

## Publication List – Jun.-Prof. Dr.-Ing. Weihan Li

### Publication Summary

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- 68 peer-reviewed journal publications (including 24 as last author and 14 as first author), 4 book chapters & monographs, 38 conference proceedings & posters, and 3 patents.
- Google Scholar: 5900+ citations, h-index 36, i10-index 56.
- Research identifiers: ORCID: 0000-0002-2916-3968; Web of Science ResearcherID: ADP-9539-2022.

### Peer-Reviewed Journal Publications

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*\* indicates corresponding author; last author position denotes research leadership.*

- [1] Y. Zhao, J. Deng, Z. Sun, N. Lin\*, **W. Li\***. Evolution of safety risks during battery degradation: mechanisms and implications, *Journal of Energy Chemistry*, 2026, 117, 782-299. <https://doi.org/10.1016/j.jechem.2026.02.040>
- [2] T. Wang, J. Zhu, **W. Li**, Y. Xu, Z. Y. Dong\*. Physics-guided deep learning for battery future capacity and remaining useful life predictions, *IEEE Transactions on Transportation Electrification*, 2026. <https://doi.org/10.1109/TTE.2026.3665605>
- [3] T. Tegetmeyer-Kleine\*, H. Ditle, G. Stahl, C. Rahe, D. U. Sauer, **W. Li\***. Deep learning for decoding lithium plating in lithium-ion batteries from post-mortem images. *Journal of Energy Storage*, 2026, 154, 121028. <https://doi.org/10.1016/j.est.2026.121028>
- [4] G. Sordi, G. M. Trippetta, D. Luder, S. Berg, **W. Li**, E. Figgemeier, D. U. Sauer, A. Casalegno, C. Rabissi\*. Degradation of LiFePO<sub>4</sub> batteries after a real hybrid-bus extended application: Investigation of aging phenomena and heterogeneity of performance. *Journal of Energy Storage*, 2026, 152, 120653. <https://doi.org/10.1016/j.est.2026.120653>
- [5] J. Qu, J. Shen, **W. Li**, T. Wang, Y. Wang, R. Zheng, M. Li, Z. Wang\*. Diagnosing inconsistencies in battery energy storage systems: A framework integrating electrical, thermal, and aging perspectives. *Applied Energy*, 2026, 405, 12703. <https://doi.org/10.1016/j.apenergy.2025.127203>
- [6] B. Liaw\*, **W. Li\***, L. Raijmakers\*, L. Yan, H. A. A. Ali, A. Windmüller, C. Tsai, D. U. Sauer, R. Eichel. Demystifying data-driven approaches for battery electric transportation: challenges and future directions. *eTransportation*, 2025, 26, 100501. <https://doi.org/10.1016/j.etrans.2025.100501>
- [7] Y. Zhao, Z. Wang, L. Yan, Z. Sun, P. Liu, L. Zhang\*, **W. Li\***. Bridging battery degradation and safety: challenges and opportunities, *eTransportation*, 2025, 26, 100497. <https://doi.org/10.1016/j.etrans.2025.100497>
- [8] A. A. Panahi\*, D. Luder, B. Wu, G. Offer, D. U. Sauer, **W. Li\***. Fast and generalizable parameter-embedded neural operators for lithium-ion battery simulation, *Energy and AI*, 2025, 22, 100647. <https://doi.org/10.1016/j.egyai.2025.100647>
- [9] L. Su, S. Tao\*, **W. Li**, D. U. Sauer, G. Zhou, X. Zhang. Generalized data sufficiency of battery degradation trajectory predictability and transferability, *Cell Reports Physical Science*, 2025, 6(10), 102901. <https://doi.org/10.1016/j.xcrp.2025.102901>
- [10] R. Lian, **W. Li\***. Unlocking battery insights with interpretable machine learning, *Joule*, 2025, 9(9), 102131. <https://doi.org/10.1016/j.joule.2025.102131>
- [11] D. Lye, S. Onori, S. Tao, D. A. Howey, B. Zhang, K. L. Quade, M. Dubarry, B. Wu, **W. Li\***. Next steps for battery diagnostics, *Cell Reports Physical Science*, 2025, 6(11), 102868. <https://doi.org/10.1016/j.xcrp.2025.102868>

- [12] L. Yan, J. Peng, Z. Zhu, H. Li, Z. Huang, D. U. Sauer, **W. Li**\*. Breaking the voltage plateau barrier: Slope-adaptive state-of-charge estimation for LFP batteries with temperature-aware hysteresis modeling, *eTransportation*, 2025, 26, 100473. <https://doi.org/10.1016/j.etrans.2025.100473>
- [13] V. Steininger\*, K. L. Quade, K. Rumpf, S. Bihn, J. Ringler, D. U. Sauer, **W. Li**. Detection of abnormal SOH estimates in battery field data using statistical learning, *Cell Reports Physical Science*, 2025, 6(9), 102788.<sup>1</sup> <https://doi.org/10.1016/j.xcrp.2025.102788>
- [14] D. D. Tadoum\*, F. Berger, F. Krause, D. Wasylowski, F. Ringbeck, **W. Li**, D. U. Sauer. Standards and regulations for battery management systems in Germany: review and improvement potentials. *Global Challenges*, 2025, 9(9), e00129. <https://doi.org/10.1002/gch2.202500129>
- [15] **W. Li**\*, H. Samukha, B. van Vlijmen, S. Greenbank, S. Onori, V. Viswanathan. Fast data augmentation for battery degradation prediction. *Energy and AI*, 2025, 21, 100542. <https://doi.org/10.1016/j.egyai.2025.100542>
- [16] J. Chen, S. P. Mattus, W. Cao, D. U. Sauer, **W. Li**\*. Global sensitivity analysis towards non-invasive parameterization of the electrochemical model for lithium-ion batteries, *Advances in Applied Energy*, 2025, 18, 100221. <https://doi.org/10.1016/j.adapen.2025.100221>
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- [18] D. Luder, P. T. John, P. Busch, M. Börner, W. Cao, P. Dechent, E. Barbers, S. Bihn, L. Liu, X. Feng, D. U. Sauer, **W. Li**\*. Big data generation platform for battery faults under real-world variances. *Green Energy and Intelligent Transportation*, 2025, 4(3), 100282. <https://doi.org/10.1016/j.geits.2025.100282>
- [19] X. Cai, C. Zhang, J. Chen, Z. Chen, L. Zhang, D. U. Sauer, **W. Li**\*. Sensorless battery expansion estimation using electromechanical coupled models and machine learning, *Journal of Energy Chemistry*, 2025, 105, 142-157. <https://doi.org/10.1016/j.jechem.2024.12.068>
- [20] L. Yan, J. Peng, Z. Zhu, H. Li, Z. Huang, D. U. Sauer, **W. Li**\*, Data-driven modeling of open circuit voltage hysteresis for LiFePO<sub>4</sub> batteries with conditional generative adversarial network, *Energy and AI*, 2025, 20, 100478. <https://doi.org/10.1016/j.egyai.2025.100478>
- [21] J. Zou, Y. Gao, M. H. Frieges, M. F. Börner, A. Kampker, **W. Li**\*. Machine learning for battery quality classification and lifetime prediction using formation data, *Energy and AI*, 2024, 18, 100451. <https://doi.org/10.1016/j.egyai.2024.100451>
- [22] M. Borah\*, Q. Wang, S. Moura, D. U. Sauer, **W. Li**. Synergizing physics and machine learning for advanced battery management, *Communication Engineering*, 2024, 3(1), 134. <https://doi.org/10.1038/s44172-024-00273-6>
- [23] A. Chahbaz\*, Y. Luo, G. Stahl, Heinrich Ditle, T. Jaumann, M. Glinka, C. Lingen, D. U. Sauer, **W. Li**. Pressure-induced capacity recovery and performance enhancements in LTO/NMC-LCO batteries, *Advanced Functional Materials*, 2024, 35(14), 2419229. <https://doi.org/10.1002/adfm.202419229>
- [24] X. Cai, C. Zhang, H. Ruan, Z. Chen, L. Zhang, D. U. Sauer, **W. Li**\*. Cross-scale decoupling kinetic processes in lithium-ion batteries using the multi-dimensional distribution of relaxation time, *Advanced Science*, 2024, 11(44), 2406934. <https://doi.org/10.1002/advs.202406934>

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<sup>1</sup> Editor's Choice 2025 (Cell Reports Physical Science)

- [25] Q. Wang, M. Ye, S. Celik, Z. Deng, B. Li, D. U. Sauer, **W. Li\***. Unlocking the potential of unlabeled data: self-supervised machine learning for battery aging diagnosis with real-world field data, *Journal of Energy Chemistry*, 2024, 99, 681-691. <https://doi.org/10.1016/j.jechem.2024.08.037>
- [26] G. Sordi\*, D. Luder, **W. Li**, D. U. Sauer, A. Casalegno, C. Rabissi. Investigation of calendar ageing of lithium-ion battery through physical models with ex-situ validation, *Journal of Power Sources*, 2024, 615, 235076. <https://doi.org/10.1016/j.jpowsour.2024.235076>
- [27] X. Li, Z. Wang, L. Zhang\*, Z. Huang, D. Cui, **W. Li**, D. U. Sauer. A comparative study of real-time coordinate charging schemes for residential electric vehicles, *Journal of Energy Storage*, 2024, 98, 113021. <https://doi.org/10.1016/j.est.2024.113021>
- [28] Y. He, Z. Deng\*, J. Chen, **W. Li**, J. Zhou, F. Xiang, X. Hu. State-of-health estimation for fast-charging lithium-ion batteries based on a short charge curve using graph convolutional and long short-term memory networks, *Journal of Energy Chemistry*, 2024, 98, 1-11. <https://doi.org/10.1016/j.jechem.2024.06.024>
- [29] G. Ipers, J. Jiao, S. Pathak, R. Fang, M. D. Berliner, W. Li, **W. Li**, R. D. Braatz, M. Z. Bazant, J. Zhu\*. Rapid simulation of electro-chemo-mechanical deformation of Li-ion batteries based on porous electrode theory. *Journal of Electrochemical Society*, 2024, 171(5), 050557. <https://doi.org/10.1149/1945-7111/ad4f1e>
- [30] H. Chen, A. Chahbaz, S. Yang, W. Zhang, D. U. Sauer, **W. Li\***. Thermodynamic and kinetic degradation of lithium-titanate-oxide batteries: impact of different state-of-charge ranges and discharge cut-off voltages. *eTransportation*, 2024, 21, 100340. <https://doi.org/10.1016/j.etrans.2024.100340>
- [31] X. Cai, C. Zhang\*, Z. Chen, L. Zhang, D. U. Sauer, **W. Li\***. Characterization and quantification of multi-field coupling in lithium-ion batteries under mechanical constraints, *Journal of Energy Chemistry*, 2024, 95, 364-379.<sup>2</sup> <https://doi.org/10.1016/j.jechem.2024.03.048>
- [32] M. F. Börner\*, A. M. Mohsseni, N. De, M. Faber, F. Krause, **W. Li**, S. Bihn, F. Ringbeck, D. U. Sauer. Manufacturing cost comparison of tabless vs. standard electrodes for cylindrical lithium-ion batteries, *Journal of Energy Storage*, 2024, 77, 109941. <https://doi.org/10.1016/j.est.2023.109941>
- [33] Z. Ma\*, M. Jia, L. Koltermann, A. Blömeke, R. W. De Doncker, **W. Li**, D. U. Sauer. Review on grid-tied modular battery energy storage systems: Configuration classifications, control advances, and performance evaluations. *Journal of Energy Storage*, 2023, 74, 109272. <https://doi.org/10.1016/j.est.2023.109272>
- [34] Q. Wang, Z. Wang, P. Liu, L. Zhang, D. U. Sauer, **W. Li\***. Large-scale field data-based battery aging prediction driven by statistical features and machine learning, *Cell Reports Physical Science*, 2023, 4(12), 101720.<sup>3</sup> <https://doi.org/10.1016/j.xcrp.2023.101720>
- [35] V. Steiniger, K. Rumpf, P. Hüsson, **W. Li\***, D. U. Sauer. Automated feature extraction to integrate field and laboratory data for aging diagnosis of automotive lithium-ion batteries, *Cell Reports Physical Science*, 2023, 4(12), 101596. <https://doi.org/10.1016/j.xcrp.2023.101596>
- [36] Q. Wang, M. Ye\*, X. Cai, D. U. Sauer, **W. Li\***. Transferable data-driven capacity estimation for lithium-ion batteries with deep learning: A case study from laboratory to field applications, *Applied Energy*, 2023, 350, 121747. <https://doi.org/10.1016/j.apenergy.2023.121747>

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<sup>2</sup> Cover Story (*Journal of Energy Chemistry*)

<sup>3</sup> Best of Energy and Sustainability (*Cell Reports Physical Science*)

- [37] K. L. Quade\*, D. Jöst, D. U. Sauer, **W. Li**. Understanding the energy potential of lithium-ion batteries: definition and estimation of the state of energy, *Batteries & Supercaps*, 2023, e20230152. <https://doi.org/10.1002/batt.202300152>
- [38] S. Yang, C. Zhang\*, J. Jiang, W. Zhang, H. Chen, Y. Jiang, D. U. Sauer, **W. Li\***. Fast screening of lithium-ion batteries for second use based on pack-level testing with machine learning, *eTransportation*, 2023, 17, 100255. <https://doi.org/10.1016/j.etrans.2023.100255>
- [39] P. Dechent\*, E. Barbers, A. Epp, D. Jöst, **W. Li**, D. U. Sauer. Correlation of health indicators on lithium-ion batteries. *Energy Technology*, 2023, 2001398. <https://doi.org/10.1002/ente.202201398>
- [40] J. Ruan\*, C. Wu, H. Cui, **W. Li**, D. U. Sauer. Delayed deep deterministic policy gradient-based energy management strategy for overall energy consumption optimization of dual motor electrified powertrain. *IEEE Transactions on Vehicular Technology*, 2023, 99, 1-13. <https://doi.org/10.1109/TVT.2023.3265073>
- [41] J. Ruan\*, C. Wu, Z. Liang, K. Liu, B. Li, **W. Li**, T. Li. The application of machine learning-based energy management strategy in a multi-mode plug-in hybrid electric vehicle, part II: Deep deterministic policy gradient algorithm design for electric mode. *Energy*, 2023, 126792. <https://doi.org/10.1016/j.energy.2023.126792>
- [42] Z. Wei\*, X. Yang, Y. Li, H. He, **W. Li**, D. U. Sauer. Machine learning-based fast charging of lithium-ion battery by perceiving and regulating internal microscopic states. *Energy Storage Materials*, 2023, 56, 62-75.<sup>4</sup> <https://doi.org/10.1016/j.ensm.2022.12.034>
- [43] H. You, J. Zhu, X. Wang, B. Jiang, H. Sun, X. Liu\*, X. Wei, G. Han, S. Ding, H. Yu, **W. Li**, D. U. Sauer, H. Dai\*. Nonlinear health evaluation for lithium-ion battery within full-lifespan. *Journal of Energy Chemistry*, 2022, 72, 333-341<sup>5</sup>. <https://doi.org/10.1016/j.jechem.2022.04.013>
- [44] M. F. Börner, M. H. Frieges, B. Späth, K. Spütz, H. H. Heimes, D. U. Sauer, **W. Li\***. Challenges of second-life concepts for retired electric vehicle batteries, *Cell Reports Physical Science*, 2022, 3(10).<sup>6</sup> <https://doi.org/10.1016/j.xcrp.2022.101095>
- [45] D. Li, P. Liu, Z. Zhang, L. Zhang\*, J. Deng, Z. Wang, D. G. Dorrell, **W. Li**, D. U. Sauer. Battery thermal runaway fault prognosis in electric vehicles based on abnormal heat generation and deep learning algorithms. *IEEE Transactions on Power Electronics*, 2022, 37(7), 8513-8525.<sup>7</sup> <https://doi.org/10.1109/TPEL.2022.3150026>
- [46] Z. Wei\*, J. Hu, Y. Li, H. He, **W. Li**, D. U. Sauer. Hierarchical soft measurement of load current and state of charge for lithium-ion battery with current sensor uncertainty. *Applied Energy*, 2022, 307, 118246. <https://doi.org/10.1016/j.apenergy.2021.118246>
- [47] **W. Li\***, H. Zhang, B. van Vlijmen, P. Dechent, D. U. Sauer. Forecasting battery capacity and power degradation with multi-task learning, *Energy Storage Materials*, 2022, 53, 453-466. <https://doi.org/10.1016/j.ensm.2022.09.013>
- [48] **W. Li\***, J. Chen, K. Quade, D. Luder, J. Gong, D. U. Sauer. Battery degradation diagnosis with field data, impedance-based modeling and artificial intelligence, *Energy Storage Materials*, 2022, 53, 391-403. <https://doi.org/10.1016/j.ensm.2022.08.021>
- [49] **W. Li\***, Y. Fan, F. Ringbeck, D. Jöst, D. U. Sauer. Unlocking electrochemical model-based online power prediction for lithium-ion batteries via Gaussian process regression. *Applied Energy*, 2022, 306, 118114. <https://doi.org/10.1016/j.apenergy.2021.118114>

<sup>4</sup> Clarivate Highly Cited Paper

<sup>5</sup> Clarivate Highly Cited Paper

<sup>6</sup> Editors' Choice 2022 (Cell Reports Physical Science)

<sup>7</sup> Clarivate Highly Cited Paper

- [50] **W. Li\***, I. Demir, D. Cao, D. Jöst, F. Ringbeck, M. Junker, D. U. Sauer. Data-driven systematic parameter identification of an electrochemical model for lithium-ion batteries with artificial intelligence. *Energy Storage Materials*, 2022, 44, 557-570. <sup>8</sup>  
<https://doi.org/10.1016/j.ensm.2021.10.023>
- [51] **W. Li\***, J. Zhang, F. Ringbeck, D. Jöst, L. Zhang, Z. Wei, D. U. Sauer. Physics-informed neural networks for electrode-level state estimation in lithium-ion batteries. *Journal of Power Sources*, 2021, 506, 230034. <https://doi.org/10.1016/j.jpowsour.2021.230034>
- [52] **W. Li\***, N. Sengupta, P. Dechent, D. Howey, A. Annaswamy, D. U. Sauer. One-shot battery degradation trajectory prediction with deep learning. *Journal of Power Sources*, 2021, 506, 230024. <https://doi.org/10.1016/j.jpowsour.2021.230024>
- [53] **W. Li\***, H. Cui, T. Nemeth, J. Jansen, C. Ünlübayir, Z. Wei, X. Feng, X. Han, M. Ouyang, D. Dai, X. Wei, D. U. Sauer. Cloud-based health-conscious energy management of hybrid battery systems in electric vehicles with deep reinforcement learning. *Applied Energy*, 2021, 293, 116977. <https://doi.org/10.1016/j.apenergy.2021.116977>
- [54] **W. Li\***, D. W. Limoge, J. Zhang, D. U. Sauer, A. M. Annaswamy. Estimation of potentials in lithium-ion batteries using machine learning models. *IEEE Transactions on Control Systems Technology*, 2021, 30(2), 680-695. <https://doi.org/10.1109/TCST.2021.3071643>
- [55] **W. Li\***, H. Cui, T. Nemeth, J. Jansen, C. Ünlübayir, Z. Wei, L. Zhang, Z. Wang, J. Ruan, H. Dai, X. Wie, D. U. Sauer. Deep reinforcement learning-based energy management of hybrid battery systems in electric vehicles. *Journal of Energy Storage*, 2021, 36, 102355. <https://doi.org/10.1016/j.est.2021.102355>
- [56] **W. Li\***, N. Sengupta, P. Dechent, D. Howey, A. Annaswamy, D. U. Sauer. Online capacity estimation of lithium-ion batteries with deep long short-term memory networks. *Journal of Power Sources*, 2021, 482, 228863. <sup>9</sup> <https://doi.org/10.1016/j.jpowsour.2020.228863>
- [57] A. Mistry, A. Verma, A., S. Sripad, R. Ciez, V. Sulzer, F. B. Planella, ..., **W. Li**, V. Viswanathan\*. A minimal information set to enable verifiable theoretical battery research. *ACS Energy Letters*, 2021, 6, 3831-3835. <https://doi.org/10.1021/acsenenergylett.1c01710>
- [58] X. Bian, Z. Wie\*, **W. Li**, J. Pou, D. U. Sauer, L. Liu. State-of-health estimation of lithium-ion batteries by fusing an open-circuit-voltage model and incremental capacity analysis. *IEEE Transactions on Power Electronics*, 2021, 37(2), 2226-2236. <sup>10</sup>  
<https://doi.org/10.1109/TPEL.2021.3104723>
- [59] A. Chahbaz\*, F. Meishner, **W. Li**, C. Ünlübayir, D. U. Sauer. Non-invasive identification of calendar and cyclic ageing mechanisms for lithium-titanate-oxide batteries. *Energy Storage Materials*, 2021, 42, 794-805. <https://doi.org/10.1016/j.ensm.2021.08.025>
- [60] L. Huang, L. Liu\*, L. Lu, X. Feng, X. Han, **W. Li**, M. Zhang, D. Li, X. Liu, D. U. Sauer, M. Ouyang\*. A review of the internal short circuit mechanism in lithium-ion batteries: inducement, detection and prevention. *International Journal of Energy Research*, 2021, 45, 15797-15831. <https://doi.org/10.1002/er.6920>
- [61] P. Dechent\*, A. Epp, D. Jöst, Y. Preger, P. M. Attia, **W. Li**, D. U. Sauer. ENPOLITE: comparing lithium-ion cells across energy, power, lifetime, and temperature. *ACS Energy Letters*, 2021, 6, 2351-2355. <https://doi.org/10.1021/acsenenergylett.1c00743>
- [62] L. Liu, X. Feng\*, C. Rahe, **W. Li**, L. Lu, X. He, D. U. Sauer, M. Ouyang. Internal short circuit evaluation and corresponding failure mode analysis for lithium-ion batteries. *Journal of Energy Chemistry*, 2021, 61, 269-280. <https://doi.org/10.1016/j.jechem.2021.03.025>

<sup>8</sup> Clarivate Highly Cited Paper

<sup>9</sup> Clarivate Highly Cited Paper

<sup>10</sup> Clarivate Highly Cited Paper

- [63] **W. Li\***, Y. Fan, F. Ringbeck, D. Jöst, X. Han, M. Ouyang, D. U. Sauer. Electrochemical model-based state estimation for lithium-ion batteries with adaptive unscented Kalman filter. *Journal of Power Sources*, 2020, 476, 228534. <https://doi.org/10.1016/j.jpowsour.2020.228534>
- [64] **W. Li\***, M. Rentemeister, J. Badeda, D. Jöst, D. Schulte, D. U. Sauer. Digital twin for battery systems: Cloud battery management system with online state-of-charge and state-of-health estimation. *Journal of Energy Storage*, 2020, 30, 101557.<sup>11</sup> <https://doi.org/10.1016/j.est.2020.101557>
- [65] **W. Li\***, D. Cao, D. Jöst, F. Ringbeck, M. Kuipers, F. Frie, D. U. Sauer. Parameter sensitivity analysis of electrochemical model-based battery management systems for lithium-ion batteries. *Applied Energy*, 2020, 269, 115104. <https://doi.org/10.1016/j.apenergy.2020.115104>
- [66] L. Zhang\*, W. Fan, Z. Wang, **W. Li**, D. U. Sauer. Battery heating for lithium-ion batteries based on multi-stage alternative currents. *Journal of Energy Storage*, 2020, 32, 101885. <https://doi.org/10.1016/j.est.2020.101885>
- [67] S. Wang\*, D. Guo, X. Han, L. Lu, K. Sun, **W. Li**, D. U. Sauer, M. Ouyang\*. Impact of battery degradation models on energy management of a grid-connected DC microgrid. *Energy*, 2020, 207, 118228. <https://doi.org/10.1016/j.energy.2020.118228>
- [68] J. Wu, Z. Wie\*, **W. Li**, Y. Wang, Y. Li, D. U. Sauer. Battery thermal-and health-constrained energy management for hybrid electric bus based on soft actor-critic DRL algorithm. *IEEE Transactions on Industrial Informatics*, 2020, 17(6), 3751-3761.<sup>12</sup> <https://doi.org/10.1109/TII.2020.3014599>

### Book Chapters & Monographs

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- [1] P. A. Busch, T. Tegetmeyer-Kleine, D. Luder, D. U. Sauer, **W. Li**. Digital twin models. In: *Electrochemical Power Sources: Fundamentals, Systems, and Applications*, 2026. <https://doi.org/10.1016/B978-0-12-819987-9.00006-8>
- [2] M. Franke, D. Kupfer, S. Neupert, Q. Wang, **W. Li**, J. Kowal. Machine learning Models. In: *Electrochemical Power Sources: Fundamentals, Systems, and Applications*, 2026. <https://doi.org/10.1016/B978-0-12-819987-9.00011-1>
- [3] S. Rapol, R. Lian, D. U. Sauer, **W. Li**, Machine learning. In: *Reference Module in Chemistry, Molecular Sciences and Chemical Engineering*, 2024. <https://doi.org/10.1016/B978-0-323-96022-9.00232-2>
- [4] **W. Li**, Battery digital twin with physics-based modeling, battery data and machine learning, Dissertation, RWTH Aachen University, 2021. <https://doi.org/10.18154/RWTH-2022-02292>

### Conference Proceedings & Posters

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- [1] R. Lian, S. Liang, D. U. Sauer, **W. Li**. Model-based design of experiment accelerates aging tests of lithium-ion batteries, Advanced Battery Power Conference, Münster, Germany, 2026.
- [2] G. Luzha, D. U. Sauer, **W. Li**. Accelerated battery testing for lithium-ion batteries using physics-informed neural networks, Advanced Battery Power Conference, Münster, Germany, 2026.
- [3] T. Tegetmeyer-Kleine, H. Ditle, D. U. Sauer, **W. Li**. From pixels to plating: a vision pipeline for decoding lithium plating, Advanced Battery Power Conference, Münster, Germany, 2026.

<sup>11</sup> Clarivate Highly Cited Paper

<sup>12</sup> Clarivate Highly Cited Paper + Hot Paper

- [4] T. Tegetmeyer-Kleine, D. U. Sauer, **W. Li**. Integrating multimodal imaging with diffusion models for advanced battery characterization, 247<sup>th</sup> ECS meeting, Montreal, Canada, 2025.
- [5] P. A. Busch, D. U. Sauer, **W. Li**. Field data analysis, diagnosis and prognosis for LFP batteries, 247<sup>th</sup> ECS meeting, Montreal, Canada, 2025.
- [6] H. Hoch, T. Tegetmeyer-Kleine, D. U. Sauer, **W. Li**. The role of CT in parameter identification and defect analysis for large batteries, Advanced Battery Power Conference, Aachen, Germany, 2025.
- [7] L. Yan, J. Peng, H. Li, **W. Li**. Enabling accurate and robust hysteresis modeling for LiFePO<sub>4</sub> batteries with machine learning. Advanced Battery Power Conference, Aachen, Germany, 2025.
- [8] D. Luder, L. Yan, D. U. Sauer, **W. Li**. Accurate physics-based state estimation for LiFePO<sub>4</sub> batteries, Advanced Battery Power Conference, Aachen, Germany, 2025.
- [9] T. Ngo, D. Luder, J. Chen, D. U. Sauer, **W. Li**. Data-driven parameterization for pseudo-2-dimensional model using artificial intelligence, Advanced Battery Power Conference, Aachen, Germany, 2025.
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