



Advances in Electroless Metal Deposition

Guest Editors:

Prof. Dr. Eugenijus Norkus

Center for Physical Sciences and
Technology, Vilnius, Lithuania

**Dr. Loreta Tamasauskaite-
Tamasiunaite**

Department of Catalysis, Center
for Physical Sciences and
Technology, Saulėtekio Ave. 3,
Vilnius, Lithuania

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Message from the Guest Editors

Electroless metal plating is a well-known method for deposition of metal coatings as well as for the formation of small (nano-scale) metal particles by a controlled chemical reduction. The autocatalytic metal ion reduction systems are widely used for decorative and functional purposes, i.e., for deposition of conductive metal layers on dielectrics, semiconductors or on conductors with a complicated configuration without an external current. The selection of a suitable reducing agent and conditions of the reaction plays a very important role in creating stable solutions and obtaining coatings with the required characteristics. On the other hand, the use of conventional hydrogen-containing reducing agents is connected with environmental and technological problems: (i) the plating bath cannot be recycled, i.e., the reducing agent oxidizes irreversibly; and (ii) the plating rate and solution stability are not high enough, which lead to the current search and investigations of the reducing agents of a new type. Additionally, it is worth noting that investigation of electroless plating systems in non-aqueous solutions is also important for the development of new technological processes.





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Editor-in-Chief

Prof. Dr. Maryam Tabrizian

1. Department of Biomedical Engineering, Faculty of Medicine and Health Sciences, McGill University, Montreal, QC H3A 2B6, Canada

2. Faculty of Dentistry and Oral Health Sciences, McGill University, 3640 Rue University, Montreal, QC H3A 0C7, Canada

Message from the Editor-in-Chief

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Materials Editorial Office
MDPI, St. Alban-Anlage 66
4052 Basel, Switzerland

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