

**RAMAKRISHNA MISSION VIVEKANANDA COLLEGE  
MYLAPORE, CHENNAI 600 004**

**DEPARTMENT OF CHEMISTRY**

**FACULTY PROFILE**



1. **Name** : **Dr.A.A.M.Prince**
2. **Designation** : **Lecturer in Chemistry**
3. **Educational qualification** : **MSc., B.Ed., Ph.D.**
4. **Teaching experience (years)** : **UG (9) PG (9)**
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8. **Lecture in Public Forum** :
  - a. **(Radio/TV/Other programs)**
    - Lecture delivered on “Revolution in Batteries with Lithium” in a State Level Ms. N. Sakunthala Endowment Seminar on “Recent Trends in Chemistry” Organized Fatima

College, Madurai on 18<sup>th</sup> September 2009.

- Delivered a Lecture on Mössbauer Spectroscopy on 19<sup>th</sup> September 2009.

## PUBLICATIONS

### In refereed journals

1. V.J. Majo, M. Venugopal, A.A.M. Prince and P.T. Perumal, “A route to the synthesis of N-formyl lactams using Vilsmeier reagent”. *Synthetic Communications*, **25(23)**, 3863, 1995.
2. S. Ranganathan, A.A.M. Prince, P.S. Raghavan, R. Gopalan, M.P. Srinivasan and S.V. Narasimhan, “Kinetics of dissolution of magnetite in PDCA based formulations”. *Journal of Nuclear Science and Technology*, **34(8)**, 810, 1997.
3. A. A. M. Prince, A.M. Remona, S. Velmurugan, S.V. Narasimhan, P.S. Raghavan and R. Gopalan, “Dissolution Behaviour of mixed ferrites and chromites in aqueous solutions containing chelating agents” *Power Plant Chemistry*, **2(11)**, 645, 2000.
4. A.A.M. Prince, S. Velmurugan, S.V. Narasimhan, C. Ramesh, N. Murugesan, P.S. Raghavan and R. Gopalan, “Dissolution behaviour of magnetite film formed over carbon steel in dilute organic acid media”. *Journal of Nuclear Materials*, **289**, 281, 2001.
5. C. Ramesh, N. Murugesan, A.A.M. Prince, S. Velmurugan, S.V. Narasimhan, and V. Ganesan “Application of polymer electrolyte based hydrogen sensor to study corrosion of carbon steel in acid medium”. *Corrosion Science*, **43**, 1865, 2001.
6. S. Bera, A.A.M. Prince, S. Velmurugan, P.S. Raghavan, R. Gopalan, G. Panneerselvam and S.V. Narasimhan, “Formation of Zinc Ferrite by Solid State Reaction and its Characterisation by XRD and XPS”. *Journal of Materials Science*, **36**, 1, 2001.
7. A.A.M. Prince, S. Mylswamy, C.Y. Wang, S.C. Chang, R.S. Liu, C.H. Lin, Y.K. Lin, C.H. Shen, S.M. Huang and J.F. Lee, “Electrochemical and in-situ XANES studies of a  $\text{LiNi}_{0.8}\text{Co}_{0.17}\text{Al}_{0.03}\text{O}_2$  cathode material”, *Solid State Communications* **132**, 273, 2004.
8. A.A.M. Prince, S. Mylswamy, T.S. Chan, R.S. Liu, B. Hannoyer, M. Jean, C.H. Shen, S.M. Huang, J.F. Lee and C.Y. Wang “Investigation of Fe valence in

LiFePO<sub>4</sub> by Mossbauer and XANES spectroscopic methods”, *Solid State Communications* **132**, 455, 2004.

9. C.H. Lin, C.H. Shen, A.A.M. Prince, S.M. Huang and R.S. Liu, “Electrochemical studies on mixture of LiNi<sub>0.8</sub>Co<sub>0.17</sub>Al<sub>0.03</sub>O<sub>2</sub> and LiCoO<sub>2</sub> cathode materials for Lithium ion batteries”, *Solid State Communications* **134(10)**, 687, 2005.
10. A.A.M. Prince, S.Velmurugan, S.V. Narasimhan, P.S. Raghavan and R. Gopalan, “The Role of Metal Complexes in Nuclear Reactor Decontamination,” *Power Plant Chemistry* **8(7)**, 41, 2006.
11. B. Hannyer, A.A.M. Prince, R.S. Liu and C.Y. Wang, "Synthesis and Mössbauer Characterization of LiFePO<sub>4</sub>" *J. Hyperfine Interactions* **167**, 767, 2006.
12. A.A.M. Prince, A. Mary Remona, S.Velmurugan, S. Bera, C. Amirthavalli, P.S. Raghavan, S.V. Narasimhan, Synthesis and characterization of Ferrites and chromites prepared by Solid-State Methods: XRD, XPS and Mössbauer Study, *Power Plant Chemistry* **9(7)**, 432, 2007.
13. A.A.M. Prince, A. Mary Remona, S.Velmurugan, S. Bera, C. Amirthavalli, P.S. Raghavan, S.V. Narasimhan, Mössbauer Effect Data Centre Journal, Nov.2008.
14. A.A.M. Prince, V. Nivoix, B. Hannyer and M. Jean, "Synthesis and XRD and Mössbauer Characterisation of nano structured CoFe<sub>2</sub>O<sub>4</sub>"(to be communicated).
15. A.A.M. Prince, S. Velmurugan, S. Bera S.V. Narasimhan, P.S. Raghavan and R. Gopalan, Sythesis and characterization of Ferrites and Chromites prepared by Solid-state method. (Communicated to Solid State Communication).

#### Papers Presented at Seminars / Workshops

1. *Kinetics of dissolution of magnetite in PDCA based formulation* abstracted in the Chemistry Meet held at the Department of Chemistry, Indian Institute of Technology, Chennai during February 1996, INDIA.
2. *Solid state synthesis and characterisation of model corrosion products having spinel structur.* Abstracted in the Chemistry Meet held at the Department of Chemistry, Indian Institute of Technology, Chennai during December 1997, INDIA.

3. *Synthesis of magnetite, ferrite and chromites from  $\alpha$ -Fe<sub>2</sub>O<sub>3</sub> and studies on their dissolution in chelating media* In Proceedings of the Japanese Atomic Industry Forum (JAIF) conference on 'Water Chemistry in Nuclear Power Plants' held at Japan during 1998, Page no 747, JAPAN.
4. *Mechanism of dissolution of ferrites in organic acid media* Abstracted in the 39<sup>th</sup> convention of Chemists held at Calcutta during September, 1999, INDIA.
5. *Role of Metal Complexes in Nuclear Reactor Decontamination.* Proceedings of the National Conference on Recent Research in Coordination Chemistry held at Regional Engineering College, Trichy during February 1999, INDIA.
6. *Formation kinetics of Zn ferrites : A study by XPS.* Proceeding of the DAE solid state Symposium, **42**, 369, December 1999, INDIA.
7. *A new method for the study of corrosion of carbon steel in acid medium using polymer electrolyte based hydrogen sensor.* Abstracted in the National Symposium on Water and Steam Chemistry in Power Plants and Industrial Units, February 2000, INDIA.
8. *A study on the base metal aided dissolution of magnetite film formed over carbon steel using amperometric hydrogen sensor.”* Abstracted in the National Symposium on Water and Steam Chemistry in Power Plants and Industrial Units, February 2000, INDIA.
9. Synthesis and Mössbauer Characterisation of LiFePO<sub>4</sub> ICAME 2005, 4 - 6<sup>th</sup> September 2005, France.
10. Solidification & Stabilization- a pre-landfill waste treatment technology at EnviroTech, PMC Tech college, Tanjavur, Tamil Nadu. October 2005.
11. Synthesis and Characterisation of LiFePO<sub>4</sub> Cathode Material for Li-ion batteries, International Conference on Frontier in Chemical Sciences organized by Department of Chemistry, Madras Christian College, Tambaram, October 2008.
12. Study of dissolution of Ferrites and Chromites and its application to nuclear Reactor decontamination International Conference on Frontier in Chemical Sciences organized by Department of Chemistry, Madras Christian College, Tambaram, October 2008.

## PATENT

- C. Ramesh, N. Murugesan, A.A.M. Prince, S. Velmurugan, V. Ganesan and S.V. Narasimhan “*A measuring system for on-line measurement of corrosion rate of metals in an aqueous medium*”, Indian patent No. 20409.

## AWARDS

1. Bhagawan Dr.K.V.S.Pai Shastiabdhapoorthi prizes for the Ph.D. thesis work in 2002.
2. Received Research Associateship from Council of Scientific and Industrial Research (CSIR, INDIA) in 2002.
3. Received Senior Research Fellowship from Council of Scientific and Industrial Research (CSIR, INDIA) in 1998.
4. Successfully completed a project sponsored by Board of Studies in Nuclear Sciences (BRNS) and Department of Atomic Energy (DAE), entitled “*Kinetics of Dissolution of Ferrites*” during Ph.D.