

Pro memoria



Jonas Vinkevičius
(January 1, 1944 – March 4, 2003)

Dr. Habil. Jonas Vinkevičius, the well-known specialist in the field of metallizing plastics, would have celebrated his 60th birthday on January 1st, 2004. Unfortunately he passed away almost a year ago.

Jonas Vinkevičius was born into a farmer's family in southern Lithuania (Varėna district) at the end of the World War II when Lithuania was occupied by the German army. Soon the Red Army entered Lithuania, and the Soviet occupation regime brought a difficult ordeal to Jonas's family: in 1948 they together with many thousands of other Lithuanians were deported to Siberia and spent 10 years there.

After returning to Lithuania, Jonas studied chemistry at the Chemical Faculty of Vilnius University. He graduated from the university in 1970 and remained at the Polymer Chemistry Department for a year. In 1971 he was employed at the Institute of Chemistry and worked there for all forthcoming years of his life.

In 1973 he joined Prof. A. Prokopchik's laboratory and began research work on electroless metal deposition. In his Ph. D. (then called Sci. Candidate) thesis "Electroless deposition of platinum and its interaction with borohydride" (1977) new formu-

lations of electroless platinum plating solutions containing borohydride as a reducing agent were presented; the Pt deposition process was described, and the important features of the catalytic decomposition (hydrolytic oxidation) of borohydride on Pt surface were investigated. Later J. Vinkevičius studied the deposition of metal alloys in an electroless way: the electroless plating and properties of Ni-P-Cu, Ni-B-Cu, Ni-B-Tl-Fe were investigated.

At the end of the 1980s, J. Vinkevičius concentrated on the processes of plastics metallizing by electroless metal deposition and electroconductive sulphide layer formation for subsequent electroplating (so-called direct electroplating of plastics). One part of this work was related to the adhesion problems at the polymer-metal interface, the surface treatment of various plastics (polyimide, polycarbonate, etc.) was studied and the suitable practical ways for obtaining good adhesion were proposed. The studies of metal sulphide layer formation on plastic surface were initiated in Lithuania by Dr. M. Šalkauskas, later extensive studies in this area were carried out by the groups of Prof. G. Rozovskis and Dr. L. Naruškevičius at the Institute of Chemistry, Prof. A. Pebrauskas at the Vilnius University, Prof. V. Janickis at the Kaunas Technological University.

J. Vinkevičius' group carried out a large cycle of investigations of copper and cobalt sulphide layer formation by a rather simple method, sometimes called SILAR (Successive Ionic Layer Adsorption and Reaction), using separate metal salt and sodium sulphide solutions. Various cases with application of different metal salt and sulphide solutions were studied using electrochemical and X-ray photo electronic spectroscopy methods for the characterization of sulphide layers. J. Vinkevičius' group introduced cyclic voltammetry as a simple method of analysis of sulphide layers (the group included an experienced electrochemist, Dr. S. Pilytė); now this method is used as a convenient tool for investigating various sulfide layers. The interaction of copper and cobalt sulphide films with other metal ions, Ag(I) and Pd(II), and formation of mixed sulphides was also investigated. The main results of copper sulphide studies were generalized in the habilitation work "Formation of non-stoichiometric copper sul-

phide, its electrochemical behaviour and transformations during metallization of dielectrics" (2000).

J. Vinkevičius was the supervisor of I. Moþginskienė's (1997) and N. Ðvickus' (2001) Ph. D. dissertations and of several master degree works.

Jonas Vinkevičius was a good-natured person, he easily contacted with other people. We will always remember him for his valuable contribution to the field of electroless plating and plastics metallizing, remember with sympathy and regret for his early decease.

Prof. Algirdas Vaškėlis

LIST OF J. VINKEVIČIUS' PUBLICATIONS

Papers

1. L. Radþiūnas, J. Vinkevičius. Synthesis of α -phenylvinylarylethers from phenylacetylene and aminophenols (in Russian), *Liet. TSR Aukšt. Mokyklø Mokslo Darbai. Chem. Chem. Technol.*, **14**, 159–162 (1972).
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5. J. Valsiūnienė, J. Vinkevičius, A. Yu. Prokopchik, Electroless platinum plating using borohydride (in Russian), *Liet. TSR MA Darbai, ser. B*, **5**(96), 25–33 (1976).
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9. H. Ðielys, J. Vinkevičius, R. Karsokienė, Electroless deposition of Ni alloys (1. Deposition of Ni–P–Cu coatings) (in Russian), *Liet. TSR MA Darbai, ser. B*, **6**(151), 3–9 (1985).
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11. J. Vinkevičius, H. Ðielys, Electroless deposition of Ni alloys (3. Deposition of Ni– \tilde{A} –Cu coatings) (in Russian), *Liet. TSR MA Darbai, ser. B*, **1**(164), 3–9 (1988).
12. H. Ðielys, J. Vinkevičius, Electroless deposition of Ni–B–Tl–Fe coatings (in Russian), *Liet. TSR MA Darbai, ser. B*, **1**(164), 10–17 (1988).
13. L. Naruškevičius, G. I. Rozovskii, J. Vinkevičius, The system "impact-resistant polystyrene – electroconductive sulphide coating" (2. Effect of treatment on surface morphology and adhesive properties) (in Russian), *Liet. TSR MA Darbai, ser. B*, **2**(165), 7–13 (1988).
14. J. Vinkevičius, I. Ðitkevičiūtė, Electroless deposition of Ni alloys (4. Formation mechanism and structure of Ni– \tilde{A} –Cu coatings) (in Russian), *Chemija*, **1**(176), 75–82 (1990).
15. L. Daukðaitė, J. Vinkevičius, Effect of fillers in polycarbonate on adhesion of Cu coatings (in Russian), *Chemija*, **2**(177), 11–17 (1990).
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Patents

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