

## Curriculum vitae

### Personal data

Name: Prof. György Kaptay

Office: University of Miskolc (UM), Institute of Physical Metallurgy, Metalforming and Nanotechnology, H-3515 Miskolc - Egyetemváros, Hungary.

### Employments

1984: Research Institute of Aluminium Industry, Budapest, Hungary

1987 – present (primary employment): University of Miskolc (professor since 1999, Head of Department of Physical Chemistry 1996-2004, Dean of the Faculty of Materials Science and Engineering 1998 – 2006, Head of Department of Nanotechnology since 2007)

2006 – present (secondary employment): Bay Zoltán Nonprofit Ltd of Applied Research (founding director of research institute BAY-NANO in 2006, currently head of Department of Materials Development at BAY-ENG).

### Scientific degrees

Candidate of Sciences (PhD): 1988

Doctor of Sciences (DSc): 2005

Corresponding member of the Hungarian Academy of Sciences: since 2016

### Scientific activities

Bulk and interfacial thermodynamics of materials, nano-science, modelling thermodynamic and thermophysical properties, electrochemistry, metallic composites, foams and emulsions.

### Current teaching activities:

Equilibrium of bulk materials

Interfacial nano-phenomena

The Art of Doing Science

### Professional experiences abroad

Master and PhD student at Leningrad Polytechnics, Sovietunion (1978-1987), visiting professor at the University of Alabama USA (1991), at the Kyushu Institute of Technology Japan (2003, 2004), Swinburne Institute of Technology Melbourne Australia (2007, 2012).

### Membership

TMS, OMBKE, president of Hungarian Society of Materials (MAE), president of the Scientific Committee on Materials Science and Engineering at the Miskolc branch of the Hungarian Academy of Sciences.

### The most relevant publications

Altogether 124 papers visible in Scopus (34 D1 papers + 29 Q1 papers + 46 Q2-papers + 9 Q3-papers + 4 Q4 papers), h-index = 24 based only on about 2,250 independent citations. Published papers in 2017, visible in Scopus:

J200. G.Kaptay. On the solid/liquid interfacial energy of metals and alloys. *J Mater Sci*, 2018, vol.53, 3767-3784. doi: 10.1007/s10853-017-1778-y. (2016-IF = 2.599, Q1 in 2016 in “Materials Science (misc)”).

J199. M.Godzsák, G.Lévai, K.Vad, A.Csik, J.Hakl, T.Kulcsár. G.Kaptay. Coloring hot-dip galvanization of steel samples in industrial zinc-manganese baths. *JMM B*, 2017, vol.53, pp. 319-326. (2016-IF = 0.804, Q2 in 2016 in „Metals and Alloys”).

J198. G.Kaptay: On the negative surface tension of solutions and on spontaneous emulsification. *Langmuir*, 2017, vol.33, pp.10550–10560. (2016-IF = 3.833, Q1 in 2016 in “Surfaces and Interfaces”).

- J197. J.Korozs, G.Kaptay: Derivation of the Butler equation from the requirement of the minimum Gibbs energy of a solution phase, taking into account its surface area. *Coll Surf A*, 2017, vol.533, pp.296-301. (2016-IF = 2.714, Q2 in 2016 in “Colloid and Surface Chemistry”).
- J196. G.Kaptay: A new paradigm on the chemical potentials of components in multi-component nano-phases within multi-phase systems. *RSC Adv*, 2017, vol.7, pp.41241-41253. (2016-IF = 3,108, Q1 in 2016 in “Chemistry (misc)”).
- J194. A. Lekatou, N. Gkikas, A.E. Karantzalis, G. Kaptay, Z. Gacsi, P. Baumli, A. Simon. Effect of wetting agent and carbide volume fraction on the wear response of aluminium matrix composites reinforced by WC nanoparticles and aluminide particles. *Arch. Metall. Mater.*, 2017, vol. 62, No. 2B, pp.1235-1242. (2016-IF = 0.571, Q2 in 2016 in “Metals and Alloys”)
- J193. V.Takáts, J.Hakl, A.Csík, H.F.Bereczki, G.Lévai, M.Godzsák, T.I.Török, G.Kaptay, K.Vad. Ti oxidation states in Zn(Ti) coating of hot-dip galvanized steels. *Surf Coating Technol*, 2017, vol. 326, pp.121-125. (2016-IF = 2.589, Q1 in 2016 in “Surfaces, Coatings and Films”).
- J192. M.Czagány, P.Baumli, G.Kaptay. The influence of the phosphorous content and heat treatment on the nano-microstructure, thickness and micro-hardness of electroless Ni-P coatings on steel. *Appl Surf Sci*, 2017, vol. 423, pp. 160-169. (2016-IF = 3.387, Q1 in 2016 in “Surfaces, Coatings and Films”).
- J191. A.Dezso, G.Kaptay: On the configurational entropy of nanoscale solutions for more accurate surface and bulk nano-thermodynamic calculations. *Entropy*, 2017, vol.19, paper No.248, 11 pp. (2016-IF = 2.330, Q2 in 2016 in “Physics and Astronomy (misc)”).
- J190. Yunkyum Kim, Han Gyeol Kim, Youn-Bae Kang, G. Kaptay, Joonho Lee: Prediction of phase separation in immiscible Ga-Tl alloys. *Metall Mater Trans A*, 2017, vol.48A, pp.2701-2705. (2016-IF = 1.874, D1 in “Metals and Alloys”)
- J188. G.Kaptay. The exponential excess Gibbs energy model revisited. *Calphad*, 2017, vol.56, pp.169-184. (2016-IF = 1.600, Q1 in “Chemistry (misc)”).