

Scientific Biography
Prof. DETCHKO PAVLOV, DSc
Full Member (Academician)
of the Bulgarian Academy of Sciences



Born: September 9, 1930, Shipka town, Bulgaria

Died: August 25, 2017, Sofia, Bulgaria

Education and Professional Qualification:

1953 - University of Chemical Technology and Metallurgy (UChTM), Sofia, Bulgaria, (Chemical Engineer)

1961 - Institute du Radium, Laboratory "Maria and Pier Curie", Paris, France (specialization)

1984 - Central Laboratory of Electrochemical Power Sources – CLEPS (now Institute of Electrochemistry and Energy Systems – IEES), Bulgarian Academy of Sciences (Prof. DSc)

Professional Status and Posts Held:

1953 - 1961	Assistant, Dept. Physical Chemistry, UChTM, Sofia
1961 - 1967	Research Associate, Institute of Physical Chemistry, Bulgarian Academy of Sciences
1967 - 1970	Research associate, CLEPS - BAS
1970-1985	Senior Research Scientist, CLEPS
Since 1967	Founder of CLEPS together with Prof. Budevski Founder and head of the Lead-Acid Battery Department at CLEPS
1974 - 1993	Deputy Director of CLEPS
1985 - 1989	Professor of Electrochemistry, CLEPS
1989 - 1997	Corresponding Member of the Bulgarian Academy of Sciences
Since 1997	Full Member of the Bulgarian Academy of Sciences (Academician)

Scientific Contributions:

1. Investigations in the field of:

polarography; kinetics of the electrochemical processes; electrochemistry of lead electrodes; semiconductor properties and structure of lead oxides, lead sulphate and basic lead sulphates; processes related to the technology of battery manufacture; structures of Pb and PbO₂ active masses; processes related to battery operation; electrochemistry of antimony and tin electrodes; thermal phenomena in VRLAB; mechanism of the processes causing thermal run away in VRLAB and etc.

2. Basic scientific targets:

- the development of a theory for lead-acid batteries (LAB)
- disclosure of the mechanism of the processes in LAB
- development of new technologies for LAB production
- development of the science for electrochemical power sources (ECPS)

3. Publications in International Scientific Journals - 250 papers, with over 5150 citations by mid 2018

Seven monographs:

- D. Pavlov, *Chapter 5, Lead-acid Batteries*, in Power Sources for Electric Vehicles. Editor B.D.McNicol, D.A.J.Rand. Pages 111-511. Elsevier. ISBN 0-444-42315-X. Amsterdam-Oxford-New York-Tokyo. 1984
- D. Pavlov, G. Papazov, M. Gerganska, *Battery Energy Storage Systems*, Technical Report No.7, UNESCO (ROSTE), Venecia, Italy, 1991
- D. Pavlov, *Chapter 3, Formation of Lead-Acid Batteries and Structure of Positive and Negative Active Masses*, in Valve Regulated Lead Acid Batteries (Eds. D.A.J. Rand, P.T. Moseley, J. Garche, C.D. Parker) p. 37-108, Elsevier, ISBN:0-444-50746-9, Amsterdam-Oxford-San Diego-London, 2004
- D. Pavlov, *Essentials of Lead-Acid Batteries*, pages 196, compiled and edited by B. Hariprakash, T. Prem Kumar, A.K. Shukla, published by SAEST, Karaikudi 630006, India
- D. Pavlov, *Lead-Acid Batteries: Science and Technology*, First Edition, 656 Pages, ISBN 10: 0-444-52882-2, ISBN 13: 978-0-444-52882-7, Elsevier B.V., Amsterdam, The Netherlands, 2011
- D. Pavlov, *Lead-Acid Batteries: Science and Technology*, 513 pages, ISBN 10: 7111496132, ISBN 13: 9787111496137, published by Machinery Industry Press, China, under special arrangements with Elsevier (Singapore) PteLtd., May 2015,
- D. Pavlov, *Lead-Acid Batteries: Science and Technology*, Second Edition, 720 Pages, eBook ISBN: 9780444595607, Hardcover ISBN: 9780444595522, Elsevier B.V., 2017

4. Patents in Bulgaria and abroad - 39 patents

5. R&D Project manager of more than 55 completed joint research projects with companies, universities and organizations from Europe, The Americas, Asia and Africa

6. Educational activities:

- Scientific advisor of 11 PhD Students.
- Lecture courses on “Processes that occur during battery manufacture” and “Essentials of Lead-Acid Batteries” presented in: Australia, Bulgaria, Brazil, China, Egypt, Finland, Greece, Germany, India, Iran, Italy, Japan, Oman, Peru, Russia, Romania, Serbia, South Korea, Taiwan, Turkey, UK, USA, etc.

Chairman and Co-Chairman of International Conferences:

1977 - “*Electrochemical Power Sources*”, 28th Meeting of the International Society of Electrochemistry (ISE), Varna, Bulgaria

1984 – “*Advances in Lead-Acid Batteries*”, 166th Meeting of the Electrochemical Society, New Orleans, USA

1989, 1993, 1996, 1999, 2002, 2005, 2008, 2011, 2014, 2017 - *International Conferences on Lead-Acid Batteries - LABAT*, held in Bulgaria

Editor and Co-Editor of Conference Proceedings:

1977 - "*Electrochemical Power Sources*", Proceedings 28th ISE - Meeting, 1977, Bulgaria
1984 - "*Advances in Lead-Acid Batteries*", Proceedings, Volume 84-14, The Electrochemical Society Inc., USA, 1985.
LABAT Conference proceedings, J. Power Sources, 30, 31 (1990); 46 (1993); 64 (1997); 85 (2000); 113 (2002), 158 (2006) 191 (2009)

Member of the Editorial Boards of International Journals:

- *Journal of Power Sources*, Elsevier Sequoia, Lausanne, Switzerland
- *Bulletin of Electrochemistry*, Karaikudi, India
- *Электрохимическая Энергетика*, Saratov, Russia
- *Comptes rendus de l'Académie bulgare des Sciences*, Sofia, BAS, Bulgaria
- *Journal of Chemical Technology and Metallurgy*, UCTM, Sofia, Bulgaria

Membership in international organizations:

Since 1978 - Active member of the Electrochemical Society, USA
1988 - Member of the International α/β Society (Australia)
1995 - Deputy Governor of the American Biographical Institute - Research Association (ABIRA)
1997 - Advisor and Cooperative Member of ITE Battery Research - Institute, Nagoya, Japan
1999 - Member of the International Society of Electrochemistry (ISE)
2011 – Member of American Chemical Society (ACS), USA

National and International Awards:

1976 - Cyril and Methodius Medal for major scientific achievements
1980 - The Award of the Federal Ministry of Education of Australia
1984 - Research Award of the USA Electrochemical Society
1986 - National Dimitrov Award for Science, Bulgaria
1994 - Gaston Planté Medal of the Bulgarian Academy of Sciences
1995 - International Cultural Diploma of Honor, ABIRA, USA
2006 - Marin Drinov medal with ribbon, BAS, Bulgaria
2010 - International Lead Award, International Lead Association (ILA), UK
2013 - The Pythagoras Lifetime Award, Ministry of Education and Science of Bulgaria
2014 - 'Bulgaria is You!' Lifetime Achievement Award for Science, Bulgaria
2016 - NAATBatt Lifetime Achievement Award, NAATBatt International, USA
2016 - ILZDA Lifetime Achievement Award, India Lead Zinc Development Association, India