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### Understanding the activity of Zn-Cu sites in methanol synthesis

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**Publication date**  
2013

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**Citation for published version (APA):**

Batyrev, E. D. (2013). *Understanding the activity of Zn-Cu sites in methanol synthesis*. [Thesis, externally prepared, Universiteit van Amsterdam].

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## List of publications

1. "Exploring the activated state of Cu/ZnO (0001)-Zn, a model catalyst for methanol synthesis" E.D. Batyrev, N.R. Shiju, and G. Rothenberg, *J. Phys. Chem. C*, 2012, 116, 19335.
2. "Modification of the ZnO (0001)-Zn surface under reducing conditions" E.D. Batyrev and J.C. van den Heuvel, *Phys. Chem. Chem. Phys.*, 2011, 13, 13127.
3. "Dynamic Cu/Zn interaction in SiO<sub>2</sub> supported methanol synthesis catalysts unraveled by *in situ* XAFS" D. Grandjean, V. Pelipenko, E.D. Batyrev, J.C. van den Heuvel, A.A. Khassin, T.M. Yurieva, and B.M. Weckhuysen, *J. Phys. Chem. C*, 2011, 115, 20175.
4. "*In-situ* deposition of alkali and alkaline earth hydride thin films to investigate the formation of reactive hydride composites" M. Gonzalez-Silveira, R. Gremaud, H. Schreuders, E.D. Batyrev, L. Dupont, B. Dam, M. van Setten, A. Rougier, W. Lohstroh, *J. Phys. Chem. C*, 2010, 114, 13895.
5. "Hydrogen Desorption from Pd-Capped Mg-Based Switchable Mirrors" E.D. Batyrev, R. Westerwaal, M. Slaman, H. Schreuders, B. Dam, and R. Griessen, *Proceedings of MRS*, Boston, USA, 2007.
6. "Exposure of ZnO(0001)-Zn surface to H<sub>2</sub> at elevated temperatures" J.C. van den Heuvel and E.D. Batyrev, *Proceedings of MRS*, Boston, USA, 2007.
7. "Investigation of the hydrogen capacity of composites based on ZnOCu" V.A. Trunov, V.T. Lebedev, A.E. Sokolov, Gy. Török, J.C. v.d. Heuvel, E.D. Batyrev, T.M. Yurieva, and L.M. Plyasova, *Crystallog. Rep.*, 2007, 52, 474.
8. "Detection of hydrogen-copper clustering in Zn<sub>1-x</sub>Cu<sub>x</sub>O methanol synthesis catalysts using neutron scattering methods" V.A. Trunov, A.E. Sokolov, V.T. Lebedev, O.P. Smirnov, A.I. Kurbakov, J.C. v.d. Heuvel, E.D. Batyrev, T.M. Yur'eva, L.M. Plyasova, and G. Török, *Phys. Sol. State*, 2006, 48, 1291.
9. "The effect of the reduction temperature on the structure of Cu/ZnO/SiO<sub>2</sub> catalysts for methanol synthesis" E.D. Batyrev, J.C. v. d. Heuvel, J. Beckers, W. Jansen, and H. Castricum, *J. Catal.*, 2005, 229, 136.
10. "*In situ* XRD and HRTEM studies on the evolution of the Cu/ZnO methanol synthesis catalyst during its reduction and re-oxidation" T.M. Yurieva, L.M. Plyasova, V.I. Zaikovskii, T.P. Minyukova, A. Bliet, J.C. v. d. Heuvel, A.A. Khassin, E.D. Batyrev. *Phys. Chem. Chem. Phys.*, 2004, 6, 4522.