


Brief Biodata

Name: Dr P K Dubey

Designation:	Principal Scientist and Associate Professor (AcSIR)	
DP No. and Name:	Pressure Vacuum and Ultrasonic Metrology (1.06)	
DU No. and Name:	Physico Mechanical Metrology (DU #1)	
Email:	dubeypk@nplindia.org	
Date of Joining CSIR-NPL:	07/05/2012	
Phone (office)	011-45608380	
Mobile (optional)	-	

Research Area/ Interest

Ultrasonic Metrology, Electronics Instrumentation

Educational Qualifications

(Please write latest qualification first)

Degree	Subject	University/ Institute	Year
PhD	Ultrasonic Instrumentation	RTM Nagpur University	2008
MSc	Electronics Instrumentation	Nagpur University	2000
BSc	Physics, Maths, Electronics	Nagpur University	1998

Academic / Research Experience

Grade / Post	Institute	Duration		Research Field
		From	To	
Principal Scientist	CSIR-NPL	07/05/2016	Continued	Ultrasonic Metrology
Senior Scientist	CSIR-NPL	07/05/2012	06/05/2016	Ultrasonic 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
30	02	66	NIL	98

Selected Publications

- 1) Rahul Kumar, **P.K. Dubey**, Afaqul Zafer, Ashok Kumar and Sanjay Yadav, “**Past, present and future of blood pressure measuring instruments and their calibration**” *Measurement(Elsevier)*, Volume 172, February 2021, 108845, <http://dx.doi.org/10.1016/j.measurement.2020.108845>
- 2) Sahil Sharma, Ujjwal K Mishra, Sanjay Yadav and **P K Dubey**, “**Improved ultrasonic interferometer technique for propagation velocity and attenuation measurement in liquids**” *Review of Scientific Instruments (AIP, USA)*, 90, 045107 (2019); <http://dx.doi.org/10.1063/1.5088762>
- 3) S. U. Dubey, **P. K. Dubey** S. Rajagopalan and S. J. Sharma, “**Real-time implementation of Kalman filter to improve accuracy in the measurement of time of flight in an ultrasonic pulse-echo setup**” *Review of Scientific Instruments (AIP, USA)*, Vol. 90(2), 025105 (2019). <http://dx.doi.org/10.1063/1.5048966>
- 4) Julian Haller, Christian Koch, Rodrigo P B Costa-Felix, **P K Dubey**, G Durando, Yong Tae Kim, Masahiro Yoshioka, “**Final report on key comparison CCAUV.U-K3.1**”, *Metrologia*, Vol. 53(1A):09002 (January 2016). <http://dx.doi.org/10.1088/0026-1394/53/1A/09002>
- 5) **P. K Dubey**, and Shashank Singh, “**High resolution vertical movement system for transducer and target separation in primary ultrasonic power measurement setup**”, *Measurement (Elsevier)*, Vol. 76 pp. 201-208 (2015). <http://dx.doi.org/10.1016/j.measurement.2015.08.030>
- 6) **P. K Dubey**, Yudhisther Kumar, Reeta Gupta, Anshul Jain and Chandrashekhar Gohiya, “**Measurement of total ultrasonic power using thermal expansion and change in buoyancy of an absorbing target**”, *Review of Scientific Instruments (AIP, USA)*, Vol. 85(5), 054905(2014). <http://dx.doi.org/10.1063/1.4878625>
- 7) Renu Maurya, **P. K. Dubey**, D. K. Shukla, Arun Kumar, B. C. Arya, and S. L. Jain “**Comparison of Indigenously Developed Micro Pulse Polarization Lidar with EZ Lidar Profiles**, *Applied Physics B: Lasers and Optics*, Vol. 104 (4), pp. 975-982 (2011), <http://dx.doi.org/10.1007/s00340-011-4612-2>
- 8) **P.K. Dubey**, S.L. Jain, B.C. Arya, Y. N. Ahammed, Arun Kumar, D. K. Shukla and Pavan S. Kulkarni, “**Indigenous design and development of a micro-pulse lidar for atmospheric**

studies” *International Journal of Remote Sensing (T&F, UK)*, Vol. 32(2), 337 (2011).
<http://dx.doi.org/10.1080/01431160903464153>

- 9) **P. K Dubey**, Ashok Kumar, Yudhisther Kumar, Reeta Gupta and Deepa Joshi, “**Primary measurement of total ultrasonic power with improved accuracy in RF voltage measurement**”, *Review of Scientific Instruments (AIP, USA)*, Vol. 81(10), 104904 (2010).
<http://dx.doi.org/10.1063/1.3482157>
- 10) **P. K. Dubey**, S.L. Jain, B.C. Arya, and Pavan S. Kulkarni, "**Depolarization ratio measurement using single photomultiplier tube in micro-pulse lidar**", *Review of Scientific Instruments (AIP, USA)*, Vol. 80(5), 053111 (2009). <http://dx.doi.org/10.1063/1.3137934>

Patents (Filed or Granted)

1. **P K Dubey**, Sanjay Yadav and Piyush, “**Ultrasonic Pulse Velocity Tester Device with Threshold Error Correction**” Patent Filed No.: 202111048097(October 2021)
2. Sanjay Yadav, Rahul Kumar, Ashok Kumar, **P K Dubey**, Afqual Zafer, Nita Dilawar, Om Prakash, Harish Kumar, V K Gupta, S K Jaiswal and Ashutosh Aggarwal, “**An automatic calibration setup for multiple blood pressure measuring instruments**”, Patent Filed No.: 202111048098 (October 2021)
3. **P K Dubey**, V N Ojha and Shashank Singh, “**Electromagnetic Acoustic Transducer Excitation Source with Programmable Tone Burst Generator**” (US Patent No.: US 10, 250, 979 B2) Grant date: April 2019.
4. Ashok Kumar, Ravikant, Sheshamani Singh, Hitesh Borkar, Gaurav Gupta, Shashank Singh, **P K Dubey**, Sanjay Yadav, V N Ojha, “**Low cost and high sensitivity polar-resistive humidity sensor**” (Indian Patent File No: 201711040726) File date: Nov 2017.
5. **P K Dubey** and Sahil Sharma, “**Improved Ultrasonic Interferometer Excitation and Detection Circuit for Velocity and Attenuation Measurement**” (Indian Patent File No: 201711036499) File date: Oct 2017.
6. **P K Dubey**, V N Ojha and Shashank Singh, “**Electromagnetic Acoustic Transducer Excitation Source with Programmable Tone Burst Generator**” (Indian Patent filed No-201611041059)File date: Dec 2016.

Current Activities

- + Maintenance and Upgradation of Ultrasonic Metrology Related Activities of CSIR-NPL.**
- + Research & Development Related to Ultrasonic Instruments for Metrological and Industrial Applications.**
- + Electromagnetic Acoustic Transducer (EMAT).**
- + Ultrasonic Immersion Scanning System (C- Scan).**
- + Instrumentation for Concrete Tester.**
- + Instrumentation for Ultrasonic Studies in Liquids.**
- + Development and Instrumentation Related to Photon Counting.**

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

- CSIR- Visiting Associate**
- CSIR – Research Associate**

Contributions to AcSIR

- ❖ Students Completed PhD (under Supervision / Co-Supervision): 03**
- ❖ Students Working for PhD (under Supervision / Co-Supervision): 05**
- ❖ Teaching PhD Coursework: Instrumentation for Calibration & Testing**
- ❖ Teaching PMQC Diploma Course: Ultrasonic Metrology**
- ❖ Student Supervision for their Projects at Masters or Bachelors Level in the Field of Ultrasonics / Instrumentation**

Membership of Professional Societies/ Institutions

- Metrology Society of India,**
- Instrument Society of India,**
- Ultrasonic Society of India**
- Acoustical Society of India**

Any other Information: Technologies Developed (06)

- 1. Electromagnetic Acoustic Transducer (EMAT): Ready for Technology Transfer**
- 2. Improved Variable Frequency Ultrasonic Interferometer for Velocity and Attenuation Measurement in liquids: Product Available in Market**
- 3. Three Tesla Auto Range Pulsed/ Static Field Gauss Meter: Product Available in Market**
- 4. Improved Ultrasonic Pulse Velocity Tester with Automatic Threshold Error Correction: Ready for Technology Transfer**
- 5. Electromagnetic Acoustic Transducer based Non-Destructive Testing System**
- 6. EMAT based Ultrasonic Flaw Detector: Ready for Technology Transfer**