



## **BIODATA**

**Name** : SANAL KUMAR S

**Designation** : ASSISTANT PROFESSOR

**Department** : INSTRUMENTATION

**Address** : 4B, SA HOMES, SOPANAM, PERINKULAM, ALATHUR, PALAKKAD.

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**Academic Qualification** : MTech (Control & Instrumentation) , MSc (Applied Psychology) , DIIM.

### **Experience:**

- Teaching : 14 years
- Industry : 7 years
- Research: Pursuing.

**Area of Interest/ specialisation** : Machine Learning, Deep Reinforcement Learning, Adaptive Control, Sliding Mode Control, Non Linear control in Robotics.

**Area of Research:** Deep Reinforcement Learning, Adaptive Control, Sliding Mode Control.

**Major/Minor Research Projects** : Nil

### **Responsibilities Undertaken(Official) :**

National Service Scheme Programme Officer, Unit No: 38, University of Calicut.

IQAC Member.

CDC Coordinator.

Anti-Ragging Committee Coordinator.

Audio-Visual Committee Member.

Admission Committee Member.

## **Seminars Organised/ Invited Lectures :**

Coordinator – UGC Sponsored Two Day National Seminar “**EMERGING TRENDS IN INSTRUMENTATION & CONTROL**” ETIC - 2014 vide sanction order No. SEM-0863/13-14/KLCA011/UGC-SWRO (PHYSICS) dated 28-3-2014, Organized by Department of Instrumentation, NSS College Nemmara, Palakkad in Collaboration with Institution of Engineers (India) , Palakkad local Centre on 4<sup>th</sup> and 5<sup>th</sup> of December 2014.

**Publications in Journals** (Numbers) (Title with page No, Journal, ISSN/ISBN No whether peer reviewed no. of co-authors).

1. S. Sanal Kumar<sup>5</sup> . “Natural Fiber Incorporated Polymer Matrix Composites for Electronic Circuit Board Applications”, Advances in Materials Science and Engineering , Hindawi, Volume 2022, Article ID 3035169. ISSN: 1687-8434 (Print), ISSN: 1687-8442 (Online), DOI: 10.1155/5928, Impact Factor **1.726**. January 2022.
2. S. Sanal Kumar<sup>2</sup> , “A Novel Optimization Algorithm for Modifying the Parameter Unit of Solar PV Cell” , International Journal of Photoenergy, Hindawi, Volume 2022, Article ID 5240115. ISSN: 1110662X (Print), 1687529X (Online), Impact Factor **2.113**. April 2022.
3. S. Sanal Kumar<sup>6</sup> , “Optimization of Solar Panel Deployment Using Machine Learning” , International Journal of Photoenergy, Hindawi, Volume 2022, Article ID 5 7249109. ISSN: 1110662X (Print), 1687529X (Online), Impact Factor **2.113**. May 2022.
4. Sanal Kumar S<sup>1</sup> , Dr Palanivel S<sup>2</sup>, “The Defense Strategies, Benefits and Challenges of Pen Test against Cyber Attacks – A Review” , IJSER ( International Journal of Scientific & Engineering Research (**ISSN 2229-5518**), Volume 11, , (Pages:36 – 41) July 2020.
5. S. Sanal Kumar<sup>1</sup>, M Sreekala<sup>2</sup>, “The Effects of Integrated Adaptive Artificial Intelligence eLearning system for Enhanced & Flexible Teaching & Learning Process – A Review” , IJSER ( International Journal of Scientific & Engineering Research (**ISSN 2229-5518**), Volume 12, Issue 6, (Pages:248 – 254) June 2021.

## **Paper Presentations (Number) :**

National : 7

International: 2

## **Seminars Attended :**

International(No): 1

National : 4

State level : 0

**Books Published** (Title with page No, book title, editor and publisher ISSN/ISBN no. whether peer reviewed no. of co-authors).

1. Sanal Kumar S ( Editor ) , Proceedings of UGC Sponsored Two Day National Seminar ETIC – 2014 ( **ISBN 978-81-89085-92-6** ) , Emerging Trends in Instrumentation & Control, Organised by Dept of Instrumentation, NSS College, Nemmara in Collaboration with Institution of Engineers (India). (December 2014).
2. Sanal Kumar S. (June 2020). "Informatics Made Simple – A Student's Reference", Book Media Kottayam, Kerala, India. (**ISBN: 978-81-945634-2-6**).
3. Sanal Kumar S<sup>1</sup>, Dr Palanivel S<sup>2</sup> (December 2021). "A TEXTBOOK ON MEASUREMENT & INSTRUMENTATION", Notion Press, 1<sup>st</sup> Edition. (**ISBN: 979-8885309370**).

#### **Articles Published in Patent office Journal:**

1. SANAL KUMAR S<sup>3</sup>. "Examining the Issue of Gateway Selection for the Effective Integration of WSN with the Internet in Realizing the IOT Vision". Patent Application No.202141048087 A, Date: 22/10/21. Publication Date: 29/10/2021. The Patent Office Journal No. 44/2021 dated 29/10/2021. Page No: 50286.
2. SANAL KUMAR S<sup>3</sup>. "An Innovative Method for Introducing Multiple Data Relationships into the SVM Optimization Process". Patent Application No.202141046043 A, date: 8/10/21. Publication Date: 05/11/2021. The Patent Office Journal No. 45/2021 dated 05/11/2021. Page No: 52305.
3. SANAL KUMAR S<sup>2</sup>. "Multisensory Architecture in fog computing for IoT Devices with a focus on Precision Agriculture". Patent Application No. 202241004614 A, date: 27/01/22. Publication Date: 04/02/2022. The Patent Office Journal No. 05/2022 dated 04/02/2022. Page No: 6415.
4. SANAL KUMAR S<sup>5</sup>, "Security System for IoT Based on FPGA managed smart card cluster" . Patent Application No. 202241006309 A, date: 06/02/2022. Publication Date: 11/02/2022. The Patent Office Journal No. 06/2022 dated 11/02/2022. Page No: 8005.

#### **Membership in Professional Bodies:**

1. Life Member of **Instrument Society of India** , Indian Institute of Science, Bangalore, India -  
Membership No: LM - 2471.
2. Life Member of **Biomedical Engineering Society of India** , Manipal Institute of Technology, Manipal , India . Membership No: LM - 1237
3. Life Member of **The Robotics Society of India** , Department of Engineering Design  
IIT Madras, Chennai – 600036, India . Membership No: R180776

**Honours and Awards:** Nil