CURRICULUM VITAE



R. M. G. RAJAPAKSE B.Sc. (Hon.), Ph.D., D.I.C., FRSC, FNASSL, C. Chem.

| | All | Since 2015 | |
|------------------|------|------------|--|
| <u>Citations</u> | 2391 | 1214 | |
| <u>h-index</u> | 28 | 19 | |
| i10-index | 59 | 43 | |

RG Score: 38.53 B. Sc. Special Degree in Chemistry, University of Peradeniya, Sri Lanka Ph.D. and D.I.C., Imperial College of Science, Technology and Medicine, London, United Kingdom

Senior Professor in Chemistry, University of Peradeniya, Sri Lanka Coordinator of Nanotechnology Degree Programmes in Sri Lanka <u>http://sci.pdn.ac.lk/chemistry/contactPages/contactRMGR.htm</u> Nanotech. Consultant to ATG, TJL, LTL and CODEGEN Companies

(1) **BIODATA**

| i. | Name Rajapakse Mudiyanselage Gamini Rajapakse | | amini Rajapakse | | |
|---------------|---|--|---|--|--|
| ii. | Name with initia | ls R. M. G. Rajapakse | R. M. G. Rajapakse | | |
| iii. | Date of Birth | 15. 02. 1961 | | | |
| iv. | Age | 59 years | | | |
| v. | Sex | Male | | | |
| vi. | Address | Official Department of Chemistry, University of Peradeniya, Peradeniya, Sri Lanka (+ 94) (0)81 239 4442 <u>rmgr@pdn.ac.lk rmgr1521961@gm</u> Mobile: (+94) 76 885 4267 | Home 43 D Pragathi Mawatha, Uda Eriyagama, Peradeniya, Sri Lanka (+ 94) (0)70 281 5522 mail.com | | |
| vii. viii. | Nationality Occupation | Sri Lankan Senior Professor, Department of Che University of Peradeniya, Peradeniya Coordinator, M.Sc. Programme in N Nanotechnology, Postgraduate Instit Peradeniya, Sri Lanka | nkan r Professor, Department of Chemistry, ersity of Peradeniya, Peradeniya, Sri Lanka linator, M.Sc. Programme in Nanoscience and technology, Postgraduate Institute of Science, University of eniya, Sri Lanka | | |
| ix. | Civil Status | Iarried | | | |

(2) PERMANENT EMPLOYMENT RECORD

| i. | Senior Professor in Chemistry University of Peradeniya, Sri Lanka | 2007 – To-date |
|------|---|----------------------------|
| ii. | Full Professor in Chemistry University of Peradeniya, Sri Lanka | 1999-2007 |
| iii. | Senior Lecturer II in Chemistry University of Peradeniya, Sri Lanka | 1991-1999 |
| iv. | Probationary Assistant Lecturer in Chem University of Peradeniya, Sri Lanka (On study leave from 1985 to 1991) | iistry 1984-1991 |
| v. | Temporary Assistant Lecturer in Chemis University of Peradeniya, Sri Lanka | try 1984-1985 |

(3) UNDERGRADUATE TEACHING AND RESEARCH AT THE UNIVERSITY OF PERADENIYA

I have 36 years of continuous service at the Department of Chemistry, where I taught 30 years (excluding 5 years of study leave from 1985 to 1991). My specialty is in the broad areas of Physical Chemistry and Nanotechnology. I have taught almost all course units in Physical Chemistry in different years, but my main teaching modules are Basic Electrochemistry, Advanced Electrochemistry, Chemical Kinetics, Catalysis, Basic Polymer Chemistry, Advanced Polymer Chemistry, and Industrial Chemistry: Elementary Chemical Engineering, Chemical Technology, Physical Chemistry Laboratory and Advanced Physical Chemistry Laboratory. Depending on the need, which has arisen in some academic years. I have taught courses such as Chemical Thermodynamics, Quantum Mechanics, Advanced Materials and Devices and Molecular Symmetry. I have supervised at least two final year research projects in each academic year and three final year projects in most of the years. These research studies have contributed to some publications in indexed journals, peerreviewed local journals and communications at various scientific forums such as the Sri Lanka Association for the Advancement of Science (SLAAS), Institute of Chemistry (Ceylon) (I. Chem.), the Peradeniya University Research Sessions (PURSE) and International Conferences in Nanotechnology. These projects were on various disciplines Electrochemistry, Electronically Conducting Polymers, Clay-Polymer such as Nanocomposites, Hydroxyapatite Coatings on Stainless Steel Prostheses for Orthopaedic Applications, Value Addition to Sri Lankan Natural Resources, Nanoscience and Nanotechnology, Dye-sensitized Solar Cells, Advanced Textile Materials such as Textiles with Antimicrobial, Self-cleaning and Antistatic Properties, Anticorrosive Nanocomposite Coatings, Photon Up-conversion based Dye-sensitized Solar Cells, Water Photo-splitting and Targeted Drug Delivery using Nanomaterials.

VISITING LECTURESHIPS FOR UNDERGRADUATE TEACHING AND MODERATION OF EXAMINATION PAPERS OF OTHER UNIVERSITIES

a) Visiting Lectureships

i. The University of Liverpool 2002-2003

I was a part of the team that conducted the Inorganic Chemistry Laboratory for the 2nd Year Undergraduate Students in Chemistry Major Stream in the Academic Year 2002-2003.

ii. The Rajarata University of Sri Lanka 1999-2001

I was a part of the Curriculum Development Panel that has designed and developed the lecture and lab courses of the B.Sc. Degree Programmes in Applied Sciences which are offered by the newly established Rajarata University of Sri Lanka. I have conducted several undergraduate courses at the inception of this university until it became well established by filling necessary academic cadre positions.

iii. The Sabaragamuwa University of Sri Lanka 1998-2000

I was a part of the Curriculum Development Panel that has designed and developed the lecture and lab courses of the B.Sc. Degree Programmes in Applied Sciences which are offered by the newly established Sabaragamuwa University of Sri Lanka. I have conducted several undergraduate courses at the inception of this university until its establishment for self-sufficient smooth functioning.

iv. University of Kelaniya, Sri Lanka 1997

I have taught the lecture course on Advanced Spectroscopy for B.Sc. (Special) Degree in Chemistry Programme of the University of Kelaniya of Sri Lanka in the year 1997.

v. The Open University of Sri Lanka 1993-1997

I have taught Basic Mathematics and Physical Chemistry courses in day schools of the Open University of Sri Lanka for several years in nineties.

vi. Sri Jayawardenapura University, Sri Lanka 1993

I have taught an Advanced Physical Chemistry course offered by the Sri Jayawardenapura University of Sri Lanka in the year 1993.

vii. Institute of Chemistry, Ceylon, Graduateship Course in Chemistry

I have taught various Physical Chemistry courses and the Fundamentals of Mathematics course at this Institute for several academic years in the past. These courses include Basic Electrochemistry, Advanced Electrochemistry, Chemical Kinetics, Advanced Chemical Kinetics and Reaction Dynamics, Spectroscopy and Quantum Mechanics.

b) Moderation of Examination Papers

- i. The Eastern University of Sri Lanka 1993- to date
- ii. The Rajarata University of Sri Lanka 1999- to date
- iii. The Sabaragamuwa University of Sri Lanka 1998- to date

c) Consultancies

- i. Nanotechnology Consultant to ATG Intelligent Glove Solutions Lanka Ltd., Katunayake Free Trade Zone, Katunayake, Sri Lanka
- ii. Nanotechnology Consultant to Textured Jerseys Lanka Ltd., Awissawella Free Trade Zone, Awissawella, Sri Lanka
- iii. Nanotechnology Consultant to CODEGEN Ltd., Colombo, Sri Lanka
- iv. Nanotechnology Consultant to CODEGEN Ltd., Colombo, Sri Lanka
- v. Nanotechnology Consultant to Rajarata University of Sri Lanka
- vi. Nanotechnology Consultant to Sabaragamuwa University of Sri Lanka
- vii. Nanotechnology Consultant to Uva-Wellassa University of Sri Lanka

5) POSTGRADUATE TEACHING AND RESEARCH

a) M.Phil. and Ph.D. Research Degrees Supervised

I have been the Principal Supervisor of Eleven Research Assistants (RAs) who completed their Ph.D. Degrees and Ten RAs who completed their M.Phil. Degrees, since I joined this Department in 1991, after completing my Postgraduate and Postdoctoral Research Studies at the Imperial College of Science, Technology and Medicine, University of London, United Kingdom. These projects were funded by the National Science Foundation, Sri Lanka (NSF, formerly the Natural Resources, Energy and Scientific Authority of Sri Lanka, NARESA), National Research Council, Sri Lanka (NRC) and by the World Bank Funding Schemes (Such as IRQUE and HETC Projects). Currently, I am supervising Fifteen RAs reading for their Ph.D. degrees, and Three RAs reading for their M.Phil. degrees. I have been a cosupervisor of several M.Phil. and Ph.D. Projects conducted at the Institute of Fundamental Studies (IFS), Hantana Road, Kandy, Sri Lanka, in the past from 1991 onwards, and am continuing the co-supervision of two current research projects in Dye-sensitized Solar Cells which are conducted at the IFS. I also supervise Ph.D. students of the Graduate School of Science and Technology, Shizuoka University, Japan. I have also attracted several research grants to the Department of Chemistry, University of Peradeniya, from the NSF, a considerable Equipment Grant from the NRC, and a few small Equipment Grants from the Royal Society, United Kingdom, and from the SAREC Spare Parts Grant Scheme, Sweden. The following Table summarizes the research grants attracted and their outputs. Currently, I am supervising/co-supervising 21 Ph.D. Projects and several M.Sc. short-term projects.

| Grant | Funding Source | Outputs |
|------------|-------------------|-------------------------------------|
| RG/93/C/03 | NARESA, Sri Lanka | 1 M. Phil. and Several Publications |
| RG/95/P/05 | NARESA, Sri Lanka | 2 M. Phil. and Several Publications |
| RG/96/C/03 | NARESA, Sri Lanka | 2 M. Phil. and Several Publications |

| RG/99/C/01 | NSF, Sri Lanka | 1 Ph. D. and Several Publications | | |
|--|-------------------------|--|--|--|
| RG/2001/C/01 | NSF, Sri Lanka | 1 M. Phil. and Several Publications | | |
| RG/2001/C/04 | NSF, Sri Lanka | 1 Ph. D. and Several Publications | | |
| RG/2005/FR/04 | NSF, Sri Lanka | 2 M.Phil. and Several Publications | | |
| RG/2007/FR/08 | NSF, Sri Lanka | 1 RA is writing up her Ph.D. Thesis | | |
| RG/2009/NANO/01 | NSF, Sri Lanka | 1 M.Phil. and Several publications | | |
| PGIS/CH/M.Phil./09/ | 316, PGIS, Sri Lanka | 1 M. Phil. and Several Publications | | |
| University Research | Grant, | 1 M. Phil. and Several Publications | | |
| NRC-11-46 NRC, | Sri Lanka | 2 Ph.D. and Several Publications, | | |
| | | 6 patent applications. | | |
| NRC 2012 | NRC, Sri Lanka | 1 Ph.D. Degree and Several publications | | |
| TG/2014/Tech-D/04 | NSF, Sri Lanka | 2 Ph.D.s and Several Publications | | |
| TJL Research Grant 2 | 2015 | 2 Ph.D.s Some Publications | | |
| RG/2016/BS/01 | NSF, Sri Lanka | 1 Ph.D. is currently writing up thesis, | | |
| | | Several publications | | |
| RG/2017/BS/03 | NSF, Sri Lanka | One M.Phil. currently reading, Some | | |
| | | publications | | |
| Self-funded Ph.D.s | | 3 Ph.D. | | |
| Departmental Research | ch Assistantship-1999 | 1 M.Phil. and Several Publications | | |
| A Research Grant fro | m the Jaffna University | y IRQUE Project | | |
| | | 1 Ph.D. and Several Publications | | |
| University Research | Grant | 1 RA: M.Phil. and Several Publications | | |
| Collaborator in the N | SF Senior Research Fe | llowship: | | |
| | | 2 RAs: 2 Ph.D.s and Several publications | | |
| World Bank Funding | Scheme (HETC) | 1 RA: 1 M.Phil. and Several publications e | | |
| World Bank Funding | Scheme (HETC) | 1 RA: 1 Ph.D. Several publications | | |
| NRC 95-05 | NRC, Sri Lanka | Equipment Grant | | |
| University Research | Grants 1998 | Equipment and Chemicals Grant | | |
| The Royal Society Research Fund, UK 2002 Equipment Grant | | | | |
| SAREC Spare Parts H | Fund, Sweden | Spare Parts of Equipment | | |

b) Teaching and Research in M.Sc. Programmes Conducted by the Postgraduate Institute of Science (PGIS), University of Peradeniya, Sri Lanka

I have taught, in each academic year, since the inception of the PGIS in 1995 until to date, in several M.Sc. Programmes, in different years, which include M.Sc. programmes in Analytical Chemistry (CH 517: 2-Credit Course on Electroanalytical Chemistry), Industrial Chemistry (CH 533: 1-Credit Part on Catalysis: The Catalysis part of the CH 533, 2-Credit Course on Catalysis and Surface Analytical Techniques), Oceanography (ES 563: 2-Credit Course on Chemical Oceanography and ES 580: 2-Credit Course on Physical and Inorganic Chemistry of Seawater), Environmental Science (ES 563: Environment Monitoring and Sampling Techniques) in the past, before starting the M.Sc. Programme in Nanoscience and Nanotechnology, where I have led the team that involved in designing and developing the course units, defending the programme at various bodies of the University Senate, conducting the courses, allocating research projects and supervising some of the

research projects. I am teaching the following course units in this new M.Sc. Programme: CHN 503: 2-Credit Course on Nanochemistry, CHN 507: 3-Credit Course on Nanoscience and Nanotechnology Laboratory I, PHN 516: One third of the 2-Credit Course on Applications of Nanotechnology in Local Industries, PHN 517: One third of the 3-Credit Course on Nanotechnology in Energy Conversion and Storage. I also teach, continuously, in each academic year, in the M.Sc. Programme in Science Education, since its inception in 1996, where I teach a 1-Credit Course Unit CH 533: Methods of Teaching Chemistry I. In each academic year, I have supervised several M.Sc. projects, and by now, the number of M.Sc. Projects I have supervised is very large. These projects are also on various disciplines in advanced versions of those described for undergraduate projects. In addition to those projects, I have also supervised a large number of M.Sc. Research Projects in Chemistry Education. (*Details of the M.Sc. Programmes offered by the PGIS are available at www.pgis.lk website.*)

(6) VISITING PROFESSORSHIPS AND PRESTIGIUOS POSTDOCTORAL FELLOWSHIPS

a) Visiting Professorships

i. Visiting Senior Scientist

Department of Chemistry and Biochemistry, University of Mississippi, USA 01/07/2018-31/12/2018

- **ii.** Foundation Professor of Sri Lanka Institute of Nanotechnology Since its inception-to-date.
- **JSPS Senior Fellow** Graduate School of Science and Technology, Shizuoka University, Japan 29th January, 2015 31st March, 2015

iv. Visiting Professor

Graduate School of Science and Technology, Shizuoka University, Japan 01^{st} October, $2014 - 26^{th}$ December, 2014

v. Visiting Professor

Research Institute of Electronics, Shizuoka University, Japan October 01st 2013 – December 31st 2013

vi. Visiting Professor (JSPS Senior Fellow)

Department of Materials Science and Engineering, Faculty of Engineering, Shizuoka University, Japan December 01st 2010 – January 29th 2011

vii. Visiting Professor Research Institute of Electronics, Shizuoka University, Japan August 01st 2010 – October 30th 2010

viii. Visiting Research Professor

| | | Department of Chemistry and Bio The University of Texas at Arling | ochemistry, gton, USA | 2006 (two months) |
|----|------------|--|--|--|
| i | х. | Visiting Research Scholar Department of Chemistry and Bio The University of Texas at Arling | ochemistry, gton, USA | 2005 (three months) |
| X | x. V | Visiting Research Professor Institute of Fundamental Studies, | Sri Lanka | 2005 (one year) |
| b) | Post | doctoral Fellowships | | |
| | i. | EPSRC Research Fellow Department of Chemistry University of Liverpool United Kingdom Octobe | r 2002- June 20 | 003 (9 months) |
| | ii. | The Royal Society of Chemistry - J. W. T Jones FellowDepartment of Instrumentation and Analytical Science,University of Manchester, Institute of Science and TechnologyUnited KingdomFebruary 2001 - April 2001 (3 months) | | |
| i | ii. | The Royal Society Fellow University of Bath United Kingdom | September 199 | 99- June 2000 (10 months) |
| i | V. | TWAS/ICSU/UNESCO Research FellowUniversity of Central LancashireUnited KingdomApril 1997 (1 month) | | |
| V | 7 . | DAAD Research Fellow Max- Planck Institute for Polyme Mainz, Germany | r Research, October 1995- | December 1995 (3 months) |
| | vi. | EPSRC-UK Post-doctoral Rese Department of Chemistry, Imperi | arch Assistant al College, Loi January 1989- | : ndon, United Kingdom, April 1991 (28 months) |

(7) EDUCATIONAL HISTORY

i. University Education (Postgraduate Degrees)

Ph. D. and D. I. C. in Photoelectrochemistry of Colloidal Semiconductors Imperial College of Science, Technology and Medicine, University of London, United Kingdom (1985-1988)

I won the Overseas Student's Fee Support Scheme Award and a Unilever Bursary (1985-1988) to read for Ph.D. and D.I.C. degrees at the Department of Chemistry, Imperial College of Science, Technology and Medicine, University of London, United Kingdom. I was selected, from the entire student community of the Imperial

College, to present the Student Research Paper at the **Imperial College Centenary Symposium**, which was held in 1987, and the presentation was based on "Photoelectrochemistry of Colloidal Semiconductors". The only other presentation was by a Senior Invited Lecturer, Nobel Laureate Professor Rudolph Marcus.

ii. University Education (Undergraduate Degree)

B. Sc. Special Degree in Chemistry with Pure Mathematics as the Subsidiary Subject University of Peradeniya, Peradeniya, Sri Lanka

First Class (Honours) Degree (1979-1983)

The "Jathika Navodaya" National Scholarship awarded in 1973 was continued until the completion of the First Degree in 1983, as the University Education was continued consecutively from the College Education through the University Selection from the First Attempt of the G.C.E. Advanced Level National Examination. Based on the Best Performance at each year-end examinations held in 1980, 1981 and 1982, I was awarded the Hayley's Studentship, which is awarded to the Best Performer at year-end examinations of B.Sc. Special Degree in Chemistry, in the three consecutive years.

iii. Secondary School: From Grade 9 to Grade 12:

Mo/Bibile Central College, Bibile, Sri Lanka (1974-1978) as a "Jathika Navodaya" National Scholar

I have successfully completed the GCE Ordinary Level National Examination in Science Stream held in December 1975 and the GCE Advanced Level National Examination in Physical Science Stream held in April 1978.

iv. Junior School: From Grade 1 to Grade 8:

Am/Gonagala Vidyalaya, Ampara (1966 – 1973)

I have passed the "Jathika Navodaya" National Examination held in 1972 (Grade 7) and won the "Jathika Navodaya" Scholarship in 1973 to continue studies in a Central College (Mo/Bibile Central College) from Grade 9 (1974 – 1978).

(8) AWRDS, MEDALS AND ACADEMIC DISTICTIONS

i. Presidential Awards-2017

6 Certificates for Indexed Publications.

ii. NSF SUSRED Award 2016 Three awards for Ph.D. supervisions.

iii. CVCD AWARD FOR THE MOST OUTSTANDING SENIOR RESEARCHER IN PHYSICAL SCIENCES-2014

This is the most prestigious award a Sri Lankan Scientist can obtain once in the lifetime. This is the most competitive Award that is awarded to the researcher who has excelled in a given broad discipline. I was awarded this most prestigious award in the year 2014.

iv. NSF SUSRED AWARD-2014

This is an award given to supervisors of M.Phil. projects completed within three years of registration and/or Ph.D. projects completed within four years of registration in a Sri Lankan Postgraduate Institute. This is a novel award scheme introduced in 2011 to encourage university academics and researchers to produce postgraduate degrees within Sri Lanka. For the award in 2014 the RAs should have been graduated in the year 2013 with publications in indexed journals. We (and Dr. Sanath Rajapakse) were given this award for the M.Phil. Degree we produced in the area of Intelligent Textiles in 2013.

v. PRESIDENTIAL AWARDS FOR SCIENTIFIC PUBLICATIONS-2014

I won the Presidential Awards for my publications in indexed journals in the years 2010, 2011 and 2012.

vi. NATURE'S SECRETS AWARD FOR BEST COMMERCIALLY-VIABLE RESEARCH-2013

This is an award given annually in competitive basis for the best commercially-viable research carried out at the Faculty of Science within the given year. My research student, Mr. Manoj Ranasinghe and I was awarded this award on 05/06/2014 where the Vice Chancellor was the Chief Guest, in the presence of MD of Nature's Secrets Beauty Creations Ltd., Mr. Samantha Kumarasinghe, Deputy Vice-Chancellor, Dean/Science and the Faculty. We have produced superhydrophobic gloves which do not get wet by water. Even if dipped in a mud suspension neither mud nor water stick on these gloves. We have demonstrated these things.

vii. NSF SUSRED AWARD-2013

This is an award given to supervisors of M.Phil. projects completed within three years of registration and/or Ph.D. projects completed within four years of registration in a Sri Lankan Postgraduate Institute. This is a novel award scheme introduced in 2011 to encourage university academics and researchers to produce postgraduate degrees within Sri Lanka. For the award in 2013 the RAs should have been graduated in the year 2012 with publications in indexed journals. We (Professor H.M.N. Bandara, Dr. G.R.A. Kumara and I) were given this award for the M.Phil. Degree we produced in the area of Dye-sensitized Solar Cells in 2012.

viii. THE NSF RESEARCH AWARD FOR SCIENTIFIC EXCELLENCE-2012

This is awarded annually to the best scientific research project completed under an NSF grants in the respective year. The project title is "Clay-Polymer Nanocomposites: Investigation of their Electrical, Mechanical, Thermal and Green-Catalytic Properties for Industrial and Technological Applications". I was the project leader and my colleagues, namely, Professors D.T.B. Tennakoon, B.S.B. Karunaratne, H.M.N. Bandara and B.M.R. Bandara were co-investigators. Three RAs worked under this project have successfully completed their M.Phil. Degrees on time

with more than ten publications in indexed journals and they are now continuing their Ph.D. programmes in the USA and UK.

ix. NSF SUSRED AWARD-2011

We (Professor H.M.N. Bandara and I) won this award in 2012 for the Ph.D. Degree we produced in the area of Functional Conducting Polymers in 2011.

x. PRESIDENTIAL AWARDS-2010

I won several certificates, one each for the publications I produced in indexed journals in the years 2007, 2008 and 2009.

xi. HIRAN THILAKERATNE AWARD FOR BEST RESEARCH IN CHEMISTRY-2009

This is an award scheme of the University Grants Commission of Sri Lanka. I won this award 2009 as recognition to my research career.

xii. DEVANATHAN MEMORIAL AWARD AND SILVER MEDAL-1977

This is an annual award given to a Sri Lankan Chemist who has an excellent record in research activities in Physical Chemistry up to the respective year. I was honoured by this award given to me on 11th June 1997.

xiii. TWAS/NARESA PRIZE FOR YOUNG SCIENTISTS-1995

This is a cash prize given to young scientists with excellent research record. Dr. A.D.L. Chandani and I shared this award on 3rd September 1996.

xiv. SLAAS BEST RESEARCH AWARD-1993

This was awarded to Dr. A.D.L. Chandani, me and our RA (Mr. L.P.P. Lankeshwara) for the Best Presentation in the Chemical Science Theme in the respective year.

xv. HEYLEYS STUDENTSHIP FOR THE BEST PERFORMANCE IN OVERALL CHEMISTRY AT B.SC. SPECIAL DEGREE IN CHEMISTRY YEAR-END EXAMINATIONS

Based on merit: 1980-1981 2nd Year Undergraduate (Special Degree 1st year) Based on merit: 1981-1982 3rd Year Undergraduate (Special Degree 2nd year) Based on merit: 1981-1982 4th Year Undergraduate (Special Degree 3rd year)

(9) PLENARY AND INVITED LECTURES

i. Keynote Address: Invited to give a keynote address in 2nd Nanomed 2018, UK Conference to be held at the St. Hugh's College, University of Oxford, UK, from 14th to 15th February, 2018.

- **ii.** Keynote Address: Invited to give a keynote address in 4th International Conference on Nanoscience and Nanotechnology to be held in Colombo, Sri Lanka, from 14th to 15th December, 2017.
- **iii.** Keynote Speech in 3rd International Conference in Nanotechnology, Colombo, Sri Lanka, 18-19, December, 2016.
- iv. Keynote Speech in International Conference of Annasaheb Magar Mahavidyalaya, India, 08-10 February, 2016
- v. Invited Lecture on Low-cost Oxygen Reduction Catalysts for Fuel Cell Applications, Nanotek-2015, St. Antonio, USA, 16th-18th November, 2015
- vi. Keynote Speech on Nanotechnology Research at University of Peradeniya, 2nd International Conference on Nanotechnology, Colombo, Sri Lanka, 2nd-3rd September, 2015.
- vii. Invited Lecture on "Conversion of Local Minerals to Highly Value-added Nanomaterials", Toyota Technological Institute, Nagoya, Japan, 18th March, 2015.
- viii. Invited Lecture on "Low-cost Catalysts for Oxygen Reduction Half-reaction in Fuel Cells", Research Institute of Electronics, Shizuoka University, Japan, 18th February, 2015.
- **ix.** Invited Lecture on "Nanotechnological Architectures of Fluoride-doped Tin oxide Transparent, Conducting Oxide Layers: Preparation and Characterization", Research Institute of Electronics, Shizuoka University, Japan, 19th December, 2014.
- **x.** Invited Lecture on "Nanotechnology: Fundamentals and Applications", Shizuoka University, Japan, 01st December, 2014.
- **xi.** Keynote Lecture on "Nanotechnology Research at University of Peradeniya", International Conference on Nanoscience and Nanotechnology and International Conference on Energy, Hotel Galadari, Colombo, 12-13 August, 2014.
- **xii-xvi.** Five Invited Lectures on "CKDu Revisited" at Biannual Sessions of The Soil Science Society, SLINTEC, Faculty of Science, University of Peradeniya, Institute of Fundamental Studies and the Faculty of Medicine, University of Peradeniya in 2014.
- **xvii.** An Invited Lecture at the Sri Lanka Engineer's Association, organized by the National Academy of Sciences, Sri lanka, on "Nanotechnology Research Carried out at University of Peradeniya", 05/04/2014.
- xviii. An Invited Lecture at the Japanese National Conference Organized by the SPD Pvt. Ltd., Japan and held on 28/01/2011 in Hamamatsu, Japan. The presentation was a Review Paper on "Recent Advances in Titania Nanotube Based Dye-sensitized Solar Cells" and the paper is authored by E.V.A. Premalal, A. Konno and R.M.G. Rajapakse.

xix-xxii. Four invited lectures at the Kyushu Institute of Technology, Tsukuba Institute of Engineering, Kyoto Institute of Technology and Tokyo Institute of Engineering in 2010/2011.

The presentations were based on 'Improved Performance of $TiO_2/N719/CuSN$ All Solid-state Solar Cells" and "Shorter Nanotubes and Finer Nanoparticles for Improved Performance in Dye-sensitized Solar Cells".

Tokyo Presentation was on 21/01/2011.

Kyoto Presentation was on 11/01/2011.

Tsukuba Presentation was on 20/12/2010.

Kyushu Presentation was on 07/12/2010.

The co-authors of the papers are A. Konno, E.V.A. Premalal, G.R.A. Kumara, M. Shimomura, K. Murakami and R.M.G. Rajapakse of Shizuoka University, Japan.

- xxiii. An Invited Lecture at the International Conference Organized by the Research Institute of Electronics, Shizuoka University, Japan. The presentation was based on "TiO₂ Nanotube and Nanotube-Nanoparticle Composites Based Dye-Sensitized Solar Cells" and the conference was held on 30/10/2009. The paper is authored by E.V.A. Premalal, A. Konno, R.M.G. Rajapakse and K. Murakami.
- xxiv. A Special Lecture at the International Conference on Continuum Mechanics, Materials Chemistry, Nanoscience and Nanotechnology, Faculty of Engineering, Peradeniya, Sri Lanka, 26-28 September 2008. The lecture was based on "Engineering Applications of Clay-Polymer Nanocomposites".
- **xxv.** An Invited Lecture on 'Applications of Nanotechnology in Agriculture" in the ASDA 2007, Annual sessions of Department of Agriculture, Plant Genetic Resources Centre, Gannoruwa, Sri Lanka, 27-28 September 2007.
- **xxvi.** An Invited Lecture in the TECHNO 2007, International Conference of the Institute of Engineers, Bandaranaike International Conference Centre, Colombo, Sri Lanka, 17-18 August 2007. The lecture was based on "Nanotechnology".
- xxvii. An Invited Lecture on "Depletion of Nonrenewable Energy Resources, Entropy Crisis and Nanotechnology Solutions", National Conference on Advanced Materials for Emerging Technologies, Postgraduate Institute of Science, Sri Lanka, 22-23 July, 2007.
- xxviii. Plenary Lecture at the CHEMTECH 2007, An International Conference on Advanced Chemical Technologies, organized by the Institute of Chemistry, Ceylon, and held in the Bandaranaike International Conference Centre, Colombo, Sri Lanka, 21-23 June 2007. The presentation was on "Versatility of Clay and Clay-Polymer Nanocomposites".
- xxix. An Invited Lecture in the Discussion Meet on Role of Electrochemistry in Biosensors, Nanomaterials, Fuel Cells and Ionic Liquids, DM-BNFL0-2006, Bhaba Atomic Research Centre, Trombay, Mumbai, India 400085, September 24-25, 2006. I have

chaired a session and was a part of the expert team in the wind-up discussion. The lecture was a "Clay-Polymer Nanocomposites: A Review".

- xxx. A Special Talk on "Taming the Conducting Polymers", Department of Instrumentation and Analytical Science, University of Manchester, Institute of Science and Technology, UK, 23rd February 2001.
- **xxxi** A Special Talk on "Plasticized Ionically Conductive Polymers", University of Bath, UK, 21st January 2001.
- xxxii. Devanathan Memorial Award Presentation: "Recent Development in Research on Electronically Conducting Polymers", Institute of Chemistry, Ceylon, Colombo 11th June, 1997.
- xxxiii. Presentation of the NSF/TWAS Young Scientists Award: "Applications of Conducting Polymers in Liquid Crystal Display Technology", Natural Resources, Energy and Scientific Authority of Sri Lanka, Colombo, 03rd September 1996.
- **xxxiv.** An Invited Presentation on "Application of Surface Conducting Glasses", *International Workshop on Current Trends in Solar Energy Conversion,* Institute of Fundamental Studies, Kandy, Sri Lanka, 15th June 1995.
- xxxv. An Invited Presentation on "Colloidal Semiconductor-Conducting Polymer Materials", *Third International Workshop in Photochemistry*, Institute of Fundamental Studies, Kandy, Sri Lanka, 12th April 1991.

(9) MEMBERSHIPS AND POSTS HELD IN PROFESSIONAL ASSOCIATIONS

- i. Fellow of the National Academy of Sciences, Sri Lanka (FNASSL) and Council Member of NASSL.
- **ii.** Life Member of the Sri Lanka Association for the Advancement of Science (SLAAS)
- iii. Life Member of the Institute of Chemistry, Ceylon (M.I.Chem., C.Chem.)
- iv. Member of the Association of the Professionals For the Nation
- v. Member of the University of Peradeniya Alumni Association
- vi. Coordinator of the M.Sc. Programme in Nanoscience and Nanotechnology conducted by the PGIS, Sri Lanka, Since 2007.
- vii. A Co-Editor of the Proceedings of the 10th Asian Conference on Solid State Ionics on Advanced Materials for Emerging Technologies and the Coordinator of the Conference, 12-16, June 2006.
- viii. An Editor of the Ceylon Journal of Sciences (Physical Sciences) from 2005 To date

- ix. Consultant to NSF Task Force on Nanoscience and Nanotechnology since 2005
- xxviii. Guest Editor, Ceylon Journal of Sciences (Physical Sciences) in the years 2002, 2004 and 2005
- **xxix.** A Co-editor of the Proceedings of the International Conference on Solid Sate Materials and Devices, Postgraduate Institute of Science, Kandy, Sri Lanka, 2004.
- xi A Co-Editor of the Proceedings of the Annual Sessions of the Peradeniya University Research Sessions and a Guest Editor of the Special Issue of the Ceylon Journal of Sciences (Physical Sciences 2002).
- xii. Consultant to Johnson-Matthey UK Ltd. in 1999-2000
- **xiii.** Member of National Task force for Nanotechnology
- xiv. Member of the National Committee on Nanotechnology, National Science Foundation, Sri Lanka.

(10) REFEREE FOR INDEXED INTERNATIONAL JOURNALS

- i. Journal of Composite Materials
- ii. Electrochimica acta
- iii. Journal of Material Processing Technology
- iv. Journal of Physics: Applied Physics (JOP)
- v. Journal of Applied Sciences
- vi. Powder Technology
- vii. Natural Resources Research
- viii. Journal of Alloys and Compounds
- ix. Materials Science and Engineering
- **x.** J. National Science Foundation of Sri Lanka and many more.

(11) EDITORIALS

- i. R.M.G. Rajapakse, Guest Editorial "Depletion of Nonrenewable Energy Resources, Entropy Crisis and Nanotechnology Solutions", J. National Science Foundation, 35(2), March 2007.
- ii. R.M.G. Rajapakse, "Nano-race has begun-Not too late to join", Vidya (Science), 2007.

(12) CONTRIBUTIONS TO DISSEMINATION OF KNOWLEDGE

- i. Written several Textbooks for G. C. E. Advanced Level and B. Sc. Degree Courses in Sri Lanka.
- **ii.** Participated as a Resource Person in Workshops, Seminars, and Scientific Meetings for Teacher Training Activities, Science Exhibitions, Curriculum Development and other Scientific Functions.

(13) BOOKS AND MONOGRAPHS PUBLISHED

a) Monographs

- **i.** CHEMICAL KINETICS (in English), For B.Sc. 100 Level Undergraduates, Faculty of Science, University of Peradeniya Publication, 2006.
- STATES OF MATTER (in Sinhalese), For G.C.E. (Advanced Level) Chemistry Author: R. M. G. Rajapakse, SEU Publishers, University of Peradeniya, Sri Lanka 1997.

(b) Textbooks

- i. THERMOCHEMISTRY (in Sinhalese), For G. C. E. (Advanced Level), Author: R. M. G. Rajapakse, Macro Services, Kandy, Sri Lanka, 2005.
- BASIC ELECTROCHEMISTRY (in English), For B.Sc. General Degree, Authors: J.S.H.Q. Perera and R. M. G. Rajapakse, SEU Publishers, University of Peradeniya, Sri Lanka, First Edition 2004, Second Edition 2007.
- iii. PHYSICAL CHEMISTRY FOR G.C.E. ADVANCED LEVEL (in Sinhalese)
 R. M. G. Rajapakse, SEU Publishers, University of Peradeniya, Sri Lanka
 1st Edition 1999, 2nd Edition 2000, 3rd Revised Edition 2003, 4th Edition 2005, 5th
 Edition 2007
- iv. ADVANCED PHYSICAL CHEMISTRY, VOL. VIII, ADVANCED ELECTROCHEMISTRY (in English) for B.Sc. Special Degree, Author: R. M. G. Rajapakse, The Open University of Sri Lanka Publication, Nugegoda, Sri Lanka, 1999.

(14) OTHER ACTIVITIES

- i. Founder Member of the Sri Lanka Institute of Nanotechnolohy (SLINTEC).
- **ii.** Team Leader of the Biomedical Engineering Research Group: A group comprising of members from the Faculties of Science, Engineering, Veterinary Science and Allied Health Sciences of University of Peradeniya and the Orthopaediac Unit of the Teaching Hospital, Peradeniya for the Fabrication of Custom-Made Prostheses. Two

such custom-made prostheses manufactured have already been transplanted in orthopaedic patients.

- iii. Coordinator, IRQUE Science Study Programme, University of Peradeniya
- **iv.** Coordinator, 10th Asian Conference on Solid State Ionics
- v. Committee Member Section E2, SLAAS, 2000-2001
- vi. Member Committee on Chemical Sciences, The PGIS, Since 1999
- vii. Senior Treasurer Science Student's Union 1993
- viii. Secretary Science Teachers Association, University of Peradeniya 1992

(15) LIST OF PENDING PATENTS

- D.G.G.P. Karunaratne, H.M.G.T.A. Pitawala, R.M.G. Rajapakse, K.G.C. Senaratne, M.M.M.G.P.G. Mantilaka and G.M.C.R. Bandara, "Anticorrosive and Flame-retardant Nanocomposite Surface Coatings of Polyaniline/Vaterite and Polyaniline/Magnesium hydroxide, prepared from Natural Calcite and Dolomite", Ref. No. LK/P/1/17767, Year: 07/2014.
- D.G.G.P. Karunaratne, H.M.G.T.A. Pitawala, R.M.G. Rajapakse, K.G.C. Senaratne, M.M.M.G.P.G. Mantilaka and G.M.C.R. Bandara, "Novel Method to Synthesize Precipitated Calcium carbonate/Poly(Methyl methacrylate) using Dolomite", Ref. No. LK/P/1/17768, Year: 07/2014.
- 3. D.G.G.P. Karunaratne, H.M.G.T.A. Pitawala, R.M.G. Rajapakse and M.M.M.G.P.G. Mantilaka, "Synthesis of Nanomaterials of Magnesium hydroxide and Magnesium oxide using Dolomite and Magnesite", Ref. No. LK/P/1/17769, Year: 07/2014.
- 4. D.G.G.P. Karunaratne, H.M.G.T.A. Pitawala, R.M.G. Rajapakse and M.M.M.G.P.G. Mantilaka, "Surfactant-assisted Synthesis of Nanomaterials using Dolomite and Rejected Brines of Salt Industry as Raw Materials", Ref. No. LK/P/1/17770, Year: 07/2014.
- 5. D.G.G.P. Karunaratne, H.M.G.T.A. Pitawala, R.M.G. Rajapakse and M.M.M.G.P.G. Mantilaka, "Preparation of Hollow Bone-like Calcium carbonate Minerals through Surfactant/Polymer Template", Ref. No. LK/P/1/17771, Year: 07/2014.
- W. P. S. L. Wijesinghe, M. M. M. G. P. G. Mantilaka, R. M. G. Rajapakse, H. M. T. G. A. Pitawala, D. G. G. P. Karunaratne, R. P. V. J. Rajapakse, "Preparation of hydroxyapatite nanomaterials from naturally occurring carbonate minerals", Ref. No: LK/P/1/18036, Year: 12/2014.

- 7. R.A.R.P.W.M.T.P.B. Rajakaruna, R.M.G. Rajapakse and C.P. Udawatta, "Novel and Lowcost Method for Converting Natural Ilmanite Present in Mineral Sands to Pure Titanium dioxide Nanomaterials Under Mild Conditions", Ref. No: LK/P/20650, Year: 2019
- 8. R.A.R.P.W.M.T.P.B. Rajakaruna, R.M.G. Rajapakse and C.P. Udawatta, "Preparation of Iron oxide Nanoparticles from Natural Ilmanite", Ref. No: LK/P/20883, Year: 2019

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a) Publications in Peer Reviewed International Journals

- 1. Tharindu P. B. Rajakaruna, Chandana P. Udawatte, Rohana Chandrajith and R. M. Gamini Rajapakse, "Nonhazardous Process for Extracting Pure Titanium Dioxide Nanorods from Geogenic Ilmenite", *ACS Omega* 2020, <u>https://doi.org/10.1021/acsomega.0c01756</u>.
- Nicholas E. Sparks Tharindu A. Ranathunge, Nuwan H. Attanayake, Phillip Brodgon, Jared H. Delcamp, R. M. Gamini Rajapakse and Dr. Davita L. Watkins, "Electrochemical Copolymerization of Isoindigo-Based Donor-Acceptor Polymers with Intrinsically Enhanced Conductivity and Near-Infrared-II Activity", ChemElectroChem, 15 (2020) 3752-3760. <u>https://doi.org/10.1002/celc.202000897</u>
- B. P. N. Gunawardhana ,C. A. Gunathilake, K. E. D. Y. T. Dayananda, D. M. S. N. Dissanayake, D,M. M. M. G. P. G. Mantilaka, C. S. Kalpage, R. M. L. D. Rathnayake, R. M. G. Rajapakse, A. S. Manchanda, Thusitha N. B. Etampawala, B. G. N. D. Weerasekara, P. N. K. Fernando and Rohan S. Dassanayaka, "Synthesis of Hematite Nanodiscs from Natural Laterites and Investigating Their Adsorption Capability of Removing Ni²⁺ and Cd²⁺ Ions from Aqueous Solutions", *J. Compos. Sci.* 4(2) (2020) 57-75 <u>https://doi.org/10.3390/jcs4020057</u>
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- 12. W. P. S. L. Wijesinghe, M. M. M. G. P. G. Mantilaka, T. S. E. F. Karunarathne, R. M. G. Rajapakse, "Synthesis of a hydroxyapatite/poly (methyl methacrylate) nanocomposite using dolomite", *Nanoscale Adv.*, **1** (2019) 86-88, DOI: <u>10.1039/C8NA00006A</u>.
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- 22. S. P. Dunuweera and R. M. G. Rajapakse, "Cement Types, Composition, Uses and Advantages of Nanocement, Environmental Impact on Cement Production, and Possible Solutions", Advances in Materials Science and Engineering, Special Issue: Smart Buildings and Construction Materials, Volume 2018 |Article ID 4158682 | 11 pages | https://doi.org/10.1155/2018/4158682.

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- 25. W. P. S. L. Wijesinghe, M. M. M. G. P. G. Mantilaka, T. A. Nirmal Peiris, R. M. G. Rajapakse, K. G. Upul Wijayantha, H. M. T. G. A. Pitawala, T. N. Premachandra, H. M. T. U. Herath and R. P. V. J. Rajapakse, Preparation and characterization of mesoporous hydroxyapatite with non-cytotoxicity and heavy metal adsorption capacity, *New J. Chemistry*, **42** (2018) 10271-10278 <u>https://doi.org/10.1039/C8NJ0067</u>.
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- K.G. Chathuranga Senarathna, S.P. Randiligama, R.M.G. Rajapakse "Green Synthesis of N-Doped Multilayer Graphene/Silver Nano-particle Composite Using Tea Leave Extract and Its Application as Electrocatalyst for Oxygen Reduction Reaction" 256th National Meeting of American Chemical Society, Boston, MA, USA. (August 2018)
- K.G. Chathuranga Senarathna, R.M.G. Rajapakse "Synthesis and characterization of Polyaniline-Silver-Montmorillonite clay nanocomposite: Application in fuel cell" 250th National meeting American chemical society, Boston, MA, USA. (August 2015).
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