SIVARAM PM

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Linguistic Proficiency:
Tamil and English

Date of birth: 03 Sep 1991

Areas of Interest:
- Heat transfer
- Renewable energy
- Solar energy
- Computational fluid dynamics
- Sustainability-Life cycle analysis
- Energy audit

Computer literature
Platform: Windows
Software:
- SOLIDWORKS
- ANSYS-FLUENT
- COMSOL-Multiphysics
- Matlab
- Open LCA
- QGIS

Professional Objective

To pursue a challenging role in a high-quality research environment where my resourceful academic and research skills will add value to the organizational operations, thereby creating an impact in the arena of science and technology by serving mankind and nature.

Academic records

Course	University/Institution	Aggregate	Year of passing
Ph. D	National Institute of Technology Tiruchirappalli	9	2016-Ongoing
M.E Energy Engineering	Sri Sivasubramaniya Nadar College of Engineering, Anna University	8.99 University 2nd rank	2015
B.E Mechanical Engineering	Anand Institute of Higher Technology, Anna University	8.3	2013
HSC	S. M. R. V. Higher Secondary School	89.2 %	2009
SSLC		92.4 %	2007

Work Experience

1. **Research Scholar:** Department of Energy and Environment, National Institute of Technology Tiruchirappalli since August 2016.
   Research focus: Heat transfer studies on low grade solar thermal system, natural convection, radiative cooling, desalination, thermal energy storage systems, computational fluid dynamics, wind studies and Life Cycle Assessment (LCA)
   Others:
   - Operator in ISO certified Testing and Analysis Laboratory. Experienced in handling equipment such as Differential Scanning Calorimeter (DSC), Thermo-gravimetric analyzer (TGA), Fourier transform IR spectrometer (FTIR) and hyphenated thermo-gravimeter and Infrared spectrometer (TG-IR).
   - In charge of computational fluid dynamics laboratory.
   - Experienced in energy audits.
   - Trained in calibration of temperature sensor.
2. **Research Intern:** Council on Energy, Environment and Water (CEEW), New Delhi from 15 Sep 2020
   Research focus: Feasibility of H2 production and application across various end use sectors
3. **Research Intern:** Corborundum Universal Limited, Chennai from Sep 2018 to Dec 2018
   Research focus: "Studies on the curing behavior of grinding wheels in the tunnel oven using Computational Fluid Dynamics"

Developed working models

- Building-integrated passive solar energy system for clean water, power and air ventilation
- Solar parabolic trough collector for high temperature applications
- Novel e-waste added in concrete thermal energy storage system for solar applications
- Nocturnal radiation cooling system for daytime cooling applications

Personal strengths

- Highly committed and dedicated with positive attitude.
- Strong inter-personal skills, ready to face challenges.
- Good grasping skills, self-motivated and willingness to learn
- Workaholic in nature

Interest and activities

- Gardening
- Listening to music
- Reading books
- Playing badminton
- Meeting people from different walks of life

Social Links:

LinkedIn profile:
https://www.linkedin.com/in/sivaram-p-m-1a7164122

Google scholar profile:
https://scholar.google.co.in/citations?hl=en&user=oJM8wjgAAAAJ

Others:

1. Environmental analysis of a simple sloped solar still and a reverse osmosis home unit: https://www.linkedin.com/feed/update/urn:li:activity:6693824434018627584/

The curing behavior of grinding wheels in a tunnel oven often varies with each other due to uneven hot air flow. Computational fluid dynamics (CFD) analysis was made to study the curing nature of wheels inside the tunnel oven. Differential scanning calorimeter data were also interpolated with the data obtained from CFD and the degree of cure of each grinding wheels were estimated. Modifications in air flow pattern were made to ensure better/uniform air flow in tunnel oven.

4. **Project Staff:** Centre for biomedical engineering (CBME), IIT Delhi from 11th January to 10th April 2016.
   Research focus: Design and manufacturing of tensile, bending/flexural (3 point and 4 point) grippers for bones and wire grippers. Design of single unit alveolar distractor unit. Tensile testing on human knee ligaments (ACL: Anterior Cruciate Ligaments)
5. **Research Assistant:** Department of Mechanical Engineering, Sri Sivasubramaniya Nadar College of Engineering, Chennai from 10th July 2015 to 10th Jan 2016.
   Research focus: Solar Collectors (Parabolic trough collectors), Thermal Energy Storage, Numerical modelling

Projects

Research project:

Studies on domestic passive integrated solar energy systems for multiple outputs like air ventilation, clean water and power production

Post graduate project:

Experimental and Numerical Investigation of Parabolic Trough Collector employed for Thermal Energy Storage System

Undergraduate project:

Redesigning of Turbine Condenser by replacing Cu-Ni tube by Ti tubes

Publication Details

International journals (First author publications)**:**

1. "Investigation on a building-integrated passive solar energy system for airflow, clean water and power", Energy conversion and management, 2020, DOI: 10.1016/j.enconman.2020.112739, IF: 8.2
2. "Experimental and Numerical study of stepped solar still integrated with passive external condenser and its application", *Environment, Development and Sustainability*.2020, DOI: 10.1007/s10668-020-00667-4, IF: 2.19
3. "Experimental investigation on air flow and water production in integrated rooftop solar thermal system", *ASME journal of solar energy engineering* (2020) Vol (142), DOI: 10.1115/1.4045738, IF: 1.64
4. "Performance analysis of solar chimney using mathematical and experimental approaches", *Int. J. Energy Res.* (2018), DOI: 10.1002/er.4007, IF: 3.74

2. A simple retrofit natural ventilation system in an existing building - usage of available resources: https://www.linkedin.com/feed/update/urn:li:activity:6693351085530333184/
3. Research in Energy Engineering (Solar thermal), P M Sivaram, #NITT: https://www.youtube.com/watch?v=WX_0sdQkSWc&t=57s

References:

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Associate Professor,
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5. "Experimental and Numerical Investigation on Solar Parabolic Trough Collector integrated with Thermal Energy Storage Unit", *Int. J. Energy Res.* (2016), DOI: 10.1002/er.3544, IF: 3.74
6. "Carbon footprint analysis of an educational institution", *Applied Mechanics and Materials* Vol. 787 (2015) pp 187-191.

International Conferences:

1. "Studies on the curing behavior of grinding wheels in the tunnel oven using Computational Fluid Dynamics", 2nd International conference on recent trends in metallurgy, materials science and manufacturing, NIT Tiruchirappalli, 2019.
2. "Computational fluid dynamics analysis on solar chimney for cleaner water production", International conference on Desalination (InDACON-2018), NIT Tiruchirappalli, 2018.
3. "Experimental and numerical investigation on solar parabolic trough collector employed for thermal energy storage system", International heat and mass transfer conference held at Vikram Sarabhai Space Centre (VSSC), ISRO-Trivandrum, 2015.

Achievements and Awards

1. Participated in Carbon Zero Challenge organized by IIT Madras, IWMA, along with US-Consulate and received **Rs. 500000.00** fund and build a prototype "Recovery of water from wastewater, and room ventilation through solar chimney-A passive approach".
2. Designed a solar evaporator of 2 sq. m area for evaporating effluent (mixture of acetic acid, water and chemicals) for Freshara Picklz, Hosur.
3. Best oral presentation award for the paper titled "Computational fluid dynamics analysis on solar chimney for cleaner water production" in InDACON-2018.
4. Member of the energy audit team from NITT conducted energy audits in MSMEs under PEACE scheme
5. Member of the energy audit team from NITT in gas cylinder and leaf spring fabricating industry (Jaysar Springs Pvt. Ltd.)-2018.
6. Member of the team from East Coast Sustainable Private Limited conducted energy audit in ITC Bhadrachalam Paper Boards Limited- 2019.

I hereby declare that all the information furnished by me above is true to the best of my knowledge.

Place : Chennai
Date : 25-Nov-2020

SIVARAM P M