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Dr. Nanda Gunawardhana was born in Morawaka, Southern part of Sri Lanka. He had his primary education in K/Indigastuduwa primary school and had his secondary education in Royal College, Colombo-7. Nanda received his bachelor's degree in Science specializing Chemistry as a major subject from University of Peradeniya, Sri Lanka. Then he received a scholarship to pursue his studies in Baylor University where he completed his Ph.D in Analytical/Inorganic chemistry under the supervision of Prof. S. L. Gipson. During this period, he has synthesized characterized and postulated mechanisms of the electron transfer induced reactions of fluorinated cobalt complexes.

After completing his Ph.D, he received a post-doctoral fellowship from Japan Society for the Promotion of Science to work with Prof. M. Tabata in Saga University. He has extensively studied eco-friendly ways to synthesis inert-metalloporphyrins. In addition, he has studied various reaction mechanisms of metalloporphyrins and their DNA cleavage abilities. After completing the project, he worked as a Research Scientist in Fukuoka Industry and Science Foundation and Advanced Research and Education Center in Saga University with Prof. M. Yoshio and Prof. H. Nakamura. During this period his research was focused mainly on synthesis, characterization and application of various materials for lithium ion batteries, fabricating novel hybrid super capacitors and nano materials.

His research interests span diverse themes within Inorganic, Analytical and Organic Chemistries and Materials Engineering.

### **Current research focus on**

1. Hybrid supercapacitors
2. Novel energy storing devices
3. Nano materials for lithium ion batteries (LIBs)
4. Synthesis, characterization and applications of inert-metalloporphyrins
5. Eco-friendly synthesis of inorganic complexes
6. Applications of ionic liquids as green solvents
7. Enhancement of the performance of Sri Lankan natural graphite as an anode material for LIBs
8. Computational calculations of the properties of various anode/cathode enhancement additives for LIBs
9. Functionalized additives for LIBs
10. Surface treated graphite as an anode material for LIBs.

### **Professional Activities**

*Associate Editor:* International Journal of Chemistry

*Editorial Board member:* Energy and Environment Research

### **International Collaborations**

Prof. Masaki Yoshio: Advanced Research and Education Center, Saga University, Japan

Prof. Masaaki Tabata: Department of Chemistry and Chemical Engineering, Saga University, Japan

Prof. Hongyu Wang: Chinese Academy of Sciences, Changchung, China

Prof. H. Nakamura: Department of Chemistry and Chemical Engineering, Saga University, Japan

Dr. Nickoly Dimov: Department of Chemistry, Kyushu University, Japan

Dr. Manickam Sasidharan: Vellore Institute of Technology, India

Ass.Prof. Tushari Jayasekara: Department of Physics, Southern Illinois University, USA (will start a new collaboration project)

**Recent Research Publications (Full papers in peer review index journals, 2011-2012)**

M. Sasidharan, K. Nakashima, **N. Gunawardhana**, T. Yokoi, M. Inoue, S. Yusa, M. Yoshio, T. Tatsumi, K. Nakashima, Novel titania Hollow Nanospheres of Size  $28 \pm 1$  nm using Soft-templates and their Application for Lithium-ion Rechargeable Batteries. Chemical Communication (Cambridge England), *47(24)*, 6921, **2011**.

**N. Gunawardhana** and M. Tabata, A Convenient and Eco-friendly way to Synthesize Pt(II) and Pd(II) Porphyrins in Ionic Liquids by Microwave Activation. Environmental Chemistry Letters, *9*, 473, **2011**.

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G-J. Park, **N. Gunawardhana**, H. Nakamura, Y-S. Lee, M. Yoshio, Suppression of Lithium Deposition on Surface of Graphite using Carbon Coating by Thermal Vapor Deposition Process. Journal of Power Sources, *196 (22)*, 9820, **2011**.

**N. Gunawardhana**, G. Park, N. Dimov, A. K. Thapa, T. Ishihara, H. Nakamura, M. Yoshio, Constructing a Novel and Safer Energy Storing System Using a Graphite Cathode and a  $\text{MoO}_3$  Anode, Journal of Power Sources, *196(18)*, 7896, **2011**.

M. Sasidharan, D. Liu, **N. Gunawardhana**, M. Yoshio, K. Nakashima, Synthesis, Characterization and Application for Lithium-ion Rechargeable Batteries of hollow silica nanospheres, Journal of Material Chemistry, *21*, 13881, **2011**.

**N. Gunawardhana**, N. Dimov, M. Sasidharan, G. Park, H. Nakamura, M. Yoshio, Suppression of Lithium Deposition at Sub-zero Temperatures on the Graphite by Surface Modification, Electrochemistry Communications, *13*, 1116, **2011**.

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M. Sasidharan, K. Nakashima, **N. Gunawardhana**, T. Yokoi, M. Ito, M. Inoue, S. Yusa, M. Yoshio, T. Tatsumi, Periodic Organosilica Hollow Nanospheres as Anode Materials for Lithium Ion Rechargeable Batteries, Nano Scale, *3*, 4768, **2011**.

**N. Gunawardhana**, S. Homi, M. Tabata, Reductively Induced Catalytic DNA Cleavage of Water Soluble Rh<sup>III</sup>-Br<sub>8</sub>TMPyP. *Catalysis Letters*, *142*(12), 1803, **2011**.

M. Sasidharan, H. N. Luitel, **N. Gunawardhana**, M. Inoue, S-I, Yusha, T. Watari, K. Nakashima, Synthesis of Magnetic  $\alpha$ -Fe<sub>2</sub>O<sub>3</sub> and Fe<sub>3</sub>O<sub>4</sub> Hollow Nanospheres for Sustained Release of Ibuprofen, *Material Letters*, *73*, 4, **2012**.

M. Sasidharan, **N. Gunawardhana**, H. N. Luitel, T. Yokoi, M. Inoue, T. Watari, M. Yoshio, T. Tatsumi, K. Nakashima, Core-Shell-Corona Polymeric Micelles as a Smart Template for the Synthesis of Inorganic Hollow Nanoparticles: Application to Novel LaBO<sub>3</sub> Hollow Nanospheres, *Journal of Colloidal and Interface Science*, *370*(1), 51, **2012**.

G. Park, **N. Gunawardhana**, H. Nakamura, Y-S. Lee, M. Yoshio, The Study of Electrochemical Properties and Lithium Deposition on Graphite at Low Temperature. *Journal of Power Sources*, *199*, 293, **2012**.

**N. Gunawardhana**, G. Park, N. Dimov, A. K. Thapa, M. Sasidharan, H. Nakamura, M. Yoshio, Performance of the Graphite (KS-6)/ MoO<sub>3</sub> Energy Storing System. *Journal of Power Sources*, *203*(1), 257, **2012**.

M Yoshio, **N. Gunawardhana**, A. K. Thapa, H. Nakamura, G-J. Park, Graphite Cathode Materials for Storing Energy in LIBs. *Battery Technology*, *23* (09), 1, **2012**. (In Japanese)

M. Sasidharan, **N. Gunawardhana**, M. Yoshio, K. Nakashima,  $\alpha$ -Fe<sub>2</sub>O<sub>3</sub> and Fe<sub>3</sub>O<sub>4</sub> Hollow Nanospheres as High Energy Density Anode Materials for Li-Ion Batteries, *In press*, *International Journal of Ionics* DOI:10.1007/s11581-012-0716-x, **2012**.

M. Sasidharan, N. **Gunawardhana**, M. Yoshio, K. Nakashima,  $\alpha$ -MoO<sub>3</sub> Hollow Nanospheres as an Anode Material for Li-ion battery, *Bulletin of Japanese Chemical Society*, 85(5), 642, **2012**.

M. Sasidharan, N. **Gunawardhana**, M. Yoshio, K. Nakashima, Nb<sub>2</sub>O<sub>5</sub> Hollow Nanospheres: A Lithium Intercalation Host with Good Rate Capability and Capacity Retention. *Journal of the Electrochemical Society*, 159(5), A618, **2012**.

N. **Gunawardhana**, S. Homi, M. Tabata, Efficient DNA Cleavage Induced by Rh<sup>III</sup>(TMPyP)<sup>5+</sup> in the Presence of Ascorbic Acid. *International Journal of Chemistry*, *In press*, **2012**.

M. Sasidharan, N. **Gunawardhana**, M. Yoshio, K. Nakashima, CeO<sub>2</sub> Hollow Nanospheres as Anode Material for Lithium Ion Batteries, *Chemistry Letters*, *In Press*, **2012**.

M. Sasidharan, N. **Gunawardhana**, M. Yoshio, K. Nakashima, WO<sub>3</sub> Hollow Nanospheres for High Lithium Storage Capacity and Good Cyclability, *Nano Energy*, 1(3), 503, **2012**.

N. **Gunawardhana**, A. K. Thapa, N. Dimov, G-J. Park, M. Sasidharan, H. Nakamura, M. Yoshio, Effects of the Mass Balance and the Cut-off Voltages on the Performance of a Graphite (KS-6)/TiO<sub>2</sub> (Anatase) Energy Storing System, Submitted to *Electrochimica Acta*, *Under Review*, **2012**.

N. **Gunawardhana**, Y. Ogomori, M. Yoshio, H. Nakamura, Fabrication of Novel Energy Storing Device Using a Graphite(MCMB) cathode and a TiO<sub>2</sub>(B) Anode. *Solid State Ionics*, under review **2012**.

M. Sasidharan, K. Nakashima, N. **Gunawardhana**, T. Yokoi, M. Inoue, S. Yusa, M. Yoshio, T. Tatsumi, K. Nakashima, Novel La<sub>2</sub>O<sub>3</sub> Hollow Nanospheres for High Performance lithium-ion Rechargeable Batteries. *Chemical Communications (Cambridge England)*, **48**, 3200, **2012**.