

DR. DUSAN P. SEKULIC, FELLOW ASME

Secat J. G. Morris Aluminum Professor

<http://www.ism.uky.edu/> <http://www.mfg.uky.edu/dir/sekulic>

a. Professional Preparation

University of Novi Sad, Yugoslavia	Mechanical Engineering	B.Eng. 1972
University of Novi Sad, Yugoslavia	Physics	B.Sci. 1976
University of Belgrade, Yugoslavia	Mechanical Engineering	M.S. 1978
University of Belgrade, Yugoslavia	Mechanical Engineering	D.Sc. 1981

b. Appointments

- 2011- Present **Secat J.G. Morris Aluminum Professor**, Dept. of Mech. Eng., Uni. of Kentucky
2015- Present **Foreign Expert Plan 1000 Professor**, Harbin Institute of Technology, China
2015- Present **Visiting Professor**, University of Belgrade
2013- Present **Visiting Professor**, Zhejiang Province Key Laboratory of Soldering & Brazing Materials and Technology, Hangzhou, China
2007 – 2013 Consulting Professor, Harbin Institute of Technology, Harbin, China
2006 - 2010 Professor, College of Engineering, UK Lexington, Kentucky, U.S.A.
2000 – 2006 Adjunct Professor, College of Engineering, UK, Lexington, Kentucky, U.S.A.
1997 - 2006 Senior Scientist, CRMS, College of Engineering, UK, Lexington, Kentucky, USA
1996 - 1997 Visiting Professor, Department of Mechanical Engineering, UK, Lexington, USA
1994 - 1996 Visiting Professor, Marquette University, Milwaukee, Wisconsin, U.S.A.
1993 – 1995 Professor with tenure, University of Novi Sad, Yugoslavia
1993 – 1994 Visiting Research Professor, University of Tennessee, Knoxville, U.S.A.
1987 – 1993 Associate Professor with tenure, University of Novi Sad, Yugoslavia
1988 – 1989 Senior Fulbright Scholar, Duke University, Durham, North Carolina, U.S.A.
1989 Visiting Scholar, MIT, Cambridge, Massachusetts, U.S.A.
1977 – 1987 Assistant professor and subsequently Docent, University of Novi Sad, Yugoslavia
1977 Visiting Researcher (DAAD), Technical University Munich, LATUM, Germany
1973 – 1977 Research Fellow, College of Engineering, University of Novi Sad, Yugoslavia

c. Publications

(i) Recent publications

- (1) **D.P. Sekulic (2013)** Advances in Brazing: Science, Technology and Applications, *Woodhead Publ.*, Cambridge, UK; **ISBN 0 85709 423 8**.
- (2) Fu, H., Dehsara, M., Krivilyov, M., Mesarovic, S.Dj., and **Sekulic, D.P. (2015)** Kinetics of the Molten Al-Si Triple Line Movement during a Brazed Joint Formation, *Journal of Materials Science*, In print.
- (3) Pan, R., Wei, H., Lin, T., He, P., **Sekulic, D.P.**, Wang, Q., Duan, X. (2015) Homogenization of the zirconium carbide-titanium interface domain, *Scripta Materialia*, In print.
- (4) Li, Y., Wen, C., Sun, Y., Liu, W., **Sekulic, D.P. (2015)** Wetting kinetics of the AgCuTi filler metal on pure Molybdenum substrate, *Surface and Interface Analysis*, Vol. 47, pp. 838-843.
- (5) W. Liu, L. Lu, Y. Li, Y. Cai and **D. P. Sekulic (2012)** Preferential Spreading of Molten Metal on an Anisotropic Microstructured Surface, *Europhysics Letters*, 2012, Vol. 97, pp. 46003-p1-p6

(ii) Other significant publications (selection out of more than 160)

- (1) W. Liu, **D.P. Sekulic (2011)** Capillary driven molten metal flow over topographically complex substrates, *Langmuir*, Vol. 27, pp. 6720–6730
- (2) W. Liu, L. Li, Y. Cai and **D. P. Sekulic (2011)** Capillary Rise of Liquids over a Microstructured Solid Surface, *Langmuir*, 27(23), pp 14260-14266.

- (3) Bakshi, B. R., Gutowski, T. G., and **Sekulic, D.P. (2011)** Thermodynamics and the Destruction of Resources, *Cambridge University Press*, Cambridge; **ISBN-13: 9780521884556**
- (4) Shah, R.K. and **Sekulic, D.P. (2003)** Fundamentals of Heat Exchanger Design, **Wiley**, Hoboken, NJ, USA ISBN 0-471-32171-0, English edition; *China Machine Press*, Beijing, 2010. **ISBN 978-7-111-28881-7** (translated by Cheng Lin into Mandarin, C(M))
- (5) **Sekulic, D.P.**, Zellmer, B., and Nigro, N. (2001) Influence of Joint Topology on the Formation of Brazed Joints, *Modelling and Simulation in Materials Science and Engineering*, **9**, pp. 357 – 369.

d. Synergistic Activities

- (1) **Profession Memberships** (Dr. Sekulic is a Fellow of ASME and a member of AWS and SNP).
- (2) **Professorships** (Dr. Sekulic is a 1000 Plan Foreign Expert Professor at the Harbin Institute of Technology, China. Dr. Sekulic holds visiting professorships at three other universities in Europe and Asia.)
- (3) **Professional Service** [Prof. Sekulic is an Associate Director of the IAC Center at UK (DOE)]
- (4) **Disciplines** [Dr. Sekulic’s professional expertise is highly interdisciplinary: (i) modeling of transport phenomena for materials processing, in particular liquid metals physics and heat transfer phenomena, (ii) theory of sustainability, and (iii) theory and design of heat transfer devices.]
- (5) **Books** (Prof. Sekulic is author of the “*Fundamentals of Heat Exchanger Design*,” published by **Wiley**, Hoboken, 2003 in English and **China Machine Press**, Beijing in Mandarin, 2010, *Thermodynamics and the Destruction of Resources*, published by the **Cambridge University Press** and *Advances in Brazing: Science, Technology and Applications*, **Woodhead**, both in Cambridge, United Kingdom).

e. Collaborators & Other Affiliations

(i) Collaborators (selected out of a few dozen of collaborators)

Bakshi, B., Ohio State University, Columbus, OH, USA
Rabinkin, A., Brazing Consultants, LLC, Boston, MA, USA
Gutowski, T., MIT, Cambridge, MA, USA
Krivelev, K., Udmurt State University, Izhevsk, Russia
Li, Y., Nanchang University, China
Mesarovic, S., Washington State University, Pulman, USA
Peng, H., Harbin Institute of Technology, Harbin, China

(ii) Graduate and Postdoctoral Advisors

Prof. **B. Djakovic**, University of Belgrade; Prof. B. Mikic, MIT, Cambridge, USA
 Prof. **B. Grigul**, TU Munich, Germany, and Prof. A. Bejan, Duke University, USA

(iii) Thesis Advisor and Postdoctoral Scholars (Only recent PhD’s/Post-Doc’s)

Dr. **Liu Wen**, Postdoctoral Scholar and former PhD Student, University of Kentucky (UofK)
 Dr. **Hui Zhao**, Postdoctoral Scholar, former PhD Student University of Kentucky (UofK)
 Dr. **Gao Feng**, former PhD student, Harbin Institute of Technology and UofK
 Dr. **Wang Hongqin**, PhD Student, Harbin Institute of Technology and UofK
 Dr. **Maoai Chen**, Shandong University, China, CSC Postdoctoral Scholar at UofK
 Dr. **Li Yulong**, Nanchang University, China, CSC Scholar at UofK
 Dr. **Michael Krivelev**, Udmurt University, Russia, Postdoctoral FULBRIGHT Scholar at UofK