



Dr.S.Gomathinayagam, FIE, IPMA-A Certified Project Director

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Independent Consultant & Project Management Advisory : Strategic Technical Advisory (Structures/Foundations/Wind Energy/Solar Energy)

Wind Energy and Solar Energy development, Industrial Consultancy and multi-disciplinary Engineering services including Structural Dynamic Analysis, design, testing Instrumentation and field measurements , Engineering Capacity/Institution & Institutional capacity building, and Scientific & Industrial research and development, dynamic project management, seasoned member/ chairman of several academic /PhD/ selection/ Awards/ Standards/ scientific technical / investment and policy think-tank /advisory in national/ high level Institutional/university/interview/Tender/Technical evaluation committees

Post-retirement (Since Feb, 2017) activities at a glance:

- **Strategic Advisor(renewables)/ITCOT, Chennai** include DPRs for **5MW river basin SPV plant, 2MW wind** techno-economic feasibility in Kerala, Design and detail Engineering of **100MW SPV** balance of plant (BoP) structures for NLCIL, Mentoring on **RoW for Wind** power evacuation to Industry/Suzlon
- **Governor's nominee** Bharathiyar Univ. **Member of selection/Promotion, Academic Committees, TNAU-** member Course evaluation cmte on **BTech-Energy&Environ.**
- Invited faculty for **RE30-50** trends for Engg-executive training and **Rooftop Solar Tech-Trg** series for NLCIL, Neyveli and ,NTPL, Tuticorin, **Invited industry lectures** Sustainable Global Energy Transition-S'GET at IIT,Madras, Wind loads on structures,VIT
- **CII-GBC** Performance evaluation **Jury** committee member –**Wind energy** , Annual Green Power conferences, invited member in GBC-CII meetings at Chennai
- **Project Committees of NIOT-OTEC, OOS , Project Monitoring Cmte,** Chairman for NIWE, Chennai **for 2MW SPV plant at IIM-Trichy campus, 1MW SPV plant at MKU**
- Mentoring Wind energy advisories to **CRN Architects** and consulting, Mentoring for Wind energy innovation by **Wind Care/India**, Techno-legal consulting to **M/s Elecon pvt.Ltd**
- **Project Management Faculty** Certification training for **IPMA D-level ICB 3.0/ICB 4.0** (**2Executive batches** NLCIL, Neyveli, **1 Executive batch**, CMRL, Chennai Metro.), Senior Exe.Trg, B,C,D levels **Siemens Gamesa, Chennai, 1 Sr.Exe batch, CMRL for IPMA/ICB4.0 B_level, Online IPMA training M/s SASMOS executives**
- **Sr.Advisor** (Civil & Structures) in the Expert Panel of **ACE RENEWTECH, Chennai**

PREVIOUS PROFESSIONAL EXPERIENCE

NIWE-National Institute of Wind Energy, (MNRE/GoI), Chennai-100

2009 to 2017

Director General (served as **CEO 8 years** , and retired on superannuation Feb 2017)

Director General

Several **FIRSTs** in NIWE under MNRE, demonstrate the initiatives as a leader, towards positive developments useful to industry, wind and solar resource national data network and Indian Atlases



release. Established real time operational Wind power forecasting and scheduling to TANGEDCO for 35% wind installed capacity in India as a SMART Technology deployment.

CSIR-SERC: Structural Engineering Research Centre, Chennai-113

1983 to 2009

Scientific and Industrial research in multi-disciplinary engineering projects for 25 years (details at end)

Deputy Director and Project Leader

Notable achievements in Structural Engineering/Wind Energy with industrial interactions are: analytical and experimental knowledge on wind, wave, shock & impact, earthquake & tsunami effects on structures, experience in **UN project executions** on wind engineering and disaster reduction, Cyclone damage surveys, Statistical and spectral data analysis techniques, experience in several inter-disciplinary, full scale testing; involving **space, navy, offshore, energy, railways, telecommunication ,wind tunnel, wind and solar power and challenging industrial projects** need special mention. Was responsible creator of Lab/Field experimental assets for R&D in the areas of Shock & Vibration, Wind (Engineering/Energy). *Involved in Structural Engg Consultancies*

Number of Research Publications: 74 (International and National Journals/Conference)

+ **24** invited articles on wind/renewable energy in popular commercial magazines

+invited/keynote/inaugural/valedictory speeches in **300+** national and international conf/forums/symposia + served in over **36** national/state/central/institutional committees

EDUCATION

IPMA-A Certified Project Director (since, June 30, 2020)

Professional Certification: PDPP-AIMA-World Bank, NewDelhi ,2015

(Post.Graduate Diploma in Public Procurement)

- **PhD (Ocean Engineering), IIT,Madras , Chennai 2005**
- **MS (Structural Engineering-Civil) IIT,Madras , Chennai 1982**
- **B.E (Civil) , REC, NIT, Trichirapalli, Madras University, 1979**

HONORS AND AWARDS

- **Life Time Achievement Award** “ Outstanding Contribution in the field of Renewable Energy “ by The Institution of Engineers (india) , **on 24th Oct 2017**
- **KCG Verghese Life Time Achievement award 2017**, “Outstanding contribution in the field of Wind energy Research and society”, at Golden Jubilee Hindustan University **29th July 2017**
- **Life Time Achievement Award** for “Exemplary contribution to wind Energy research and institutional capacity building “ by **Savitha University 18th Nov 2016**
- **Eminent Scientist Award “ AriviyalKalangium 2016”** by former High Court Judge, Gol at Bharathiya Vidhya Bhavan, **6th March 2016**
- **DISTINGUISHED ALUMNUS AWARD** for “Excellence in Scientific and Industrial Research” at **Golden Jubilee NITT 2014** , in presence of His excellency **Honorable President of India Dr.Pranab Mukherjee.**
- **Global Excellence in Renewable Energy 2013** for “ for vision , leadership,outstanding contribution and demonstrating excellence in the Renewable energy sector” by **Honble Minister Oscar Fernades**, an Anil Razdon IAS, Chairman World energy and Environment Foundation, **25th Sept 2013**
- Received a '**Certificate of Appreciation**' from Director, SERC, Madras in 2000 for the development of Advanced computational methodologies, modeling techniques and software for analysis and design of complex structures at SERC, Madras, in winning the '**CSIR Technology prize for Engineering Technology** for the Year 1999'.
- Received a '**Certificate of Appreciation**' from Director, SERC, Madras in 2000 for the scientific contributions made as a member of the Wind Engineering Group of SERC, Madras, in winning the '**CSIR Shield for Engineering Technology for the Year 2000**'.
- Member of SERC team which was awarded '**A.S. ARYA-UOR Disaster Prevention Award 2000**' from University of Roorkee in 2000.
- Awarded '**The Dr. Jai Krishna Medal**' for the best paper published in the Journal of the Institution, from The Institution of Engineers (India) in **2001**.
- **ISWE best paper award -2002** for international journal paper on “cyclone damage to buildings and structures – a case study” by Indian Society for Wind engineering given at Nagpur 2004



Professional Affiliations:

- “Institution of Engineers (India)” –Fellow and Life member and Chartered Engineer, and Life member of “Computer Society of India” , “Instrument Society of India” , “Indian Society of Wind Engineering” , “Indian Meteorological Society”

International :DAAD, UNDP, AUSAID fellowships, Successful international collaborations resulting in business model solutions to wind industry. Visits to Countries : Germany, USA, UK, Spain, Australia, Egypt, Turkey, Netherlands, Thailand, Austria, France, Switzerland, Auckland(NZ)

Specialization in interdisciplinary engineering (several routine industrial consultancies in design, analysis& testing)

Years	From	To	Name of Organisation	Last Position held
< 2 years	Aug 1981	April 1983	Industrial Consultancy and Sponsored Research , BHEL-Boiler Auxiliaries Plant, Ranipet QA of constructions at I.I.T., Madras	Quality Assurance of Steel,RCC, PSC construction and SQC of concrete Project Associate (ICSR-IIT)
< 1 year	April 1983	Aug 1983	Best and Crompton Engg. Chennai	Sr. Management Trainee (TL tower/SS struct. Designs)
25 years	05-08-1983	22-01-2009	CSIR-SERC-Structural Engineering Research Centre , Chennai-113	Dy.Dir and Project leader
8 years	22-01-2009	31-01-2017	Former CWET now National Institute of Wind Energy – NIWE,Chennai	Director General at NIWE [CEO for last 8 years]

Selected key-projects of Engineering Experience /Expertise in Industrial research and Consultancy	Brief details
Stochastic and Reliability Analysis of offshore structures / <i>National Thrust area at SERC/CSIR-inhouse</i>	FEM-software development for offshore and onshore structural static, free vibration, dynamic, stochastic and reliability analysis
Ship's Propulsion Shaft alignment computer software – <i>SACS / NSTL, Navy, Vizakapatnam (strategic software)</i>	Software development from algorithm and basics of engineering applications and training Naval designers – FORTRAN – strain gage system “SACS” - 5 modules for Indian naval ships from any country
Computer Aided analysis and design of structures to survive shock loads due to Blast and Impact <i>SERC/CSIR-inhouse</i>	Blast load and impact load modeling and software development and establishment of Shock and Vibration Laboratory –capacity building in sensor development and field/Lab experimental capabilities
Experimental and theoretical investigation of wind effects on structures under cyclonic storm by model test in Wind tunnel and by direct measurement on proto type. <i>at SERC/CSIR-inhouse</i>	Establishment of Wind tunnel and field experimental facilities incl. mobile field laboratory for full scale testing of towers / incl. wind turbine towers.
Engineering of structures for mitigating damage due to cyclones / <i>(SERC-UNDP Project)</i>	Design and statistical analysis software development for several engineering structures exposed to cyclones
Action Plan project on Engineering of structures for mitigating damage due to cyclones <i>(SERC-UNDP Project)</i>	Transfer of technology and training, preparation of Vulnerability Atlas for coastal zones.
Field Investigations of Wind effects on structures including damage Assessment <i>Inhouse research area SERC/CSIR</i>	Spectral methodologies for wind induced fatigue design
Evaluation of design basis wind speeds using extreme value analysis / <i>AERB/SRI/IGCAR Kalpakkam</i>	Specification of design basis wind speed with pre defined return period of extreme winds. Statistical GUI software developed and delivered.
Transient dynamic analysis of Mobile Launch Pad (MLP) structure / <i>MECON/ ISRO</i>	The movable and reusable launch pad design for ISRO , with static/dynamic /frequency tuning for variety of operating loads, acoustic/jetpropulsion/solar heating (MLP is SLP used today)..
Investigations on Wind Characteristics and Other Site Specific Parameters By Intensive Meteorological Measurements / <i>AERB /SRI/IGCAR Kalpakkam</i>	Met-measurements, tower designs , sensor deployment and wind and response measurements on tall structures and pressure measurements on flat roof , Data Analysis time/frequency domains
Dynamic loads and Response of structures based on full scale experiments under natural wind / <i>UNDP & at SERC/CSIR-</i>	Basic load transfer mechanisms by natural wind measurements of ambient wind loads in 1-D,2-D,3-D structures , Dynamic Wind effects on onshore and offshore structures , MATLAB coding in PhD works
Development of Fatigue Load Spectrum for Design of Structures / Components Subjected to Dynamic Wind Loads. / <i>Inhouse research area at SERC/CSIR-</i>	Measurement of fatigue loads on wind turbines, O&M operational fatigue damage rate matrix in bins of measurement , Spectral fatigue methods for wind induced fatigue.
Shaft alignment Computer software for windows Platform, <i>SACS-WIN / NSTL,NAVY, Vizakapatnam</i>	Computer software in c++ environment with user interactive GUI developed , trained and delivered to Indian Navy as key technical lead
<i>Performance Evaluation of Railway Bridges under Increased Axle Loads of Freight Wagons / Indian Railways</i>	Over 10 bridge performance analysis on steel and RCC/PSC bridges, on railway bridge loading conditions incl. braking at diff speeds.
Development of 500kW low cost horizontal axis wind turbine – NMITLI project (TLP 001) / <i>NMITLI /CSIR HQ at SERC/CSIR</i>	Principal investigator from CSIR-SERC for the rotor blade analysis, design and tower and foundation design and field testing of the same

Project mentoring, planning and management for time and cost bound deliverables, with a GSTIN as a consultant, for ITC claim by clients