


Brief Biodata

Name: Dr. Alok Prakash

Designation:	Scientist	
DP No. and Name:	DP#6.03, Electromagnetic Metrology	
DU No. and Name:	DU#6, Indian Standard Time	
Email:	alok.prakash@nplindia.org	
Date of Joining CSIR-NPL:	14.12.2020	
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Research Area/ Interest

Magnetic Metrology, Biomedical Instrumentation, Signal Processing, Control system.

Educational Qualifications

(Please write latest qualification first)

Degree	Subject	University/ Institute	Year
Ph.D.	Biomedical Engineering	IIT BHU, Varanasi	2020
M.Tech	Instrumentation and Control	SLIET Longowal, Sangrur, Punjab	2015
B. Tech	Electronics and Instrumentation	Dr. B. C. Roy Engineering College, Durgapur	2010

Academic / Research Experience

Grade / Post	Institute	Duration		Research Field
		From	To	
Scientist	CSIR-National Physical Laboratory, New Delhi	14.12.2020	Till date	Magnetic Metrology, Magnetic sensor/device development and validation.

No. of Publications

No. of Publications in SCI Journals	No. of Publications in non-SCI Journals	No. of Publications in Conference Proceedings	Books	Total
9	3	3	0	15

Selected Publications

1. **A. Prakash**, N. Sharma, A. K. Katiyar, S. K. Dubey, and S. Sharma, "Magnetic-based detection of muscular contraction for controlling hand prosthesis," *Sensors and Actuators A: Physical*, vol. 344, p. 113709, Sep. 2022, <https://doi.org/10.1016/j.sna.2022.113709>.
2. A. K. Katiyar, **A. Prakash**, A. Dangi, and S. K. Dubey, "Development and validation of a low magnetic permeability measurement setup," *Review of Scientific Instruments*, vol. 93, no. 11, p. 114701, Nov. 2022, <https://doi.org/10.1063/5.0124348>.
3. **A. Prakash**, N. Sharma, S. Sharma, An affordable transradial prosthesis based on force myography sensor, *Sensors and Actuators A: Physical*. 325 (2021) 112699. <https://doi.org/10.1016/j.sna.2021.112699>.
4. **A. Prakash**, A.K. Sahi, N. Sharma, S. Sharma, Force myography controlled multifunctional hand prosthesis for upper-limb amputees, *Biomedical Signal Processing and Control*. 62 (2020) 102122. <https://doi.org/10.1016/j.bspc.2020.102122>.
5. **A. Prakash**, N. Sharma, S. Sharma, Novel force myography sensor to measure muscle contractions for controlling hand prostheses, *Instrumentation Science & Technology*. 48 (2020) 43–62. <https://doi.org/10.1080/10739149.2019.1655441>.
6. **A. Prakash**, S. Sharma, A low-cost transradial prosthesis controlled by the intention of muscular contraction, *Phys Eng Sci Med*. 44 (2021) 229–241. <https://doi.org/10.1007/s13246-021-00972-w>.
7. **A. Prakash**, S. Sharma, Single-channel surface electromyography (sEMG) based control of a multi-functional prosthetic hand, *Instrumentation Science & Technology*. 49 (2021) 428–444. <https://doi.org/10.1080/10739149.2021.1880933>.
8. N. Sharma, **A. Prakash**, A.K. Sahi, N. Sharma, S. Sharma, Multimodal sensor to measure the concurrent electrical and mechanical activity of muscles for controlling a hand prosthesis, *Instrumentation Science & Technology*. 49 (2021) 146–163. <https://doi.org/10.1080/10739149.2020.1804932>.
9. **A. Prakash**, S. Sharma, N. Sharma, A compact-sized surface EMG sensor for myoelectric hand prosthesis, *Biomed. Eng. Lett*. 9 (2019) 467–479. <https://doi.org/10.1007/s13534-019-00130-y>.
10. **A. Prakash**, B. Kumari, S. Sharma, A low-cost, wearable sEMG sensor for upper limb prosthetic application, *J Med Eng Technol*. 43 (2019) 235–247. <https://doi.org/10.1080/03091902.2019.1653391>.
11. **A. Prakash**, S. Sharma, A low-cost system to control prehension force of a custom-made myoelectric hand prosthesis, *Res. Biomed. Eng*. 36 (2020) 237–247. <https://doi.org/10.1007/s42600-020-00064-w>.
12. **A. Prakash**, S. Sharma, Development of an Affordable Myoelectric Hand for Transradial Amputees:, *International Journal of Biomedical and Clinical Engineering*. 9 (2020) 1–15. <https://doi.org/10.4018/IJBCE.2020010101>.

Patents

1. **Alok Prakash**, Bindu Kumari, Shiru Sharma, and Neeraj Sharma "EMG sensor for prosthetic hand control," Indian Patent: 201811016601, May 2, 2018. (**Granted**)
2. **Alok Prakash**, Shiru Sharma, and Neeraj Sharma "FMG sensor for hand prosthesis application," Indian Patent: 201911043042, October 23, 2019. (**Published**)

Current Activities

(Not more than 100 words)

Research and development work facilitating magnetic metrological activities, Development and validation of device/sensor for industrial and biomedical applications.

Honour(s)/Award(s)/ Fellowship(s)

1. Received Gold Medal award for Best Project titled: “Development of low-cost EMG controlled prosthetic hand” in Institute Day held from 16-18 February 2018 conducted by Indian Institute of Technology (BHU).
2. Demonstrated the Project Prototype in Festival of Innovation and Entrepreneurship, 2018 held at President’s House, New Delhi.

Contributions to AcSIR**Membership of Professional Societies/ Institutions****Any other Information**

(Not more than 100 words)

Two years of industrial experience in private sector.