline-mercaptobenzothiazole biosensor for organophosphate and carbamate pesticides. V.S. Somerset, M.J. Klink, M.M.C. Sekota, P.G.L. Baker and E.I. Iwuoha. **Analytical Letters**, 39: (1683-1698), 2006.
8. Electrochemical Interrogation and Sensor applications of Nanostructured Polypyrroles. Richard Akinyeye, Immaculate Michira, Mantoa Sekota, Amir Al-Ahmed, Priscilla Baker and Emmanuel Iwuoha **Electroanalysis** 18(24) 2006, 2441 – 2450.
9. Electrochemical and Spectroscopic Properties of Fly Ash-Polyaniline Matrix Nanorod Composites. S.E. Mavundla, V.S. Somerset, L.F. Petrik, M.J. Klink, P. Baker and E. Iwuoha. **Microchim Acta** 155, 453–458 (2006)
10. Electrochemical synthesis and characterization of 1,2-Naphthaquinone-4-sulfonic acid doped polypyrrole. RO Akinyeye, I Michira, M Sekota, A Al Ahmed, R Khan, PGL Baker, D Tito, CMA Brett, M Kalaji and E Iwuoha. **Electroanalysis** 19(2-3) 2007, 303-309.
11. Acetylcholinesterase-polyaniline biosensor investigation of organophosphate pesticides in selected organic solvents. Vernon S. Somerset, Michael J Klink, Priscilla G. L. Baker and Emmanuel I. Iwuoha. **Journal of Environmental Science and Health Part B** (2007) 42, 297–304.
12. PGL Baker, RD Sanderson, AM Crouch. Preparation and characterization of mixed metal tin oxide thin film electrodes. **Thin Solid Films** 515 (2007) 6691–6697.
13. Emmanuel Iwuoha, Rachel Ngece, Michael Klink and Priscilla Baker. Amperometric responses of CYP2D6 drug metabolism nanobiosensor for sertraline - a selective serotonin reuptake inhibitor. **IET Nanobiotechnology**, 1 (4), 2007, p62-67.
14. Joseph H. O. Owino, Anna Ignaszak, A. Al-Ahmed, Priscilla G.L. Baker, Hailemichael Alemu, Jane Catherine Ngila, Emmanuel I. Iwuoha. Modeling of the impedimetric responses of aflatoxin B1 immunosensor prepared on eletrosynthetic polyaniline platform. **Analytical and Bioanalytical Chemistry** 388 (2007) 1069-1074.
15. V. Somerset, M. Klink, R. Akinyeye, I. Michira, M. Sekota, A. Al-Ahmed,P. Baker, E. Iwuoha. Spectroelectrochemical Reactivities of Novel Polyaniline Nanotube Pesticide Biosensors. **Macromol. Symp.** 2007, 255, 36–49.

16. I Michira, R. Akinyeye, V. Somerset, M. J. Klink, M. Sekota, A. Al-Ahmed, P. G. L. Baker, E. Iwuoha. Synthesis, Characterisation of Novel Polyaniline Nanomaterials and Application in Amperometric Biosensors. *Macromol. Symposia* (2007) 255: 57–69.
17. Omotayo A. Arotiba, Anna Ignaszak, Rehana Malgas, Amir Al-Ahmed, Priscilla G.L. Baker, Selwyn F. Mapolie and Emmanuel I. Iwuoha. An electrochemical DNA biosensor developed on novel multinuclear nickel(II) salicylaldimine metallodendrimer platform. *Electrochimica Acta*, 53 (4), 2007, 1689-1696.
18. Jasmina Martinovic, Ana-Maria Chiorcea-Paquim, Victor Constantin Diculescu, Juanita Van Wyk, Emmanuel Iwuoha, Priscilla Baker, Selwyn Mapolie, and Ana-Maria Oliveira-Brett. Metallo-functionalized first-generation salicylaldimine poly(propylenimine) tetraamine dendrimers: electrochemical study and atomic force microscopy imaging. *Electrochimica Acta* 53, 4907-4919, 2008.
19. Joseph HO Owino, Omotayo A Arotiba, Priscilla GL Baker, Anthony Guiseppi-Elie, Emmanuel I Iwuoha. Synthesis and characterization of poly (2-hydroxyethyl methacrylate)-polyaniline based hydrogel composites. *Reactive and Functional Polymers*; 68 (2008) 1239-1244.
20. Omotayo Arotiba, Joseph Owino, Nicolette Hendricks, Tesfaye Waryo, Nazeem Jahed, Priscilla Baker, Emmanuel I. Iwuoha. An electrochemical DNA biosensor developed on a nanocomposite platform of gold and poly(propylene imine) dendrimer. *Sensors* 2008, 8, 6791-6809;
21. Nicolette R Hendricks, Tesfaye T Waryo, Omotayo A Arotiba, Nazeem Jahed, Priscilla G Baker, Emmanuel Iheanyichukwu Iwuoha. Microsomal cytochrome P450-3A4 (CYP3A4) nanobiosensor for the determination of 2,4-dichlorophenol - an endocrine disruptor compound. *Electrochimica Acta* 54, 2009, 1925-1931.
22. Joseph H.O. Owino, Omotayo A. Arotiba, Nicolette Hendricks, Everlyne A. Songa, Nazeem Jahed, Tesfaye T. Waryo, Rachel F. Ngece, Priscilla G .L. Baker and Emmanuel I. Iwuoha Electrochemical Immunosensor Based on Polythionine/Gold Nanoparticles for the Determination of Aflatoxin B1. *Sensors* 2008, 8, 8262-8274.
23. Synthesis and Characterization of Novel Nanophase Hexagonal Poly(2,5-imethoxyaniline). Sipho E. Mavundla, Gerald F. Malgas, Priscilla Baker, Emmanuel. I. Iwuoha. *Electroanalysis* 20 (21) 2008, p2347 – 2353.
24. Everlyne A. Songa, Tesfaye Waryo, Nazeem Jahed, Priscilla G. L. Baker, Emmanuel I. Iwuoha. Electrochemical Nanobiosensor for Glyphosate Herbicide and Its Metabolite. *Electroanalysis*, 21(3-5) 2009, p 671-674)
25. Amperometric nanobiosensor for quantitative determination of glyphosate and glufosinate residues in corn samples. Everlyne A. Songa, Vernon S. Somerset, Tesfaye Waryo, Priscilla G. L. Baker, and Emmanuel I. Iwuoha. *Pure Appl. Chem.*, Vol. 81, No. 1, pp. 123–139, 2009.
26. Amperometric hydrogen peroxide sensors with multivalent metal oxide modified electrodes for biomedical analysis. T Waryo, Pkotzian, S Begic, P Bradizlova, N Beyene, P Baker, B Kgarebe, E Turkusic, E Iwuoha, K Vytras, K Kalcher. *ICBME 2008 Proceedings* 23 pp829-833, 2009.
27. Polyester Sulphonic Acid Interstitial Nanocomposite Platform for Peroxide Biosensor. Amir Al-Ahmed , Peter M. Ndagili , Nazeem Jahed , Priscilla G. L. Baker and Emmanuel I. Iwuoha. *Sensors* 2009, 9(12), 9965-9976;
28. Electroanalytical Determination of Catechin Flavonoid in Ethyl Acetate Extracts of Medicinal Plants. Manki S Maoela, Omotayo A. Arotiba*, Priscilla G.L. Baker, Wilfred T Mabusela, Nazeem Jahed, Everlyne A. Songa, Emmanuel I. Iwuoha. *Int. J. Electrochem. Sci.*, 4 (2009) 1497 – 1510

29. Ferrocenium hexafluorophosphate-induced nanofibrillarity of polyaniline–polyvinyl sulfonate electropolymer and application in an amperometric enzyme biosensor. Peter M. Ndangili, Tesfaye T. Waryo, Munkombwe Muchindu, Priscilla G.L. Baker, Catherine J. Ngila, Emmanuel I. Iwuoha. *Electrochimica Acta*; 55(14) **2010**, p4267-4273.
30. Electrochemical impedimetry of electro-deposited poly(propylene imine) dendrimer monolayer, Omotayo Arotiba, PhD; Joseph Owino, PhD; Priscilla Baker, PhD; Emmanuel Iwuoha, PhD, **Journal of Electroanalytical Chemistry**. 638(2) **2010**, p287-292.
31. A Potential masking approach in the detection of dopamine on 3-mercaptopropionic acid capped ZnSe quantum dots modified gold electrode in the presence of interferences. Peter M Ndagili, Omotayo Arotiba, Priscilla G Baker, Emmanuel I Iwuoha. *Journal of Electroanalytical Chemistry* 643 (**2010**) 77-81.
32. Development of a tyrosinase biosensor on a novel Polyaniline-Polyvinyl Sulphonate Composite Film modified Boron-Doped Diamond (BDD) electrode. Zelo Mangombo, Priscilla Baker, Emmanuel Iwuoha, David Key. *Microchimica Acta* Vol 170 (3-4), 267-273, May **2010**.
33. Rasaq A. Olowu, Omotayo Arotiba, Stephen N. Mailu, Tesfaye T. Waryo, Priscilla Baker, Emmanuel Iwuoha. Electrochemical Aptasensor for Endocrine Disrupting 17 β -Estradiol Based on a Poly(3,4-ethylenedioxythiophene)-Gold Nanocomposite Platform. *Sensors* 10 (**2010**) 9872-9890.
34. Stephen N. Mailu, Tesfaye Waryo, Peter M. Ndangili, Fanelwa R. Ngece, Abd A. Baleg, Priscilla G. Baker, Emmanuel I. Iwuoha, Determination of Anthracene on Ag-Au Alloy Nanoparticles/Overoxidized-Polypyrrole Composite Modified Glassy Carbon electrodes. *Sensors* 10 (**2010**) 9449-9465.
35. Jasmina Martinovic, Juanita Van Wyk, Selwyn Mapolie, Nazim Jahed, Priscilla Baker, Emmanuel Iwuoha. Electrochemical and spectroscopic properties of dendritic cobalto-salicylaldehyde DNA biosensor. *Electrochimica Acta* 55 (**2010**) 4296-4302.
36. Michael Klink, Richard Akinyeye, Vernon Somerset, Mantoa Sekota, Priscilla Baker, Emmanuel Iwuoha. Electrochemical and spectroscopic dynamics of nanostructured polynuclear sulphonic acid-doped poly(2, 5-dimethoxyaniline). In A. Al-Ahmed (Ed). Current Application of Polymer and Nano Materials. *Materials Science Forum* 657 (**2010**) 231-248.
37. Munkombwe Muchindu, Tesfaye Waryo, Omotayo Arotiba, Ewa Kazimierska, Aoife Morrin, Anthony J. Killard, Malcolm R. Smyth, Nazeem Jahed, Boitumelo Kgarebe, Priscilla G.L. Baker, Emmanuel I. Iwuoha. Electrochemical nitrite nanosensor developed with amine- and sulphate-functionalised polystyrene latex beads self-assembled on polyaniline. *Electrochimica Acta* 55 (**2010**) 4274-4280.
38. Omotayo A. Arotiba, Joseph H. Owino, Priscilla G. Baker, Emmanuel I. Iwuoha. Electrochemical impedimetry of electrodeposited poly(propylene imine) dendrimer monolayer. *Journal of Electroanalytical Chemistry* 638 (**2010**) 287-292.
39. Vivian D. van Wyk, Priscilla, G.L. Baker, Tesfaye Waryo, Emmanuel I. Iwuoha, Electrochemical evaluation of a novel BDD material for application as potential electrochemical capacitor material. *Analytical letters* 44(11), **2011**, 2005-2018
40. Overoxidized polypyrrole incorporated with Gold nanoparticles as platform for impedimetric anti-transglutaminase immunosensor. Natasha. West, Priscilla Baker, Omotayo Arotiba, Nicolette Hendricks, Abd A Baleg. Tesfaye Waryo, Fanelwa R. Ngece, Emmanuel I. Iwuoha. *Analytical letters* 44(11), **2011**, 1956-1966.
41. Synthesis and characterization of poly(propylene imine) dendrimer – Polypyrrole conducting star copolymer Abd Almonam A. Baleg, Nazeem M. Jahed, Omotayo A. Arotiba, Stephen N. Mailu, Nicolette R. Hendricks, Priscilla G. Baker , Emmanuel I. Iwuoha. *Journal of Electroanalytical Chemistry* 652 (**2011**) 18–25

42. Milua Masikini, Tesfaye T Waryo, Lundi Ngqongwa, Priscilla G Baker, Emmanuel I Iwuoha. Hydroxy-iron/ β -cyclodextrin-film amperometric sensor for the endocrine disruptors substance Bisphenol A in aqueous medium with reduced fouling effects. *Analytical letters* 44(11), **2011**, 2047-2060.
43. Munkombwe Muchindu, Emmanuel Iwuoha, Edmund Pool, Natasha West, Nazeem Jahed, Priscilla Baker, Tesfaye Waryo, Avril Williams. Electrochemical ochratoxin A immunosensor system developed on sulphonated polyaniline. *Electroanalysis* 23(1)**2011**, 122-128.
44. 3-Mercaptopropionic acid capped ZnSe quantum dot-cytochrome P450 3A4 enzyme biotransducer for 17 β -estradiol. Peter M. Ndangili, Abongile M. Jijana, Priscilla G.L. Baker, Emmanuel I. Iwuoha. **Journal of Electroanalytical Chemistry**, 653 (1-2), **2011**, 67-74
45. Faiza J. Iftikhar, Priscilla G.L Baker, Abdul M. Baleg, Peter M. Ndangili, Stephen N. Mailu, Emmanuel I.Iwuoha (2011) Modulation of the interfacial electrochemistry of surfactant-functionalised polypyrrole chemical sensor systems, *Electrochimica Acta*, 56 (14) **2011**, 5214-5221.
46. Peter M. Ndangili, Abongile N. Jijana, Rasaanq A. Olowu, Stephen N. Mailu, Fanelwa R. Ngece, Avril Williams, Tesfaye T. Waryo, Priscilla G.L. Baker, Emmanuel I. Iwuoha. Impedimetric Response of a Label-Free Genosensor Prepared on a 3-Mercaptopropionic Acid Capped Gallium Selenide Nanocrystal Modified Gold Electrode, *International Journal of Electrochemical Science*, 6, **2011**, 1438 – 1453.
47. Rachel F Ngece, Natasha West, Peter M Ndangili, Rasaanq A Olowu, Avril Williams, Nicolette Hendricks, Stephen Mailu, Priscilla Baker, Emmanuel Iwuoha. A silver Nanoparticle/Poly (8-Anilino-1-Naphthalene Sulphonic Acid) Bioelectrochemical Biosensor System for the Analytical Determination of Ethambutol., *International Journal of Electrochemical Science*, 6, **2011**, 1820-1834.
48. Rasaanq A Olowu, Avril Williams, Peter M Ndangili, Rachel F Ngece, Stephen N. Mailu, Priscilla Baker, Emmanuel Iwuoha. Impedimetry and microscopy of electrosynthetic poly(propylene thiophenimine)-copoly(3,4 ethylene dioxathiophene) dendritic star copolymer, *International Journal of Electrochemical Science*, 6 (6), **2011**, 1855-1870.
49. Xolile Fuku, Faiza Iftikhar, Euodia Hess, Emmanuel Iwuoha, Priscilla Baker. Cytochrome c biosensor for determination of trace levels of cyanide and arsenic compounds. *Analytica Chimica Acta*, Volume 730, 12 June **2012**, Pages 49–59.
50. Metal Nanoparticle Modified Polysulfone Membranes for Use in Wastewater Treatment: A Critical Review Heidi Lynn Richards, Priscilla G. L. Baker, Emmanuel Iwuoha. *Journal of Surface Engineered Materials and Advanced Technology*, Volume 2 (3A), July **2012**, p183-193.
51. Conducting polyamic acid membranes for sensing and site-directed immobilization of proteins. Noah, Naumih M.; Omole, Marcell; Stern, Samantha; Zhang, Siyi; Sadik, Omowunmi A.; Hess, Euodia H.; Martinovic, Jasmina; Baker, Priscilla G.L.; Iwuoha, Emmanuel I. *Analytical Biochemistry* vol. 428 issue 1 September 1, **2012**. p. 54-63.
52. Electronics of Conjugated Polymers (I): Polyaniline. Kerileng M. Molapo, Peter M. Ndangili, Rachel F. Ajayi, Gcineka Mbambisa, Stephen M. Mailu, Njagi Njomo, Milua Masikini, Priscilla Baker and Emmanuel I. Iwuoha. *Int. J. Electrochem. Sci.*, 7 (**2012**) 11859 – 11875.
53. 3-Mercaptopropionic acid capped Ga₂Se₃nanocrystal-CYP3A4 biosensor for the determination of 17-alpha-ethinyl estradiol in water. E. Nxusani, P.M. Ndangili, R.A. Olowu, A. N. Jijana, T. Waryo, N. Jahed, R.F. Ajayi, P. Baker and E. Iwuoha. *Nano Hybrids* (1) p1-2, **2012**
54. Development of L-phenylalanine biosensor and its application to real sample analysis. Z A Mangombo, D Key, E I Iwuoha, P G L Baker. *Insciencas J. (Sensors)* **2013**, 3(1), 1-23.

55. Highly sensitive gold overoxidized polypyrrole nanocomposite immunosensor for antitransglutaminase antibody. Natasha West, Priscilla Baker, Tesfaye Waryo, Fanelwa R Ngece, Emmanuel I Iwuoha, Ciara O'Sullivan, Ioanis Katakis. *Journal of Bioactive and Compatible Polymers* 28(2), p.167–177, **2013**
56. Few-layer Binder Free Graphene Modified Mercury Film Electrode for Trace Metal Analysis by Square Wave Anodic Stripping Voltammetry. Salma Zbeda, Keagan Pokpas, Salam Titinchi, Nazeem Jahed, Priscilla G. Baker and Emmanuel I. Iwuoha. *Int. J. Electrochem. Sci.*, 8 (**2013**) 11125 – 11141.
57. Baker, Priscilla GL, Nazeem Jahed, Tesfaye Waryoa, Kenneth I. Ozoernena, and Njagi Njomoa. "Electrokinetic and Impedimetric Dynamics of FeCo-Nanoparticles on Glassy Carbon Electrode." *Nano Hybrids* Vol. 3 (**2013**) 1-23.
58. Polysulfone Nanocomposite Membranes with improved hydrophilicity. Lisebo Phelane, Francis N. Muya, Heidi L. Richards, Priscilla G.L. Baker, Emmanuel I Iwuoha. *Electrochimica Acta* 128, p. 326–335 (**2014**).
59. Graphenated tantalum (IV) oxide and poly (4-styrene sulphonic acid)-doped polyaniline nanocomposite as cathode material in an electrochemical capacitor. Njagi Njomo, Tesfaye Waryo, Milua Masikini, Chinwe O. Ikpo, Stephen Mailu, Oluwakemi Tovide, Natasha Ross, Avril Williams, Nolubabalo Matinise, Christopher E. Sunday, Noluthando Mayedwa, Priscilla G.L. Baker, Kenneth I. Ozoemena, Emmanuel I. Iwuoha. *Electrochimica Acta* 28, p. 226-237 (**2014**).
60. Constitution of novel polyamic acid/polypyrrole composite films by in-situ electropolymerization. EH Hess, T Waryo, OA Sadik, EI Iwuoha, PGL Baker *Electrochimica Acta* 128, p439–447 (**2014**).
61. Modulation of the matrix effect of nafion on tris(bipyridine) ruthenium(II) electrochemical probes by functionalisation with 4-nitrophenylazo graphene-gold nanocomposite Christopher E. Sunday, Mawethu Bilibana, Sinazo Qakala, Oluwakemi Tovide, Kerileng M. Molapo, Gertrude Fomo, Chinwe O. Ikpo, Tesfaye Waryo, Gcineka Mbambisa, Bulelwa Mpushe, Avril Williams, Priscilla G.L. Baker, Sibulelo Vilakazi, Robert Tshikhudo, Emmanuel I. Iwuoha. *Electrochimica Acta* 128 , p.128–137 **2014**,
62. Polyanilino-Carbon Nanotubes Derivatized Cytochrome P450 2E1 Nanobiosensor for the Determination of Pyrazinamide Anti-Tuberculosis Drugs. Unathi Sidwaba, Rachel F. Ajayi, Usisipho Feleni, Samantha Douman, Priscilla G.L. Baker, Sibulelo L. Vilakazi, Robert Tshikhudo, Emmanuel I. Iwuoha. *Nano Hybrids* (6) p.59-73, **2014**.
63. A nanosensor system based on disuccinimydyl–CYP2E1 for amperometric detection of the anti-tuberculosis drug, pyrazinamide International. R. F. Ajayi, U. Sidwaba, U. Feleni, S. F. Douman, E. Nxusani, L. Wilson, C. Rassie, O. Tovide, P. G. L. Baker, S. L. Vilakazi, R. Tshikhudo, E. I. Iwuoha. *Journal of Medical, Pharmaceutical Science and Engineering* 8 (2), p.1-5, **2014**.
64. Supramolecular Amperometric Immunosensor for Detection of Human Chorionic Gonadotropin. Mayreli Ortiz, Lindsay Wilson, Mary L. Botero, Priscilla Baker, Emmanuel Iwuoha, Alex Fragoso, Ciara K. O Sullivan. *Electroanalysis* 26, 1481 – 1487, **2014**.
65. Oluwakemi Tovide, Nazeem Jahed, Christopher E. Sunday, Keagan Pokpas, Rachel F. Ajayi, Hlamulo R. Makelane, Kerileng M. Molapo, Suru V. John, Priscilla G. Baker, Emmanuel I. Iwuoha. Electro-oxidation of anthracene on polyanilino-graphene composite electrode. *Sensors and Actuators B* 205, **2014**, 184–192.
66. Self-Assembled Monolayer of Cyclopentadienyl Ruthenium Thiolate Schiff Base-on-Gold, for Amperometric Detection of H₂O₂. Ticha, L. A., Baker, P. G., Abbo, H. S., Titinchi, S. J., & Iwuoha, E. I. *Int. J. Electrochem. Sci.*, 9, **2014**, 7335-7350.

67. Graphenated polyaniline-doped tungsten oxide nanocomposite sensor for real time determination of phenanthrene. Tovide, Oluwakemi, Nazeem Jahed, Nurali Mohamed, Ezo Nxusani, Christopher E. Sunday, Abebaw Tsegaye, Rachel F. Ajayi, PGL Baker, E Iwuoha. *Electrochimica Acta* 128, **2014**, 138-148.
68. A Fumonisin Immunosensor Based on Polyaniline-Carbon Nanotubes Doped with Palladium Telluride Quantum Dots. Masikini, M., Mailu, S. N., Tsegaye, A., Njomo, N., Molapo, K. M., Ikpo, C. O., & Iwuoha, E. I. *Sensors*, 15(1), **2014**, 529-546.
69. Synthesis and Characterization of Polysulfone Hydrogels. Francis N. Muya, Lisebo Phelane, Priscilla G. L. Baker*, Emmanuel I. Iwuoha; *Journal of Surface Engineered Materials and Advanced Technology*, **2014**, 4, 227-236
70. Actuation Behaviour of a Derivatized Pyrrole Accordion Type Polymer. Meryck Ward, Shanielle Botha, Emmanuel Iwuoha, Priscilla Baker. *International Journal of Electrochemical Science* 9 (**2014**) 4776 - 4792
71. Application on Gold Nanoparticles-Dotted 4-Nitrophenylazo Graphene in a Label-Free Impedimetric Deoxyribose Immunosensor. Sunday, C. E., Masikini, M., Wilson, L., Rassie, C., Waryo, T., Baker, P. G., Iwuoha, E. I. *Sensors*, 15(2), **2015** 3854-3871.
72. Environmental remediation of heavy metal ions from aqueous solution through hydrogel adsorption: A critical review. Francis Ntumba Muya, Christopher Sunday, Priscilla Baker, Emmanuel Iwuoha. *Water Science and Technology* (Available online 14 November 2015, DOI 10.2166/wst.2015.567
73. Polypyrrole Derivatives in the Design of Electrochemically Driven Actuators. Meryck Ward, Priscilla Baker, Emmanuel Iwuoha, Pierre-Henri Aubert and Cedric Plesse; *Mini Reviews in Organic Chemistry* 12(5) **2015**: 414 – 423.
74. Organic Clathrate Compounds as Suitable Transducers in Electrochemical Sensing. Nohako, K. L., Baker, P. G., Iwuoha, E. I. *Int. J. Electrochem. Sci.*, 10 (2015) 6959-6974.
75. Microscopy and Electroanalysis of a First Generation Copperpoly(propyleneimine) Metallodendrimer System. Candice Rassie, Juanita van Wyk, Lindsay Wilson, Hlamulo R. Makelane, Usisipho Feleni, Unathi Sidwaba, Selwyn Mapolie, Priscilla Baker, Emmanuel Iwuoha. *Int. J. Electrochem. Sci.*, 10 (**2015**) 432 – 444
76. Aptameric Recognition-Modulated Electroactivity of Poly(4-Styrenesulfonic Acid)-Doped Polyaniline Films for Single-Shot Detection of Tetrodotoxin. Gertrude Fomo, Tesfaye T. Waryo, Christopher E. Sunday, Abd A. Baleg, Priscilla G. Baker and Emmanuel I. Iwuoha. *Sensors* 2015, 15, 22547-22560.
77. A Fumonisin Immunosensor Based on Polyaniline-Carbon Nanotubes Doped with Palladium Telluride Quantum Dots. Masikini, M., Mailu, S. N., Abebaw Tsegaye, Njagi Njomo, Kerileng M. Molapo, Chinwe O. Ikpo, Christopher Edozie Sunday, Candice Rassie, Lindsay Wilson, Priscilla G. L. Baker and Emmanuel I. Iwuoha. *Sensors* 2015, 15, 529-546.
78. AC voltammetric transductions and sensor application of a novel dendritic poly(propylene thiophenimine)-co-poly(3-hexylthiophene) star co-polymer. Hlamulo R. Makelane, Suru V. John, Tesfaye T. Waryo, Abd Baleg, Noluthando Mayedwa, Candice Rassie, Lindsay Wilson, Priscilla Baker, Emmanuel I. Iwuoha. *Sensors and Actuators B: Chemical* 227 (2016) 320–327.
79. Non-enzymatic polyamic acid sensors for hydrogen peroxide detection. Zamfir, L. G., Rotariu, L., Marinescu, V. E., Simelane, X. T., Baker, P. G., Iwuoha, E. I., Bala, C. *Sensors and Actuators B: Chemical*, 226 (2016), 525-533.

80. Electrochemical Transduction at Modified Boron Doped Diamond Interfaces. Lisebo Phelane, Siyabulela Hamnca, Priscilla Gloria Lorraine Baker, Emmanuel Iheanyichukwu Iwuoha. *Journal of Nano Research* 2016 (44), p.51-62
81. Spectro-Electrochemical of Detection Anthracene at Electrodeposited Polyamic Acid Thin Films. Xolani Terrance Ngema, Meryk Ward, Siyabulela Hamnca, Priscilla Gloria Lorraine Baker, Emmanuel Iheanyichukwu Iwuoha. *Journal of Nano Research* 2016 (44) p63-78.
82. Sensory Properties of Polysulfone Hydrogel for Electro-Analytical Profiling of Vanadium and Selenium in Aqueous Solutions. Francis Ntumba Muya, Xolani Terrance Ngema, Priscilla Gloria Lorraine Baker, Emmanuel Iheanyichukwu Iwuoha. *Journal of Nano Research* 2016 (44) p142-157.
83. Hamnca S., Phelane L., Iwuoha E., Baker P. Electrochemical Determination of Neomycin and Norfloxacin at a Novel Polymer Nanocomposite Electrode in Aqueous Solution. *Analytical Letters* 2017 50(12), pp1887-1896
84. Mekassa, B., Baker, P.G., Chandravanshi, B.S. and Tessema, M. Synthesis, characterization, and preparation of nickel nanoparticles decorated electrochemically reduced graphene oxide modified electrode for electrochemical sensing of diclofenac. *Journal of Solid State Electrochemistry*, 2018 22(11), pp.3607-3619.
85. Ngema, X.T., Baker, P., Ajayi, F., Aubert, P.H. and Banet, P. . Polyamic acid (PAA) immobilized on glassy carbon electrode (GCE) as an electrochemical platform for the sensing of tuberculosis (TB) antibodies and hydrogen peroxide determination. *Analytical Letters*, 2019 pp.1-20.
86. Mekassa, B., Baker, P.G., Chandravanshi, B.S. and Tessema, M. Sensitive electrochemical determination of ethambutol in pharmaceutical formulation and human urine at nickel nanoparticles/electrochemically reduced graphene oxide modified electrode. *Bulletin of the Chemical Society of Ethiopia*, 2019 33(2), pp.215-228.
87. Phelane, L., Gouveia-Caridade, C., Barsan, M.M., Baker, P.G., Brett, C.M. and Iwuoha, E.I. Electrochemical Determination of Tyrosine using a Novel Tyrosinase Multi-Walled Carbon Nanotube (MWCNT) Polysulfone Modified Glassy Carbon Electrode (GCE). *Analytical Letters*, 2019 pp.1-14.
88. Masikini, M., Ghica, M.E., Baker, P.G., Iwuoha, E.I. and Brett, C.M. Electrochemical Sensor Based on Multi-walled Carbon Nanotube/Gold Nanoparticle Modified Glassy Carbon Electrode for Detection of Estradiol in Environmental Samples. *Electroanalysis* 2019.

Chapters in books:

1. Electrocatalytic sensor applications of nanostructured polypyrroles and polythiophenes. Richard Akinyeye, Immaculate Michira, Shanielle Botha, Priscilla Baker and Emmanuel Iwuoha. *Recent Advances in Analytical Electrochemistry*, 2007: 99-136 ISBN: 978-81-7895-274-1. Chapter 4, Edited by: Kenneth I. Ozoemena
2. Anthracene Sulfonic Acid-Doped Polyanilines: Electrodynamics and Application as Amperometric Peroxide Biosensor. Immaculate N. Michira, M. Klink, R. O. Akinyeye, V. Somerset, M. Sekota, A. Al-Ahmed, P. G. L Baker, Emmanuel I. Iwuoha. *Recent Advances in Analytical Electrochemistry*, 2007: 137-166 ISBN: 978-81-7895-274-1. Chapter 5, Edited by: Kenneth I. Ozoemena
3. Electrochemical impedance spectroscopy of transition metal doped tin oxide thin film materials as potential oxidative catalysts. PGL Baker, AM Crouch, RD Sanderson. . *Recent Advances in Analytical Electrochemistry*, 2007: 279-307 ISBN: 978-81-7895-274-1. Chapter 10, Edited by: Kenneth I. Ozoemena.

4. Amperometric Sensors: Emmanuel Iheanyichukwu Iwuoha, Amir Al-Ahmed, Mantoa Sekota, Tesfaye Waryo, Priscilla Baker. *Encyclopedia of Supramolecular Chemistry*, p1-18, Taylor & Francis (2007).
5. "Sensors and Sensor Technology" Special issue *Electrochimica Acta* 55 (14) 30 May 2010. Proceedings from 1st International symposium on Electrochemistry, 9-11 July 2008, Bellville, South Africa. PGL Baker (conference chairperson and special issue Guest Editor).
6. Vernon Somerset, Priscilla Baker, Emmanuel Iwuoha. Mercaptobenzothiazole-on-Gold Organic Phase Biosensor Systems: Thick-Film Biosensors for Organophosphate and Carbamate Pesticide Determination. In V.S. Somerset (Ed.), *Intelligent and Biosensors*, INTECH, Croatia, 2010, Chapter 9, pp. 185-204.
7. Rachel Ngece, Nicolette Hendricks, Natasha West, Peter Ndangili, Abngile Jijana, Stephen Mailu, Tesfaye Waryo, Priscilla Baker, Emmanuel Iwuoha. A silver nanoparticles-poly (8-anilino-1 naphthalene sulphonic acid) bioelectrochemical sensor system for the determination of etham butol. *Biomedical applications of nanostructured material*, 263-268 (2010) Macmillan Publishers India Limited. Edited by V Rajendran, BHillbrands, P Prabu and KE Geckeler.
8. N West, E Iwuoha, C O'Sullivan, P Baker, T Waryo, M Muchindu, A Williams, R Olowu, R Ngece and N Hendricks. Polymeric nanocomposite immunosensor for the biomarker of gluten intolerance autoimmune disorder. , 269-274 (2010) Macmillan Publishers India Limited. Edited by V Rajendran, BHillbrands, P Prabu and KE Geckeler.

CONFERENCES AND TALKS: (2005-)

1. Akinyeye R, Iwuoha E, Baker PGL. *Electrochemical Preparation and Characterisation of Novel Polypyrrole Conductive Polymers*. 8th IUPAC Conference on Macromolecules and materials Science. 4-9 June 2005, Flic en Flac, Mauritius.
2. Akinyeye R, Iwuoha E, Baker PGL. *Interfacial Electrochemistry of Modified Conductive Polymer Sensor Material*. Instrumental methods of analysis conference (IMA2005) 6-12 October 2005, Crete, Greece.
3. Akinyeye R, Iwuoha E, Baker PGL. *Interfacial Electrochemistry of Modified Conductive Polymer Sensor Material*. Meeting of the Portuguese Chemical Society. 26 October 2005; Coimbra, Portugal.
4. Akinyeye R, Iwuoha E, Baker PGL. *Electrochemical characterisation of novel conductive polymers by Electrochemical Impedance Spectroscopy*. East and southern Africa Environmental Chemistry Workshop (ESAECW) and 6th Theoretical Chemistry workshop in Africa (TCWA), 4-10 December 2005; Windhoek, Namibia.
5. RO Akinyeye, I Michira, M Sekota, A Al Ahmed, R Khan, PGL Baker, D Tito, CMA Brett, M Kalaji and E Iwuoha. *Electrochemical synthesis and characterization of 1,2-Naphthaquinone-4-sulfonic acid doped polypyrrole*. 11th International conference ESEAC, Bordeaux, June 9-12, 2006
6. Baker, Priscilla; Michira, Immaculate; Akinyeye, Richard; Al-Ahmed, Amir; Sekota, Mantoa; Haile Michael, Alemu; Ngila, Jane-Catherine; Iwuoha, Emmanuel. *Electrokinetics of Anthracene Sulfonic Acid-Doped Polyaniline Biosensor for Diazinon*. 9th KAC, 2-4 November 2006, Marrakech, Morocco.
7. PGL Baker, M J Klink, I Michira, M Sekota, A Al Ahmed E Iwuoha. *Electrochemical evaluation of novel polyaniline nanomaterials and their suitability as electrocatalysts*. 38th Convention of SACI , 1-8 December 2006, Durban, South Africa.
8. Priscilla G.L. Baker, Joseph H. O. Owino, Anna Ignaszak, A. Al-Ahmed, Hailemichael Alemu, Jane Catherine Ngila, Emmanuel I. Iwuoha. *Synthesis and characterization of poly (2-hydroxyethyl methacrylate) (P-(HEMA))-polyaniline based hydrogel composites*. INORG007, 8-12 July 2007, Club Mykonos, South Africa.

9. Richard Akinyeye, Michael Klink, Amir-Al-Ahmed, Anna Ignaszak, Priscilla Baker and Emmanuel Iwuoha. Impedimetric Applications of nanostructured conducting 1, 2-naphthaquinone-4-sulphonated polypyrrole for the determination of benzidine and naphthalene. *ICMAT, 1-7 July 2007, Singapore.*
10. M.S. Maoela, P.G.L. Baker*, E. Iwuoha*, W.T. Mabusela, A.Ignaszak, A. Al-Ahmed, T.T. Waryo. *Superoxide dismutase biosensor for the amperometric detection of antioxidants.* 58th Annual Meeting of the International Society of Electrochemistry, 9-14 September 2007, Bannf, CANADA.
11. Nicolette R. Hendricks, A. Ahmed, P. Baker, Emmanuel I. Iwuoha. *Amperometric CYP3A4 nanosensor system based on layer-by-layer assembly of polyaniline on carbon nanotube.* 6th ISE Spring meeting, Foz do Iguaco, Brazil – 16-19 March 2008
12. Priscilla Baker, Joseph Owino, Amir-Al-Ahmed, Tesfaye Waryo, Emmanuel Iwuoha. *Characterisation of poly (2-hydroxyethyl methacrylate) (P-(HEMA))-polyaniline based hydrogel composites and their use as innovative amperometric immunosensors.* Biosensors World Congress, 14-16 May 2008, Shanghai, China
13. **Invited speaker:** PGL.Baker , Z.A. Mangombo, T.T.Waryo, Amir Al-Ahmed, E.I.Iwuoha, D.L.Key *Electrochemical Impedance analysis of L-phenylalanine biosensor constructed on a conductive polymer modified Boron doped diamond platform .* 59th ISE meeting Seville, Spain, 7-11 September 2008.
14. Z.A. Mangombo, E.I.Iwuoha, D.L.Key, T.T.Waryo, Amir Al-Ahmed, PGL.Baker. Amperometric detection of L-phenylalanine using boron doped diamond electrode modified with polyaniline composite film. 19th European conference - Diamonds2008, 7-11 September 2008, Sitge Spain.
15. Z.A. Mangombo, T.T.Waryo, Amir Al-Ahmed, PGL.Baker* , E.I.Iwuoha *BDD-tyrosinase composite biosensor for the detection of L-phenylalanine.* 39th Convention of SACI , 1-8 December 2008, Stellenbosch, South Africa.
16. Synthesis and electrochemical modulation of the actuator properties of a polypyrrole directed phenazine derivative for implementation as a molecular hinge; Priscilla G L Baker, Shanielle Botha, and Emmanuel Iwuoha. ECHEMS Germany 7-9 June 2009.
17. **Invited speaker:** PGL.Baker, Z.A. Mangombo, T.T.Waryo, Amir Al-Ahmed, E.I.Iwuoha, D.L.Key. BDD-tyrosinase biosensor systems and the detection of L-phenylalanine in real samples;. Fourth International Workshop on "Biosensors for Food Safety and Environmental Monitoring" TANGIER-Morocco- 01st to 03rd October, 2009
18. PGL Baker, Z Mangombo, E Iwuoha, D Key. Impedance characteristics of novel BDD composites for electrical double-layer capacitors; 1st Bio-Sensing Technology Conference, 10-12 November 2009, Bristol, UK.
19. **Keynote:** Priscilla G L Baker, Euodia H Hess, Tesfaye Waryo, Emmanuel Iwuoha. End functionalisation of commercial BDD electrodes with Sulphur and Nitrogen functionality for improved immobilization of proteins; 4th international workshop on Surface Modification for Chemical and Biochemical Sensing (SMCBS). 6-10 November 2009, Krakow, Poland
20. Priscilla G L Baker , Faiza Iftikhar, and Emmanuel Iwuoha. Electrochemical modulation of the actuator properties of a polypyrrole directed phenazine derivative for implementation in controlled drug delivery 61st Annual meeting of the International Society for Electrochemistry; 26 September 2010 – 01 October 2010, Nice France.
21. **Member of the organizing committee & Keynote speaker:** PGL Baker, F Iftikhar, E Iwuoha. Polypyrrole directed phenazine derivatives as actuator systems for controlled drug delivery. Analitika 2010, 6-9 December 2010, Stellenbosch South Africa.
22. **Member of the organizing committee & Invited speaker:** PGL Baker, FJ Iftikhar, . T Waryo, EI Iwuoha. Modulation of the interfacial electrochemistry of surfactant-functionalised polypyrrole chemical sensor systems. 11th International Conference on Frontiers of Polymers and Advanced Materials, 22-27 May 2013, Pretoria South Africa.

23. Priscilla Baker, Euodia Hess, Emmanuel Iwuoha, Nontle Mniki, Tesfaye Waryo. Plasmonic properties of novel conductive polymer nanocomposites. 10th Spring Meeting, ISE : New approaches to nanostructuring electrodes for electroanalysis and energy storage, 15 - 18 April, 2012, Perth, Australia
24. Milua Masikini, Tesfaye Waryo, Priscilla Baker. Optoelectronic and Spectroscopic Properties of Orthorhombic PdTe Colloidal Quantum Dots. 63rd ISE Annual Meeting: Electrochemistry for Advanced Materials, Technologies and Instrumentation. 19-24 August, 2012, Prague, Czech Republic
25. **Plenary speaker:** PGL Baker. Electroanalytical Evaluation of Polymeric Nanocomposites and their application in advanced micro-sensing systems. International workshop: Recent Advances in Micro/Nano Sensors for Mono- and Multi-Target Assays”,; 19 -23 May 2013, Kyiv, Ukraine.
26. PGL Baker, HL Richards, L Phelane. Electrochemical evaluation of hydrophilic polysulfone membrane material performance. 64th Annual Meeting of the International Society of Electrochemistry: Electrochemistry for a New Era. 8 - 13 September 2013, Santiago de Querétaro, Mexico
27. **Keynote:** Electrochemical evaluation of hydrophilic polysulfone membrane material performance. Priscilla GL Baker, Lisebo Phelane, Francis Muya, Emmanuel Iwuoha 39th Convention of SACI , East London, 1-6 December 2013, East London, South Africa.
28. **Invited oral:** Electrochemistry of polysulfone nanocomposites. PGL Baker, F Muya, L Phelane. SPQ Analytika. Coimbra, Portugal 13-15 April 2014.
29. **Member of the organizing committee:** 14th Topical Meeting of the International Society of Electrochemistry (Electrochemistry for Life Science and Bioanalysis), 29 March to 1 April, 2014, Nanjing, China Nanjing, China.
30. **Oral:** Electrochemical protocols for measurement of polycyclic aromatic hydrocarbons in environmental samples. Priscilla G L Baker, Meryck Ward, Christopher Sunday, Milua Masikini, Stephen Mailu, Euodia Hess and Emmanuel Iwuoha. 66th Annual Meeting of the International Society of Electrochemistry, 4 – 9 October 2015, Taipei, Taiwan
31. **Invited oral:** Alkaline phosphatase functionalized polysulfone hydrogel for Vanadium detection. Francis Ntumba Muya, Lisebo Phelane, Priscilla Baker, Emmanuel Iwuoha. International Workshop on Biosensors, November 19-21, 2015, Erfoud (Morocco),
32. **Plenary:** Priscilla Baker. Electrochemistry at nanostructured semi-conductive interfaces for real time analytical solutions. 9th Kenyan Chemical Society conference held at United States International University, Nairobi Kenya from 9-12 May 2017.
33. **Keynote:** Priscilla Baker. New materials for new frontiers – an electrochemical perspective. Inorganic 2017 conference in 25-29 June 2017, Arabella golf estate, Hermanus, South Africa.
34. **Plenary lecture: 4th International Symposium on Electrochemistry, April 2018 University of Johannesburg.**
35. **ISE Bologna, Italy. August –September 2018. invited**
36. **ISE Durban South Africa 04-09 August 2019**
37. **Invited lecture: 5th International Symposium on Electrochemistry, 11-14 August 2019. University of Johannesburg the Western Cape.**
- 38.