

CURRICULUM VITAE

AYANTHI N. NAVARATNE

Date of Birth : March 19, 1962
Sex : Female
Nationality : Sri Lankan

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Department of Chemistry
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University of Peradeniya
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SRI LANKA

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Education:

- 1992 Ph.D. in Analytical Chemistry (Bioelectroanalytical Chemistry)
University of Hawaii at Manoa, Honolulu, Hawaii, USA
Dissertation title: Construction and Characterization of Novel Amperometric Plant
Tissue-Based Biosensors
Research Advisor: Prof. Garry A. Rechnitz, Distinguished Professor of Chemistry and
Biotechnology
- 1989 M.S. in Inorganic Chemistry (Bioinorganic Chemistry)
University of Hawaii at Manoa, Honolulu, Hawaii, USA
Thesis title: Monmooxygenase Reactions of Cytochrome P-450 and Model Systems
Research Advisor: Prof. Douglas P. Root
- 1984 B.Sc.(special)- 2nd class honors (upper division) in Chemistry, Subsidiary subject:
Botany
University of Peradeniya, Peradeniya, Sri Lanka
Project: Chemical Investigation of the Tuber of *Colocasia esculenta* for Inorganic
Constituents.

Theoretical background in Chemistry (Course work at postgraduate level):

Methods of instrumental analysis, Biosensors, Electroanalytical chemistry, Organometallic
chemistry, Main group chemistry and solid state chemistry, Molecular spectroscopy,
Physical organic chemistry, Enzymatic reaction mechanisms, Professional aspects of
chemistry: Ethical issues in science and funding of scientific research, Analytical seminar

Topics in the area of specialization (Analytical Chemistry)

Advanced aqueous equilibria, Statistics and chemometrics, Gas chromatography, High
performance liquid chromatography, Analytical atomic spectroscopy, Analytical
molecular spectroscopy, Nuclear and radiochemical analysis, Mass spectroscopy.

Employment:

1. Associate professor of Chemistry, Department of Chemistry, University of Peradeniya, Sri Lanka,
December, 2008 - Present
2. Senior Lecturer in Chemistry, Department of Chemistry, University of Peradeniya, Sri Lanka. Dec 1996 –
2008.

3. Visiting Lecturer in Analytical Chemistry, Environmental Science (1997 –Present), Chemical Ecology and Pesticide Chemistry (2000 only) and in Nanoscience and Nanotechnology (Since 2008) Postgraduate Institute of Science, Sri Lanka. 1997 – Present.
4. Visiting Lecturer, Department of Pharmacy (B.Pharm) , Faculty of Allied Health Sciences (FAHS), University of Peradeniya 2007 – 2009.
5. International Fellow, Stanford Research Institute (SRI) International, CA, USA. May 2001 – May 2003 (on leave from University of Peradeniya).
6. Senior Lecturer, Department of Chemistry, University of Kelaniya, Sri Lanka. Sept. 1993 – Dec 1996.
7. Temporary Lecturer, Department of Chemistry, University of Kelaniya, Sri Lanka. May 1993 – Sept. 1993
8. Research Fellow, Institute of Fundamental Studies, Kandy, Sri Lanka. January 1993 April 1993.
Lecturer, Department of Chemistry, University of Hawaii at Hilo, USA. August 1992 – Dec 1992.
9. Graduate Teaching Assistant, Department of Chemistry, University of Hawaii at Manoa, USA. Aug 1986 – July 1992
10. Temporary Demonstrator, Department of Chemistry, University of Peradeniya, Sri Lanka. Dec 1984 – August 1985

Teaching Experience

Department of Chemistry, University of Peradeniya & University of Kelaniya, Sri Lanka

B.Sc. General Degree Programme:

Fundamentals of chemistry, Analytical chemistry, Electrochemistry and electroanalytical chemistry, Applied electrochemistry, Chemical kinetics, Statistical thermodynamics, Nucleic acids, Separation techniques in analytical chemistry, Environmental chemistry, Laboratory courses in physical chemistry, Environmental chemistry and inorganic chemistry.

B.Sc. Special Degree Programme:

Electroanalytical chemistry, Analytical atomic spectroscopy, Separation techniques in analytical chemistry, Theoretical electrochemistry, Biochemistry (Analytical biochemistry, Bioinorganic chemistry and Nucleic acid chemistry), Chemistry of materials, Biosensors, Laboratory courses in quantitative and instrumental analysis, Inorganic chemistry.

Department of Pharmacy, Faculty of Allied Health Sciences: Physical Pharmacy I and II, Pharmaceutical Chemistry (Analytical), Pharmaceutical Chemistry (Instrumentation)

Supervision of research and seminars:

- Undergraduate level: Chemistry special final year students
- Postgraduate level: M.Sc. candidates in Analytical chemistry, Environmental science and Science Education
- Research supervision for Ph.D. and M.Phil. students

Postgraduate level courses conducted by the Postgraduate Institute of Science, Sri Lanka

Analytical separations, Analytical sensors, Water Quality, Chemical ecology (Fate of pesticides), Environmental analytical chemistry and relevant laboratory courses, Nanobiosensors as diagnostics in health care.

Department of Chemistry, University of Hawaii, USA

Laboratory courses in elementary chemistry, general chemistry, quantitative analysis and physical chemis

Research Experience

SRI International, Menlo Park, CA, USA

Preparation and characterization of inorganic nanoparticles, Ball milling and Attritor operations, particle size analysis, Optical spectroscopic and Scanning Electron Microscopic characterization of nanoparticles, GC and GC-MS analysis, X-ray diffraction, Electroplating of nanoparticles, Preparation of corrosion resistant coatings with nanoparticles. Preparation of research reports for industrial clients.

University of Peradeniya and University of Kelaniya, Sri Lanka

Plant tissue-based biosensors and electrochemical sensors for the detection of pesticides and pesticide residues, Pesticide analysis by gas chromatography, evaluation of water quality parameters, Biosensors to monitor H₂O₂ in milk and important enzymes in tea processing in Sri Lanka.

University of Hawaii at Hilo, USA

Water analysis using ion chromatography and ion selective electrodes.

University of Hawaii at Manoa, USA

Construction of plant tissue-based biosensors, electroanalytical techniques: amperometry, voltammetry and potentiometry, flow injection analysis. UV/Vis spectroscopy, plant tissue culture techniques, use of genetically engineered plants in biosensor construction.

Porphyrin and metalloporphyrin synthesis, characterization of metalloporphyrin using voltammetry, coulometry and spectroscopy, nonaqueous electrochemistry of porphyrin catalysis, gas chromatographic analysis of porphyrin-catalysed reactions.

Awards, Fellowships and Honors

- 2001-2003: International Fellow, SRI (Stanford Research Institute) International, California USA
- Maxies exchange program, Japan, 2001(did not accept as SRI, USA was accepted).
- 2000 : Presidential Research Award for research of international recognition.
- 2001 :Young Scientist Award, National Science Foundation (NSF), Sri Lanka/Third World Academy of Science (TWAS), Italy
- 1989 : Excellence in Teaching Award, American Chemical Society, Hawaii Section,
- 1986 : Pacific Asian Scholarship, Graduate Division, University of Hawaii at Manoa, USA
- 1991 : Travel Grant Award, Graduate student organization, University of Hawaii at Manoa
- 2003 : UNESCO award to attend the workshop on Environmental Pollution”, India, 2003
- 2008: Fellowship from Royal Thai Government to attend training programme “On” Environmental pollutants and Health effects, Thailand, 2008.
- 2012: Presidential Research Award for research of international recognition.
- 2013: NSF Research Award for Scientific excellence, 2013.
- Travel Grant award from InRC and NSF to attend and present a paper for SETAC conference, Adelaide, Australia, 2014.

Patents: Patent No (Sri Lanka):. 14791

Ayanthi N. Navaratne and Sarath Bandara Abeysinghe: Title of the Invention: ANALYTICAL METHODOLOGY FOR MONITORING POLYPHENOL OXIDASE (PPO) AND PEROXIDASE ACTIVITY OF TEA LEAVES DURING TEA PROCESS.

Patents pending/Applied:

1. Pending patent number: **LK/P/1/17228, 2013**

Title of the invention: Water treatment method to eliminate aloin from *Aloe vera* leaf gel.

Inventors: Prof. Ayanthi N. Navaratne, Prof. D.C.K. Illeperuma, M.A.R.N. Wijesinghe

2 Pending patent number: **Lk/P/17751**

Title of the invention: Development of an anti-diabetic formula of *Aloe vera* leaf gel incorporated ready –to-serve beverage, Inventors: Prof. Ayanthi N. Navaratne, Prof. D.C.K. Illeperuma, M.A.R.N. Wijesinghe and Kamal Abdul Nizer

2. Pending patent number: **K/P/1/18511**

Title of the invention: An anti-diabetic formula of *Aloe vera*

(L.) *Burm. f. (Aloe barbadensiss* Miller) leaf gel incorporated ready-to-serve beverage with clinical evaluation on newly diagnosed type 2 diabetes mellitus. Inventors: Prof. Ayanthi N. Navaratne, Prof. D.C.K. Illeperuma, M.A.R.N. Wijesinghe and Kamal Abdul Nizer

Books and Monographs:

1. Ayanthi N. Navaratne (Ed) Analytical Separations, 2008 (To be published with Science Education Unit, Faculty of Science, University of Peradeniya.
2. Ayanthi N. Navaratne (Ed) Atmospheric Pollution, 1996.

Professional Activities

Committee member, Section E-2 (Chemical Sciences), Sri Lanka Association for the Advancement of Science (SLAAS), 1995.

Rapporteur, Section E-2, SLAAS, 1996.

Chief Examiner, General Certificate of Education (Advanced Level), 1995-1996, 2004 – 2006, 2008-2010.

Member, Organizing Committee (Rapporteur), Annual Sessions of SLAAS, University of Kelaniya, 1996.

Participant, International Seminar on Problems of Monitoring the Pesticide Residues in Exportable Commodities viz rice, tea, fish and minor crops, Colombo, Sri Lanka, 1996.

Participant, International workshop on Acid Rain Monitoring and Atmospheric Modelling, Kandy, Sri Lanka, 1999.

Participant, Seminar on Intellectual Property Rights, National Science Foundation, 2000.

Resource Person, Regional workshop on Biotechnology, University of Peradeniya, Sri Lanka, 1999.

Coordinator, Environmental Science (minor) Undergraduate Programme, Faculty of Science, 1997 – 2001.

Senior Student Counsellor, Faculty of Science, University of Peradeniya, 2000.

Resource Person, Poster session on Industry-Institute partnership conducted by Ministry of Science and Technology, BMICH, Sri Lanka, 2000 (Application of biosensors to monitor added H₂O₂ in milk in dairy industry).

Participant, Radiation safety training for radiation producing machine and sealed source users, Division of Environmental Health and Safety, SRI International, California, USA, 2003.

Participant, International workshop on Environmental Chemistry, Indian Institute of Chemical Technology (IICT), Hyderabad, India, 2003.

Resource Person, World Water Monitoring Day organized by Industrial Services Bureau, 2004, Kandy.

Moderator, Analytical and Inorganic question papers for undergraduates, University of Rajarata and University of Buttala, 2003 – 2004.

Participant, Workshop on Cleaner production as a tool for sustainable consumption and production organized by UNIDO and UNEP, 2005 and 2007.

Visiting Senior Lecturer and Module Coordinator (for, PM1224, PM 2124 and PM 1251), Department of Pharmacy, Faculty of Allied Health Sciences, University of Peradeniya, 2006-present.

Participant, Annual Seminar on Introducing New Pesticides, organized by Pesticides Registrars Office, Department of Agriculture, 2005-present

Participant, National coordinated herbicides testing programme for wet seeded rice, Rice Research and Development Institute, Batalagoda, 2005 – present.

Resource Person, Seminar organized by Committee on Agricultural and Research Policy (CARP), 2005.

Resource Person, Seminar on Trends and Advances in Electrochemical Technology, Institute of Chemistry March, 2006.

President, University Science Teachers Association - Peradeniya (USTA-P), 2005/2006.

General Secretary, Alumni Association of University of Peradeniya (AAUP), 2005/2006.

Resource Person, Training seminar on Trends and Advances in Electrochemical Technology, Institute of Chemistry, 2006.

Resource Person, Training seminar cum workshop on Pesticide Residue Analysis, Institute of Chemistry, 2006.

Participant, International Workshop (CHEMTECH), Institute of Chemistry, 2007.

Participant, 21st Asian Pacific Weed Science Society (APWSS) Conference, Colombo, Sri Lanka, 2007.

Participant, Cleaner Production Consultant Training Programme, National Cleaner Production Center and UNEP, Colombo, Sri Lanka, 2007.

Participant, Training course on Detection of Environmental Pollution and Monitoring of Health Effects, Chulabhorn Research Institute, Bangkok, Thailand, 2008.

Coordinator-M.Sc in Analytical Chemistry, Postgraduate Institute of Science, 2009 – present.

President – Elect : Section **E2 (Chemical Sciences)** Sri Lanka Association of the Advancement of Science (SLAAS), 2010.

Member, Organizing committee, Peradeniya University Research Sessions (PURSE), 2010.

President – Section **E-2, (Chemical Sciences)** Sri Lanka Association of the Advancement of Science (SLAAS), 2011.

Co-coordinator- Workshop on “Electrochemistry” November 03, 2011, Postgraduate Institute of Science

Committee member- Section E-2, (Chemical Sciences) Sri Lanka Association of the Advancement of Science (SLAAS), 2012.

Member: Editorial Board, Proceedings of international symposium on “water quality and human health: Challenges ahead, March, 2012, Postgraduate Institute of Science

Chairperson : Faculty subcommittee on the development of Special Science degree in Environmental Science, 2013 – present

Senate Member : Faculty representative to the Senate, 2013 – Feb, 2014.

Board Member: Board of Study in Environmental Science, PGIS, Univ. of Peradeniya, 2013-present

Board Member: Board of Study in Chemical Sciences, 2009 – present.

Resource person: National seminar on “Data handling, PGIS. UOP, March 2014.

Faculty Coordinator: HETC/QIG-4 Faculty coordinator, 2014 – 2015.

Grants Received

1. Plant tissue based biosensors for detection of herbicides, National Science Foundation (NSF), Sri Lanka, 1996-1999, RG/96/C/02 (Rs 3,52,000).
2. Development of electroanalytical and chromatographic methodologies for the detection of selected pesticides used in Sri Lanka, National Science Foundation, Sri Lanka, 1999-2002, RG/99/C/06, (Rs.13,35,360).
3. National Research Council of Sri Lanka, Investigation of accumulation and fate of pesticides in soil and in water, 2000, Grant No. 00-36 (Rs. 5148,000/= **Actual money was not given**).
4. Effect of pesticide exposure and nematode infection on the development of limb deformities in frogs, RG/2005/EB/2 2005. Rs. 262,000.
5. Investigation of environmental fate of some selected pesticides using electrochemical methods, 2005, Rs 595,000.
6. Development of health drink from medicinal plants of Sri Lanka, Grant from a private sector, Nature's Beauty Creations (PVT) Limited, Sri Lanka, 2010, Period (01/11/10 to 01/10/11) Rs 820,000/=
7. Development of an anti diabetic formula of a ready-to-serve beverage from Aloe vera L. Leaf gel, National Science Foundation, Technology Grant number TG/2012/Tech-D/11, 2012. Rs. Rs 422276/=
8. HETC-4 QIG grant for the faculty of Science for commercialization research, Activity Coordinator, Sub activity 2.1. Development of a *Aloe vera* gel based yoghurt, Rs. 18,000 00/=

Theses Supervised at Postgraduate Level

1. Vajira Karunaratne, **M.Sc.** (Analytical Chemistry), Pesticide residue analysis of chilli grown in Sri Lanka, 2000.
2. Nalaka Susantha, **M.Phil.** (Analytical Chemistry), Chemical and biochemical modification of electrode surfaces for environmentally and industrially important compounds, 2001.
3. A.M. Hafil, **M.Phil.** (Analytical Chemistry) Electroanalytical methods for pesticides and pesticide residue analysis, 2003.
4. Sisira Weliwagamage, **Ph.D.** (Chemistry) Construction and characterization of electrochemical sensors for some selected pesticides heavily used in Sri Lanka, 2003.
5. U.I. Rodrigo, **M.Phil.** (Analytical Chemistry) Electrochemical and gas chromatographic (GC and GC-MS) investigation of the environmental fate of some selected pesticides used in Sri Lanka, 2004.
6. H.P.S.S. Somasiri, **M.Sc.** (Analytical Chemistry) Effect of H₂O₂ on fat content of milk, 2005
7. A. Dharmadasa, **M.Sc.** (Science Education) Preparation of Study guide for the Man and the Environment Unit (Unit 15) of GCE A/L syllabus, 2006.
8. S. Suthakaran, **M.Sc.** (Analytical Chemistry) Investigation of lead (Pb) pollution in Pinga-Oya and comparison of analytical results of lead content using atomic absorption and UV/Vis spectrophotometry, 2006.
9. R.M.N. Rajapaksha, **M.Sc.** (Science Education) Effective ways of teaching periodicity, patterns and the properties of some elements, 2006.
10. N. Kadawatharachchi, **M.Phil.** (Food Science and Technology, Faculty of Agriculture & PGIA) Antioxidant activity of sapodilla fruit and the incorporation of the fruit into rice wine for value addition, 2006.
11. C. Wellala, **M.Phil.** (Food Science and Technology) Value addition to rice wine by incorporating fruits rich in antioxidants, 2006
12. C.B. Ekanayake, **M.Phil.** (Analytical Chemistry) Investigation of environmental fate of some selected pesticides using electrochemical methods, 2008.
13. Uthpala Jayawardene, **M.Phil.** (Zoological Sciences) Effect of pesticide exposure, nematode infection on the development of limb deformities in frogs, 2008.
14. M.B. Galkaduwa, **M.Sc.** (Analytical Chemistry) Evaluation of water quality of Girandurukotte where chronic kidney disease (CKD) is prevalent, 2008.

15. Amila Devasurendra **M.Sc.** (Analytical Chemistry), Evaluation of Pesticide and pesticide analysis in water samples of Giradurukotte where chronic kidney disease is prevalent , 2010.
16. M.M. Muzamil,**M.Sc.**, Science Education, 2011.
17. Geethi Hapuarachchi , **M.Sc.**, Analytical Chemistry,: Evaluation of heavy metal impurities in Nominie, Fast moving herbicide in Sri Lanka , 2014.
18. Thilina Rodrigo:**M.Sc.** Investigation of the effectiveness of natural water coagulant, *Strychnos potatorum* ("Igini") seeds on removal of drinking water pollutants, 2010.
19. Ruwani Wijesingha : **M.Phil** ,Development of health drinks from medicinal plants of Sri Lanka with minimum processing, **Research in progress**, November 2010 and onward.
20. U.G.C.R. Wimalasena, **M.Sc** in Analytical Chemistry, 2011.
21. Anoma Hewage **M.Sc** in , Science Education, 2011
22. H.T Welagethera, **M.Phil.** in Biochemistry, 2014
23. Thanuja Kulasooriya **M.Phil** in Analytical Chemistry , Research in Progress
24. P.R Lenora **M.Phil** in Science Education, Reserach in progress
25. Y.N. Rathnayake, **M.Sc** in Analytical Chemistry, 2014.
26. Aruni
27. Thusitha
- 28.Thilakaratne, 2014
29. Warnasekera,2014
30. Ranaweera, 2015
- 31.Erandi
- 32.pemasiri
33. Jayasinghe
- 34.Rajapaksha
- 35.Rajapaksha
- 36.Nara, M.phil in progress
- 37.Illangangedera,2015

Research Publications

1. A. Navaratne, M.S. Lin and G.A. Rechnitz, Eggplant based bioamperometric sensor for the detection of catechol, *Anal. Chim. Acta*, **237**: 107, 1990.
2. A. Navaratne and G.A. Rechnitz, An improved plant tissue based biosensor using tobacco callus cultures, *Anal. Chim. Acta*, **257**: 59, 1992.
3. A. Navaratne and G.A. Rechnitz, Use of tin oxide electrodes in flow injection analysis with application to plant tissue based biosensors, *Anal. Lett.*, **25**: 191, 1992.
4. A. Navaratne and N. Susantha, An electroanalytical sensor for the detection of Gamexone (paraquat), *Anal. Lett.*, **33**: 1491, 2000.
5. N. Priyantha, A. Navaratne, D. Jayawickrama and S. Weliwegamage, Electrochemical method for rapid screening of the activity of the 4-chloro-2-methylphenoxyacetic acid (MCPA), *Ceylon J. Sci.: Physical Sciences*, **9(2)**: 31-36, 2002.

6. N. Priyantha, A. Navaratne, D. Jayawickrama and U.S.K. Weliwegamage, Amperometric method for the determination of Propanil in simulated rice field environment , *J. Nat. Sci. Found. Sri Lanka*, **32(3&4)**:115-125, 2004.
7. N. Priyantha, A. Navaratne and S. Weliwegamage, Determination of MCPA through electrocatalysis of Manganese Species, *Int. J. Electrochem. Sci*, **2**, 433-443, 2007.
8. A. Navaratne, N. Priyantha and U.I. Rodrigo, Analytical methods for the investigation of reactivity of Propanil *J. Nat. Sci. Found. Sri Lanka*, **36(3)**, 199 -203, 2008.
9. N. Priyantha, A. Navaratne, C.B. Ekanayake, A. Ratnayake, Solvent extraction followed by ultraviolet detection for investigation of tetramethylthiuram disulfide at soil-water interface, *Int. J. Environ. Sci. Tech.* **5(4)**: 547-554, 2008.
10. R.S. Rajakaruna, P.M.J.R. Piyatissa, U.A. Jayawardena, A.N. Navaratne & P.H. Amerasinghe, Trematode infection induced malformations in the common hourglass treefrogs, *J. Zoology* **275**: 89-95, 2008.
11. A.N. Navaratne and U.S.K. Weliwegamage, Apple tissue based biosensor towards the determination of the fungicide thiram and electrochemical investigation of PPO (polyphenol oxidase) enzyme inhibition, *Ceylon J. Sci.: Physical Sciences*, **14**, 2008 pp 105 - 115.
12. A.N. Navaratne and S. Gamagethera, Electroanalytical detection of diphenyl ether herbicide Oxyfloxen, *J. Nat. Sci. Found. Sri Lanka*, 2012, to be submitted.
13. A. Navaratne and A.M. Hafil, Stearic acid modified glassy carbon electrode for the detection of Cyhalothrin. A Synthetic pyrethroid, *Ceylon J. Sci.: Physical Sciences*, **15**:57-64, 2009 .
14. Ayanthi Navaratne and Namal Priyantha “Chemically Modified Electrodes for Detection of Pesticides” in *Pesticides in Modern World –Trends in Pesticide Analysis*, Margarita Stoytcheva (Ed), In Tech, 2011.
15. N. Priyantha, A. Navaratne and C.B. Ekanayake, Modeling for desorption of Paraquat under dynamic conditions through soil packed columns, *Ads. Sci. & Technol.* (submitted).
16. N. Priyantha, A. Navaratne and C.B. Ekanayake, Fate of Propanil in simulated rice field environment through electrochemical detection of 3,4-DCA, *J. Nat. Sci. Found. Sri Lanka* (accepted).
17. A.N. Navaratne and D. Gunawardena, Uguressa (*Flacourtia ramontchii*) tissue modified amperometric biosensor for determination of catechin **15**, 49-55, 2009..
18. N. Kadawatha Arachchige, C.K. Ileperuma and A. Navaratne, Manilkara zapota L: Effect of blanching time and frozen storage on antioxidant activity and phenolic content (to be submitted to Journal of Agricultural and food chemistry).
19. A.N. Navaratne, N. Priyantha, K.P.Imaduwege, C.B. Ekanayake and A. Abeysekara: Investigation of fate of Paraquat in Sri Lankan soil types through amperometric detection of residual Paraquat in a simulated rice field environment . to be submitted
20. N. Priyantha, A. Navaratne and C.B. Ekanayake, Interaction of Glyphosate with poly crystalline platinum surfaces under applied potential conditions (to be submitted to *Electrochimica acta*).
21. A. Navaratne, A.M. Hafil and C.B. Ekanayake, Cost effective electroanalytical methodology for the detection of 3,4-dichloroaniline (3,4 DCA), *Ceylon Journal of Science, physical Sciences*, **15**, 57-64 (2009).
22. A.N. Navaratne and U.S.K. Weliwegamage, Apple tissue based biosensor towards determination of the fungicide thiram and electrochemical investigation of PPO enzyme inhibition, *Ceylon Journal of Science, (physical Science)*, **14**, 105 – 115 (2008).
23. A.N. Navaratne and D.C. Gunawardena, Uguressa (*Flacourtia romontchii*) tissue modified amperometric biosensor for the detection of catechin, *Ceylon Journal of Science, (physical Sciences)*, **15**, 49-55 (2009).
24. Ayanthi N. Navaratne, Promoting safe use of pesticides for maximization of food production, *Chemistry in Sri Lanka*, **28(1)**, 75- 79, 2011.
25. Chandima B. Ekanayake, Ayanthi N. Navaratne and Namal Priyantha, Determination of the fate of propanil in a simulated rice field environment through electrochemical detection of 3,4 DCA. *J. of . Nation. Sci. Foundation , Sri Lanka*, **39(3)**: 203-209, 2011.
26. Uthpala A. Jayawardene, Rupika S. Rajakaruna, Ayanthi N. Navaratne and Priyani H. Amerasinghe ,Toxicity of agrochemicals to Common Hourglass Tree Frog (*Polypedates cruciger*) *Int. J. of Agric. Biol.*, **12** 641-648, 2010
27. U.A. Jayawardene, A.N. Navaratne P.H. Amerasinghe and R.S. Rajakaruna, Acute and chronic toxicity of four commonly used agricultural pesticides on asian common Frog , *Bufo melanostictus* Schneider, . *J. of . Nation. Sci. Foundation , Sri Lanka*, **39(3)**: 267-276, 2011.

30. Ayanthi Navaratne and Namal Priyantha ,**Chemically modified electrodes for detection of pesticides in Pesticides in the modern world Modern – Trends in Pesticide Analysis. Margarita Stoytcheva, October, 2011, ISBN 978-953-307-437-5**
31. A. Navaratne, N.Priyantha and T.P.K. Kulasooriya Removal of heavy metal ions using rice husk and brick clay as adsorbents-Dynamic experiments, *Int. J of Earth Sci and Eng.* August 2013, p 807 – 811, 2013.
32. Harshi TW Weerakoon, Jamburagoda GS Ranasinghe, Ayanthi Navaratna, Ramaiah Sivakanesan, Kuda B Galketiya and Shanthini Rosairo, Can the type of gallstones be predicted with known possible risk factors?: a comparison between mixed cholesterol and black pigment stones? *BMC Gastroenterology* 2014, 14:88.
33. Harshi Thilanka Welegedara Weerakoon, Shirani Ranasinghe, Ayanthi Navaratne, Ramaiah Sivakanesan, Kuda B Galketiya and Shanthini Rosairo, Serum lipid concentrations in patients with cholesterol and pigment gallstones, *BMC Research notes*, 2014, 7:548.
- 34.
35. Harshi Thilanka Weerakoon, Ayanthi Navaratna, Shirani Ranasinghe, Ramaiah Sivakanesan, Kuda B Galketiya and Shanthini Rosairo, Chemical characterization of Gallstone: An approach to explore the aetiopathogenesis of gallstone disease in Sri Lanka, *PLoS ONE*, 10 (4) e⁰¹²¹⁵³⁷ doi, 10 /Jounal pone 0121537, 2015.

Manuscripts to be submitted.

A.N. Navaratne and S. Gamagethera, **Electroanalytical detection of diphenyl ether herbicide Oxyflofen,**

Manuscripts submitted

Research Communications

1. A. Navaratne and G.A. Rechnitz, Palnt tissue cultures for biosensing, *Proc. FACCS/ACS Conference*, Anaheim, California, USA, p 801 (1991).
2. A. Navaratne, Iron(III)tetraphenylporphyrinchloride [Fe(III)TPPCI] catalysed oxidation of 1,2-dichloroethylene, *Proc. Sri Lanka Assoc. Advt. Sci.*, Sri Lanka, p 422 (1995).
3. A. Navaratne, Reductive dehalogenation of 1,2-dichloroethylene catalysed by Co(II) tetraphenylporphyrin [Co(II)TPP], *Proc. Sri Lanka Assoc. Advt. Sci.*, Sri Lanka, p 421 (1995).
4. A. Navaratne, Sunstituent effects of fluorine on the nonaqueous chemistry of pentafluoroiron(III) tetraphenylporphyrinchloride, *Proc. Sri Lanka Assoc. Advt. Sci.*, Sri Lanka, p 198 (1996).
5. A. Navaratne and N. Susantha, Preliminary evaluation of water quality parameters of irrigation water located at “Ketawela Anicut” in Gampaha District, *Proc. Sri Lanka Assoc. Advt. Sci.*, Sri Lanka, p 199 (1996)
6. N. Priyantha and A. Navaratne, Electrochemical Sensors - An Overview in *Electrochemical Technology*, *Sri Lanka Association for the Advancement of Science*, Sri Lanka 13 (1996).
7. A. Navaratne, N. Susantha and S. Malavipathirana, Survey of electroactivity of some pesticides used in Sri Lanka, *Proc. Annual Res. Session*, Fac of Science, Univ of Peradeniya, Sri Lanka, p 14 (1997).
8. A. Navaratne and N. Susantha, An electroanalytical sensor for the detection of Gamexone (paraquat), *Proc. Sri Lanka Assoc. Advt. Sci.*, Sri Lanka, p 346 (1997).
9. A. Navaratne. M. Hafil and N. Susantha, Electroanalytical sensor for the detection of Grenade 5 EC (Cyhalothrin), *Proc. Sri Lanka Assoc. Advt. Sci.*, Sri Lanka, p 219 (1998).
10. A. Navaratne and N. Susantha, Carrot callus tissue based biosensor for the detection of hydrogen peroxide, *Proc. Annual Res. Session*, Univ of Peradeniya, Sri Lanka, p 714 (1998).

11. A. Navaratne and A.P. Aluthge, Evaluation of agriculturally important water quality parameters of “Ketawela Anicut” located in Gampaha District, *Proc. National Water Conference*, Colombo, Sri Lanka (1998).
12. A. Navaratne. and M. Hafil, Electroanalysis of Propanil (N-3,4- dichlorophenyl)propanamide, a chlorinated pesticide used in rice fields, *Proc. Annual Res. Session*, Univ of Peradeniya, Sri Lanka, p 101 (1999).
13. A. Navaratne, Y.P. Kollalpitiya and F. Kamaldeen, Detection of hydrogen peroxide in milk using a biosensor, *Chemistry in Sri Lanka*, **17(2)**, p 42 (2000).
14. V. Karunaratne, S. Tennakoon and A. Navaratne, Pesticide residue analysis in chilli grown in Sri Lanka, *Chemistry in Sri Lanka*, **17**, 35 (2000).
15. N.Priyantha, A. Navaratne, D.A. Jayawickrama and U.I. Rodrigo, Electrochemical methods for characterization of Cu(II) species in tea Leaves, *Proc. Annual Res. Session*, Univ of Peradeniya, Sri Lanka, p 37 (2000).
16. A. Navaratne and A.M. Hafil, Residue analysis of propanil (3,4-DPA) residues by electroanalytical methods, *Chemistry in Sri Lanka*, **18(2)**, p 39 (2001).
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