

CURRICULUM VITAE
S. ABRAHAM JOHN

Reader (Associate Professor) in Chemistry



Marital status : Married
Date of Birth : 22-05-1968

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Education

1985-1988 Bachelor of Science
Bharathidasan University, India

1988-1990 Master of Science
Bharathidasan University, India

1990-1991 Master of Philosophy
Madurai Kamaraj University, India

1991-1996 Doctor of Philosophy
Title: "*Studies on Molecules Absorbed into Nafion Coated Electrodes*"
Madurai Kamaraj University, India

1996-1999 Doctor of Engineering
Title: "*Electrochemical and in situ FT-IR Spectroscopic Studies of Asymmetric Alkylviologens on Electrode Surfaces*"
Tokyo Institute of Technology, Japan

1999-2001 JSPS Post-doctoral Fellow
Tokyo University of Agriculture and Technology
Japan

Appointments

Aug.20, 2001 to Aug.27, 2002	Lecturer, Department of Chemistry, The American College, Madurai
Aug.28, 2002-Aug.27, 2007	Lecturer, Department of Chemistry, Gandhigram Rural University, Gandhigram, Dindigul
Aug.10, 2007 to till date	Reader (Ien), Gandhigram Rural University

Visits Abroad

1996-1999	Doctor of Engineering	Prof. Takeo Ohsaka Laboratory Department of Electronic Chemistry Tokyo Institute of Technology 4259 Nagatsuta, Yokohama Japan
1999-2001	Post-Doc	Prof. Noboru Oyama Laboratory Department of Applied Chemistry Tokyo University of Agri & Tech. Koganei, Tokyo Japan
June 2006-Nov.2007	Visiting Scientist	Professor Takamasa Sagara Lab Department of Applied Chemistry Nagasaki University Nagasaki, Japan
August 2008	Resource Person	HATTON, SRILANKA In-service Training for Plantation School Teachers

Teaching Experience

7 years

Teaching Physical Chemistry and Analytical Chemistry papers to undergraduate and postgraduate students

Current area of research

Chemically modified electrode surfaces: electrode surface modified with self-assembled monolayers of organosulfur compounds, nanostructured conducting polymers, sol-gel metal nanoparticles, phthalocyanines and

29. **Synthesis of mercaptothiadiazole functionalized gold nanoparticles and their self-assembly on Au substrates**
P. Kannan and S.A. John
Nanotechnology 19 (2008) 085602.
28. **Amino group position dependent orientation of self-assembled monomolecular films tetraaminophthalocyanatocobalt(II) on Au surfaces**
A. Sivanesan and S.A. John
Langmuir 24 (2008) 2186.
27. **Size dependent electrocatalytic activity of gold nanoparticles immobilized onto three dimensional sol-gel network**
P. Kalimuthu and S.A. John
J. Electroanal. Chem. 617 (2008) 164.
26. **Charge-transfer interaction of aromatic thiols with 2,3-dichloro-5,6-dicyano-p-benzoquinone: spectral and quantum mechanical studies**
P. Kalimuthu, A. Sivanesan and S.A. John
J. Phys. Chem. A 111 (2007) 12086.
25. **Determination of L-dopa using electropolymerized 3,3',3'',3'''-tetraaminophthalocyanatonicel(II) film on glassy carbon electrode**
A. Sivanesan and S.A. John
Biosensors and Bioelectronics 23 (2007) 708.
24. **Electrocatalytic oxidation of ascorbic acid using a single layer of gold nanoparticles immobilized on 1,6-hexanedithiol modified gold electrode**
A. Sivanesan, P. Kannan and S.A. John
Electrochim. Acta 52 (2007) 8118.
23. **Uric acid determination in the presence of ascorbic acid using self-assembled sub-monolayer of dimercaptothiadiazole-modified gold electrodes**
P. Kalimuthu, D. Suresh, S.A. John
Anal. Biochem. 357 (2006) 188
22. **Solvent dependent dimercaptothiadiazole monolayers on gold electrode for the simultaneous determination of uric acid and ascorbic acid**
P. Kalimuthu, S.A. John
Electrochem. Commun. 7 (2005) 1271
21. **Simultaneous determination of uric acid and ascorbic acid using glassy carbon electrodes in acetate buffer solution (Citation: 17)**
S.A. John
J. Electroanal. Chem. 579 (2005) 249
20. **Microenvironmental Effects on the Electrochemical and Photoelectrochemical Properties of Thionine Loaded Nafion Films**
S.A. John and R. Ramaraj
J. Electroanal. Chem. 561 (2004) 191.

19. **Studies on the interaction between underpotentially deposited copper and 2,5-dimercapto-1,3,4-thiadiazole adsorbed on gold electrode**
S.A. John, O. Hatozaki and N. Oyama
Studies in Surface Science and Catalysis (Elsevier) 132 (2001) 943.
18. **Multielectrochromic properties of methylene blue and phenosafranine dyes incorporated into Nafion film**
V. Ganesan, S.A. John and R. Ramaraj
J. Electroanal. Chem. 502 (2001) 167
17. **Alkanethiol Structure and Supporting Electrolyte Effects on the Electrochemical and in Situ Fourier Transform IR Spectral Properties of Asymmetric Alkyl Viologen on the Electrode Surface**
S.A. John, F. Kitamura, K. Tokuda and T. Ohsaka
Langmuir 16 (2000) 876
16. **Structural Effects on the Electrochemical and Spectroelectrochemical properties of Asymmetric Viologen on the Electrode Surface**
S.A. John, F. Kitamura, K. Tokuda and T. Ohsaka
J. Electroanal. Chem., 492 (2000) 137
15. **Can N-ethyl-N'-octadecyl Viologen Dimerize on Octadecanethiol-coated Gold Electrode?**
S.A. John, F. Kitamura, K. Tokuda and T. Ohsaka
Electrochim. Acta 45 (2000) 4041
14. **Electrochemical and EQCM Studies on the Assembly of Asymmetric Viologen on Bare and Alkanethiol-Coated Au Electrodes**
S.A. John and T. Ohsaka
J. Electroanal. Chem. 477 (1999) 52
13. **Stabilization of the Assemblies of Short Chain Asymmetric Viologens Using Alkanethiol-Coated Electrodes**
S.A. John and T. Ohsaka
Electrochim. Acta 45 (1999) 1127
12. **Use of Alkanethiol Coated Electrodes to Study the Importance of Water Content on the Electrochemical Behavior of N-Ethyl-N'-Octadecylviologen on the Electrode Surface**
S.A. John, F. Kitamura, N. Nanbu, K. Tokuda and T. Ohsaka
Langmuir 15 (1999) 3816
11. **A Monomer-Dimer Equilibrium in Self-Assembled Monolayers of N-Ethyl-N'-Octadecylviologen on the Electrode Surface. Influence of Water Content and Hexafluorophosphate Ion**
S.A. John, T. Okajima and T. Ohsaka
J. Electroanal. Chem. 466 (1999) 67

10. **Electrocatalytic Reduction of Dioxygen by the Assembly of Asymmetric Viologen on Gold Electrodes**
S.A. John and T. Ohsaka
J. Deuterium Sci. 8 (1999) 17
9. **Comparative Electrochemistry of Phenothiazine Dyes Incorporated into Nafion and Poly(styrenesulfonate) Films**
S.A. John and R. Ramaraj
Proc. Indian Acad. Sci. 110 (1998) 115
8. **Electrochemical Study on Monomer-Dimer Equilibria of a Series of Monolayers of Asymmetric Viologens on the Electrode Surface in the Presence of Hexafluorophosphate Ion**
S.A. John, H. Kasahara, T. Okajima, K. Tokuda and T. Ohsaka
J. Electroanal. Chem. 436 (1997) 267
7. **Regulation of Dye Assembly within Wet and Dry Nafion Films**
S.A. John and R. Ramaraj
J. Appl. Polym. Sci. 65 (1997) 777
6. **Electrochemical, In-Situ Spectroscopic Voltammetric and Electrochromic Studies of Phenosafranine in Nafion Film**
S.A. John and R. Ramaraj
J. Electroanal. Chem. 424 (1997) 49
5. **Electrochemical and Spectroelectrochemical Studies of Phenothiazine Dyes Immobilized in Nafion Films**
S.A. John and R. Ramaraj
Langmuir 12 (1996) 5689
4. **Role of Acidity on the Electrochemical Behavior of Prussian Blue at Nafion Coated Electrodes**
S.A. John and R. Ramaraj
Proc. Indian Acad. Sci. 107 (1995) 371
3. **Influence of Polymer Structure on the Electrochemistry of Phenothiazine Dyes Incorporated into Nafion Films**
S.A. John and R. Ramaraj
J. Chem. Soc. Faraday Trans. 90 (1994) 1241
2. **Photoelectrochemical Studies of Methylene Blue and Tris(2,2'-bipyridine)ruthenium(II) Molecules at Chemically Modified Electrodes**
S.A. John, K.V. Gobi and R. Ramaraj
Bull. Electrochem. 9 (1993) 269
1. **Photoinduced Electron Transfer Reactions at Methylene Blue Adsorbed Nafion and Clay Coated Electrodes**
S.A. John, K.V. Gobi, A. Ramasubbu and R. Ramaraj
Res. Chem. Intermedi. 18 (1992) 203

Books/Reviews

1. R. Ramaraj and S.A. John, **Photoelectrochemical Reactions at Membranes and Chemically Modified Electrodes In Photo/Electrochemistry: Photobiology in the Environment, Energy and Fuel (PE&P in EEF)**, S. Kaneco (Ed.), Research Signpost, Trivandrum, India, 2005
2. A. Sivanesan and S.A. John, **Gold Nanoparticles Modified Electrodes for Biosensors in Nanostructured Materials for Electrochemical Biosensors**, S.-M. Chen (Ed.), Nova Publishers, USA, 2008 (in press)

Selected Papers Presented at International/National Conferences/Seminar

1. Influence of Nafion film structure on the photophysical and photoelectrochemical properties of phenothiazine dyes bound to tetrabutylammonium ion-exchanged Nafion films
S.A. John and R. Ramaraj
Eleventh International Conference on Photochemical Conversion and Storage of Solar Energy, IPS 11, Bangalore, India, 1996
2. Electrochemical and EQCM Studies on SAMs of Asymmetric Viologens on the Electrode Surface
S.A. John, T. Okajima, K. Tokuda and T. Ohsaka
International Society of Electrochemistry, 49th Annual Meeting, Kitakyushu, Japan, 1998.
3. Selective Electrochemical Detection of Electroinactive Anion Using the Assembly of Asymmetric Viologen on the Electrode Surface
S.A. John, T. Okajima, K. Tokuda and T. Ohsaka
Joint International Meeting of Electrochemical Society, Honolulu, Hawaii, October, 1999.
4. Studies on the interaction between underpotentially deposited copper and 2,5-dimercapto-1,3,4-thiadiazole adsorbed on gold electrode
S.A. John, O. Hatozaki and N. Oyama
International Conference on Colloid and Interface Science, Arcadia Ichigaya, Tokyo, November 2000.
5. Self-assembled monolayers of 2,5-dimercapto-1,3,4-thiadiazole on underpotentially copper-deposited gold electrodes
S.A. John and N. Oyama
International Chemical Congress of Pacific Basin Societies (PACIFICHEM), Honolulu, Hawaii, December 2000.
6. Mediated Underpotential Deposition of Cu Using the Self-assembled Monolayers of Heterocyclic Thiol
S.A. John, O. Hatozaki and N. Oyama
Current Trends in Chemistry, Madurai Kamaraj University, July 2003

7. **Self-assembled monolayers of 4-hydroxythiophenol for the determination of ascorbic acid and dopamine**
K.S. Prasad and S.A. John
Eleventh National Convention of Electrochemists (NCE-11), Trichy, December 2003.
8. **2-amino-5-mercapto-1,3,4-thiadiazole modified Au electrode for the simultaneous determination of uric acid and ascorbic acid**
D. Suresh and S. A. John
Second Triennial International Conference on Electroanalytical Chemistry and Allied Topics, Donapaula, Goa, February 2004.
9. **Formation of formamidine disulfide monolayers on gold electrode by electrochemical oxidation of self-assembled thiourea**
P. Kalimuthu and S.A. John
CRSI seminar on recent Advances in Chemistry, Annamalai University, March 10-11, 2005.
10. **Hydrogen Bonded Multilayer Assemblies of Heteroaromatic Dithiol on Gold Electrode**
Palraj Kalimuthu, Palanisamy Kalimuthu and S.A. John
Annual IIT Madras Chemistry Symposium & The first Mid-year meeting of the Chemical Research Society of India, July 12-13, 2006, IIT-Madras, Chennai

List of Projects

Completed: 1

Title of the Project	Supporting Agency	Amount (Rs)	Period
Self-assembled Aromatic Thiol Monolayers and Mixed Monolayers for Biosensors	Department of Science & Technology (DST), New Delhi	9.55 lakhs	3 years (2003-2006)

Ongoing: 2

Title of the Project	Supporting Agency	Amount (Rs)	Period
Electrocatalytic and Electrochromic Properties of Bis(phthalocyaninato) Lanthanide Complexes Modified Electrodes	Council of Scientific & Industrial Research (CSIR), New Delhi	8 lakhs	3 years (2005-2008)
Electrodes Coated with Monolayer Protected Metal Particles for Electrocatalytic Applications	University Grants Commission, New Delhi	5.21 lakhs	3 years (2006-2009)

Research guidance

Number of Ph.D. students working: 6

- 1. Palanisamy Kalimuthu (UGC-SRF)**
- 2. A. Sivanesan (CSIR-SRF)**
- 3. Palraj Kalimuthu (CSIR-SRF)**
- 4. P. Kannan (CSIR-SRF)**
- 5. A. John Jeevagan**
- 6. B. Revin**

Membership in National/International Bodies

Life Member of Chemical Research Society of India (CRSI)

Life member of Indian Society of Electroanalytical Chemistry (ISEAC)

**Member of the Society for the Advance of Science & Technology (SAEST),
Karaikudi**

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