Dr. rer. nat. **Dieter Mauer**,

born in 1961,

since 1980: Studies of physics in Bonn and Cologne

since 1988: Bayer AG: process control technology, engineering technology, process engineering

from 1993: Bayer AG: application technology for ion exchangers.

1998: Foundation of MionTec GmbH as a test laboratory, resin analysis laboratory, pilot plant, engineering office and training institute. Topics: Process development with ion exchangers and adsorbents, forward osmosis and nanofiltration.

since 2004: Lecturer on various topics in ion exchange and adsorption; many publications on ion exchange in DI plants.

2013: Publication of the first reference book on the DI plant (English version in 2019)

Presentations and conferences:

Mauer, D.: How DI production monitoring has changed in recent years
(Lecture at the symposium Chemie im Kraftwerk – VGB PowerTech 2025)

Mauer, D.: Correlation diagrams – The new language of DI-lines
(Lecture at the symposium Chemie im Kraftwerk – VGB PowerTech 2024)

Mauer, D. : Autonomous Operation of the DI-Plant – Artificial Intelligence (AI) in DI-Water Production (Keynote at the symposium IEX 2024; Cambridge 2024)

Mauer, D. : Case studies with Mi-Vision – we did not expect that
(Lecture at the symposium IEX 2024; Cambridge 2024)

Mauer, D.: The transparent DI plant – How water chemistry simplifies troubleshooting
(Double lecture at the symposium Chemie im Kraftwerk – VGB PowerTech 2023)

Mauer, D.: Mistakes you should avoid when measuring TOC
(Lecture at the symposium Chemie im Kraftwerk – VGB PowerTech 2022)

Mauer, D.: How resin ageing lost its horror
(Lecture at the symposium Chemie im Kraftwerk – VGB PowerTech 2022)

Mauer, D.: Case studies with Mi-Vision – We did not expect that
(Lecture at the symposium Chemie im Kraftwerk – VGB PowerTech 2021)

Mauer, D.: What the weak base ion exchanger has not told us so far
(Lecture at the symposium Chemie im Kraftwerk – VGB PowerTech 2021)

Mauer, D.: Ammonia cycle is indeed utilisable in CPPs! But how?
(Lecture at the symposium Chemie im Kraftwerk – VGB PowerTech 2019)

Mauer, D.: „Autonomous operation“ of the DI-plant – Artificial Intelligence (AI) in DI-Production
(Lecture at the symposium Chemie im Kraftwerk – VGB PowerTech 2018)

Mauer, D.: Take al look into the crystall bal – More than a fortune telling!
(Lecture at the symposium Chemie im Kraftwerk – VGB PowerTech 2017)

Mauer, D.: A new method for online monitoring oft the loading of the single ion exchanger steps in the DI plant
(Lecture at the symposium Chemie im Kraftwerk – VGB PowerTech 2016)

Mauer, D.; Lambertz, S.: Lecture on advanced measurement theory in the DI-line
(Lecture at the symposium Chemie im Kraftwerk – VGB PowerTech 2015)

Mauer, D.: Saving money, at whatever cost and risk – where false economies are made at a demi plant
(Lecture at the symposium Chemie im Kraftwerk – VGB PowerTech 2014)

Mauer, D.: A total cost comparison between reverse osmosis and ion exchange for demineralization
(Lecture at the symposium Chemie im Kraftwerk – VGB PowerTech 2013)

Mauer, D.: Membrane degassing instead of stripper – The future for the DI system ?
(Lecture at the symposium Chemie im Kraftwerk – VGB PowerTech 2012)

Mauer, D.: Improving the economic efficiency of ion exchanger systems for demineralisation
(Lecture at the symposium Chemie im Kraftwerk – VGB PowerTech 2011)

Mauer, D.: New dimensions in the stability measurement of ion exchangers
(Lecture at the symposium Chemie im Kraftwerk – VGB PowerTech 2010)

Mauer, D.: Analyses of the service life and ageing behaviour of ion exchangers in demineralised water and condensate purification systems – results of comparative studies
(Lecture at the symposium Chemie im Kraftwerk – VGB PowerTech 2009)

Text books:

Mauer, D.; The DI-Plant – Demineralisation with IEX-resins – A Comprehensive Review including a Number of Associated Process Technologies; Textbook, 1st edition, published 2019

Papers:

Mauer, D.: Is TOC measurement after deionisation really that problematic? vgbe energy journal; 4.2025)

Mauer, D.: Increasing the operational reliability of demineralisation systems using correlation diagrams – The new language of demineralisation lines; vgbe energy journal; 3.2025)

Mauer, D.; "Autonomous operation" of the DI-plant – Artificial Intelligence (AI) in DI-production VGB PowerTech, 3.2019

Mauer, D.; Membrane degassing instead of stripper – The future for the DI plant?
VGB PowerTech, 4.2013

Mauer, D.; Procedures against increase in chemical costs in DI plants as a result of resin ageing; VGB PowerTech, 5.2012

Mauer, D.; A new measurement method for investigating the stability of ion exchangers;
VGB PowerTech, 8.2011

Mauer, D.; Service life and ageing behaviour of ion exchangers – analyses in DI plants and condensate polisher plants; VGB PowerTech, 3.2010

Workshops:

Mauer, D.; Binding and regeneration behaviour of silicic acid on anion exchangers
(Lecture at the VGB-Workshop, Lübeck, 30.+31.08.2012)

Mauer, D.: Ageing of resins and the correct way of reacting
(Lecture at the VGB-Workshop 10.3.2016)

Mauer, D.; Modelling of the use of regenerants according to the Langmuir formula for the design of DI plants; Zittauer kraftwerkschemisches Kolloquium
(Lecture at the symposium Zittauer kraftwerkschemischen Kolloquium, Ostritz, 21.+22.09.2009)

and other topics more…