

Selected Publications and Patents

- [1] T. Waechtler, S. Oswald, N. Roth, A. Jakob, R. Ecke, S.E. Schulz, T. Gessner, A. Moskvinova, S. Schulze, M. Hietschold, "Copper Oxide Films Grown by Atomic Layer Deposition from Bis(tri-n-butylphosphane)copper(I)acetylacetonate on Ta, TaN, Ru, and SiO₂", *Journal of The Electrochemical Society*, **156** (6), H453-H459 (2009). DOI: [10.1149/1.3110842](https://doi.org/10.1149/1.3110842), [Direct Download](#)
- [2] T. Waechtler, N. Roth, R. Mothes, S. Schulze, S.E. Schulz, T. Gessner, H. Lang, M. Hietschold, "Copper Oxide ALD from a Cu(I) β -Diketonate: Detailed Growth Studies on SiO₂ and TaN", *ECS Transactions*, **25** (4), 277-287 (2009). DOI: [10.1149/1.3205062](https://doi.org/10.1149/1.3205062), [Direct Download](#).
- [3] T. Waechtler, S.-F. Ding, L. Hofmann, R. Mothes, Q. Xie, S. Oswald, C. Detavernier, S.E. Schulz, X.-P. Qu, H. Lang, T. Gessner, "ALD-Grown Seed Layers for Electrochemical Copper Deposition Integrated with Different Diffusion Barrier Systems", *Microelectronic Engineering*, **88** (5), 684-689 (2011). DOI: [10.1016/j.mee.2010.07.004](https://doi.org/10.1016/j.mee.2010.07.004), [Direct Download](#).
- [4] S. Mueller, T. Waechtler, L. Hofmann, A. Tuchscherer, R. Mothes, O. Gordan, D. Lehmann, F. Haidu, M. Ogiewa, L. Gerlich, S.-F. Ding, S.E. Schulz, T. Gessner, H. Lang, D.R.T. Zahn, X.-P. Qu, "Thermal ALD of Cu via reduction of CuxO films for the advanced metallization in spintronic and ULSI interconnect systems", *IEEE Semiconductor Conference Dresden, Proceedings* (2011). DOI: [10.1109/SCD.2011.6068736](https://doi.org/10.1109/SCD.2011.6068736), [Direct Download](#).
- [5] M. Melzer, T. Waechtler, S. Müller, H. Fiedler, S. Hermann, R.D. Rodriguez, A. Villabona, A. Sendzik, R. Mothes, S.E. Schulz, D.R.T. Zahn, M. Hietschold, H. Lang, T. Gessner, "Copper Oxide Atomic Layer Deposition on Thermally Pretreated Multi-Walled Carbon Nanotubes for Interconnect Applications", *Microelectronic Engineering*, in press (2013). DOI: [10.1016/j.mee.2012.10.026](https://doi.org/10.1016/j.mee.2012.10.026)
- [6] M. Fronk, S. Müller, T. Waechtler, S.E. Schulz, R. Mothes, H. Lang, D.R.T. Zahn, G. Salvan, "Magneto-Optical Kerr-Effect Studies on Copper Oxide Thin Films Produced by Atomic Layer Deposition on SiO₂", *Thin Solid Films*, **520** (14), 4741-4744 (2012). DOI: [10.1016/j.tsf.2011.10.204](https://doi.org/10.1016/j.tsf.2011.10.204)
- [7] G. Salvan, P. Robaschik, M. Fronk, S. Müller, T. Waechtler, S.E. Schulz, R. Mothes, H. Lang, C. Schubert, S. Thomas, M. Albrecht, D.R.T. Zahn, "Magneto-Optical Kerr Effect Studies of Cu₂O/Nickel Heterostructures", *Microelectronic Engineering*, in press (2013). DOI: [10.1016/j.mee.2012.10.023](https://doi.org/10.1016/j.mee.2012.10.023)
- [8] T. Geßner, S. Schulz, T. Wächtler, H. Lang, A. Jakob, "Substrat mit einer Kupfer enthaltenden Beschichtung und Verfahren zu deren Herstellung mittels Atomic Layer Deposition und Verwendung des Verfahrens", *Patent*, **DE 10 2007 058 571 B4** (2012). [Direct Download](#).
- [9] T. Waechtler, T. Gessner, S. Schulz, H. Lang, A. Jakob, "Substrate Having a Coating Comprising Copper and Method for the Production Thereof by Means of Atomic Layer Deposition", *Patent Application*, **US 2010/0301478 A1** (2010). [Direct Download](#).
- [10] T. Waechtler, S. Schulz, T. Gessner, S. Mueller, A. Tuchscherer, H. Lang, "Method for the Production of a Substrate Having a Coating Comprising Copper, and Coated Substrate and Device Prepared by this Method", *Patent Application*, **US 2013/0062768 A1** (2013). [Direct Download](#).