



PHYSICAL CHEMISTRY 2014

12th International Conference
on Fundamental and Applied Aspects of
Physical Chemistry

The Conference is dedicated to the
25. Anniversary of the Society of Physical Chemists of Serbia

September 22-26, 2014
Belgrade, Serbia



PHYSICAL CHEMISTRY 2014

12th International Conference
on Fundamental and Applied Aspects of
Physical Chemistry

Proceedings
Volume I

The Conference is dedicated to the
25. Anniversary of the Society of Physical Chemists of Serbia

September 22-26, 2014
Belgrade, Serbia

ISBN 978-86-82475-30-9

Title: PHYSICAL CHEMISTRY 2014 (Proceedings)

Editors: Ž. Čupić and S. Anić

Published by: Society of Physical Chemists of Serbia, Studentski trg 12-16, 11158, Belgrade, Serbia

Publisher: Society of Physical Chemists of Serbia

For Publisher: S. Anić, President of Society of Physical Chemists of Serbia

Printed by: “Jovan” Printing and Publishing Company; 200 Copies;

Number of pages: 6+ 441; **Format:** B5; Printing finished in September 2014.

Text and Layout: “Jovan”

Neither this book nor any part may be reproduced or transmitted in any form or by any means, including photocopying, or by any information storage and retrieval system, without permission in writing from the publisher.

200 - *Coppy printing*

CONTENTS

Volume 1

Organizers	IV
Committees	V
Sponsors	VI
Plenary lectures	1
Chemical Thermodynamics	47
Spectroscopy, Molecular Structure, Physical Chemistry of Plasma	113
Kinetics, Catalysis	205
Nonlinear Dynamics	317
Electrochemistry	365

PHYSICAL CHEMISTRY 2014

*12th International Conference on
Fundamental and Applied Aspects of
Physical Chemistry*

*Organized by
The Society of Physical Chemists of
Serbia*

*in co-operation
with_*

Institute of Catalysis Bulgarian Academy of Sciences

*Boriskov Institute of Catalysis of Siberian Branch of the Russian Academy
of Sciences*

Faculty of Physical Chemistry, University of Belgrade, Serbia

*Institute of Chemistry Technology and Metallurgy,
University of Belgrade, Serbia*

Vinča Institute, University of Belgrade, Serbia

Institute of General and Physical Chemistry, Serbia

Faculty of Pharmacy, University of Belgrade, Serbia

International Organizing Committee

Chairman: S. Anić (Serbia)
Vice-chairman: M. Gabrovska (Bulgaria)
V. A. Sadykov (Russia)

Members:

N. Cyjetiĉanin (Serbia), S. N. Blagojević (Serbia), M. Daković (Serbia), T. Grozdić (Serbia), D. Jovanović (Serbia), M. Kuzmanović (Serbia), D. Marković (Serbia), J. Marković-Dimitrić (Serbia), B. Milosavljević (USA), M. Mojović (Serbia), N. Ostrovski (Serbia), I. Pašti (Serbia), M. Petković (Serbia), A. Popović-Bjelić (Serbia), B. Simonović (Serbia), D. Stanisavljev (Serbia), B. Šljukić (Serbia), N. Vukelić (Serbia), V. Vukojević (Sweden)

International Scientific Committee

Chairman: Ź. Ćupić (Serbia)
Vice-chairmans: V. N. Parmon (Russia)
S. Rakovsky (Bulgaria)

Members:

B. Adnađević (Serbia), S. Anić (Serbia), A. Antić-Jovanović (Serbia), G. Bačić (Serbia), A. Kelarakis (Greece), R. Cervellati (Italy), V. Dondur (Serbia), Ivan Gutman (Serbia), S. D. Furrow (USA), K. Hedrih (Serbia), M. Jeremić (Serbia), A. V. Knyazev (Russia), Lj. Kolar-Anić (Serbia), V. Kuntić (Serbia), Z. Marković (Serbia), S. Mentus (Serbia), Š. Miljanić (Serbia), M. Perić (Serbia), M. Plavšić (Serbia), D. M. F. Santos (Portugal), G. Schmitz (Belgium), I. Schreiber (Czech), P. Sevcik (Slovakia), B. C. Simionescu (Romania), N. Stepanov (Russia), D. Todorović (Serbia), M. Trtica (Serbia), V. Vasić (Serbia), D. Veselinović (Serbia)

Local Executive Committee

Chairman: S. Blagojević
Vice-chairmans: A. Ivanović-Šašić

Members:

P. Banković, N. Bošnjaković, J. Dostanić, A. Ćerić, A. Ignjatović, A. Jović, N. Jović-Jovičić, D. Lonĉarević, J. Krstić, J. Maksimović, V. Marković, M. Milenković, S. Maćešić, V. Marković, B. Nedić, N. Potkonjak, D. Ranković, M. Stević, M. Źunić, M. Ristić,

SPONSORS

Ministry of Science and Technological Development

University of Belgrade, Belgrade

Institute of General and Physical Chemistry, Belgrade

Analysis DOO, Belgrade

PLENARY SECTION

