


## Brief Biodata

**Name: Afaqul Zafer**

<b>Designation:</b>	Scientist	
<b>DP No. and Name:</b>	Pressure, Vacuum and Ultrasonic Metrology Section (D1.06)	
<b>DU No. and Name:</b>	Physico-Mechanical Division (DU #01)	
<b>Email:</b>	<a href="mailto:Afaqul.zafer@nplindia.org">Afaqul.zafer@nplindia.org</a>	
<b>Date of Joining CSIR-NPL:</b>	Feb 09, 2018	
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### **Research Area/ Interest**

Hydraulic pressure metrology, dynamic pressure calibration, differential pressure, pressure transducers, Ansys, Solidworks, etc.

### **Educational Qualifications**

*(Please write latest qualification first)*

Degree	Subject	University/ Institute	Year
M.Tech	Advance material physics and engineering	AcSIR	2015
B.Tech	Mechanical	Aligarh Muslim University	2012

### **Academic / Research Experience**

Grade / Post	Institute	Duration		Research Field
		From	To	
JRF and SRF	AcSIR	2013	2017	Pressure Metrology

### **No. of Publications**

No. of Publications in SCI Journals	No. of Publications in non-SCI Journals	No. of Publications in Conference Proceedings	Books	Total
17	01	4	2	

## **Selected Publications**

- Zafer A. and Yadav S., “Design and development of strain gauge pressure transducer working in high pressure range of 500 MPa using autofrettage and finite element method”, International journal of precision engineering and manufacturing, Volume 19, Issue 06, pp 793-800, <https://doi.org/10.1007/s12541-018-0095-y>.
- Zafer A., Yadav S., Sharma N.D., Kumar A., Aswal D. K., “Economic Impact Studies of Pressure and Vacuum Metrology at CSIR-NPL, India”, MAPAN- Journal of metrology society of India, Volume 34, Issue 4, pp 421–429, <https://doi.org/10.1007/s12647-019-00356-2>.
- Zafer A., Yadav S., Sanjid A., Kumar L. and Sharma R. K., “Volume ratio and pressure drop on hydraulic dynamic pressure calibration system”, Journal of Mechanical Science and Technology 31 (8) (2017) 3769-3775 .
- Zafer A., Saha S., Yadav S., Jaiswal S.K. and Aswal D.K., “Feasible methods for g-measurement and uncertainty comparison with Monte Carlo method”, MAPAN – Journal of Metrology Society of India. May 2021 (online) Vol. 36 (2), pp. 325-331 (2021).
- Thakur V.N., Zafer A., Yadav S., Kumar A., “Ferroelectric-Dielectric Composite Pressure Sensor”, Sensors & Actuators: A. Physical, 297, 111536 (2019).
- Kumar R., Dubey P.K., Zafer A., Kumar A. and Yadav S., “Past, present and future of blood pressure measuring instruments and their calibration” Measurement, Volume 172, February 2021, 108845
- Yadav S., Zafer A., Kumar A, Sharma N.D., Aswal D. K., “Role of National Pressure and Vacuum Metrology in Indian Industrial Growth and Their Global Metrological Equivalence”, June 2018, MAPAN- Journal of Metrology Society of India, DOI: 10.1007/s12647-018-0270-8.

## **Patents**

“An automatic calibration setup for multiple blood pressure measuring instruments Inventors”, Dr. Sanjay Yadav, Rahul Kumar, Dr. Ashok Kumar, Dr. P K Dubey, Om Prakash, Nita D Sharma, Afaqul Zafer, Harish Kumar, V K Gupta, S K Jaiswal, Ashutosh Agarwal (submitted 2021).

## **Current Activities**

*(Not more than 100 words)*

- Dissemination, maintenance and establishment of metrological traceability for the hydraulic pressure
- Study for the dynamic calibration system
- Development of pressure transducer
- Establishment of differential pressure system
- Mechanical design and development of the calibration/testing system for the non-

invasive blood pressure measuring devices

- Study and design for the precision g-measurement
- 3D design and finite element method analysis for the mechanical structure

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

**Contributions to AcSIR**

Faculty of the course of PDG-PMQC programme

**Membership of Professional Societies/ Institutions**

Member of Metrology Society of India

**Any other Information**

*(Not more than 100 words)*