



**Institute of Physical Chemistry  
Polish Academy of Sciences**

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# **LIST OF PAPERS**

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**DEPARTMENT I**  
**PHYSICAL CHEMISTRY OF SOLIDS**

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**PAPERS PUBLISHED IN SCIENTIFIC JOURNALS  
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- 1. Antonov V.E., Latynin A.I., Tkacz M.**  
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J. Phys. Condens. Matter, **16**, 8387-8398 (2004).
- 2. Burtovyy R., Tkacz M.**  
High pressure synthesis of new copper hydride from elements.  
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<sup>2</sup>D and <sup>63</sup>Cu NMR study in copper hydride.  
J. Alloys Compd., **384**, 71-75 (2004).
- 4. Palasyuk T., Figiel H., Tkacz M.**  
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- 5. Palasyuk T., Tkacz M.**  
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Solid State Commun., **130**, 219-221 (2004).

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Solid State Commun., **130**, 815-820 (2004).

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Limited penetration depth of hydride phase in cylindrical Pd-Ni alloys samples.  
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2. **Baranowski B., Filipek S.M.**  
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4. **Dudek D.**  
The influence of self-stresses on the deuterium diffusion in Pd<sub>77</sub>Ag<sub>23</sub> membrane.  
Collect. Czech Chem. Comm.,
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7. **Palasyuk T., Tkacz M.**  
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Part I. (GdH<sub>3</sub>, HoH<sub>3</sub>, LuH<sub>3</sub>).  
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8. **Paul-Boncour V., Filipek S.M., Dorogova M., Bourée F., André G., Marchuk I., Percheron-Guégan A., Liu R.S.**  
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9. **Sugiura H., Filipek S.M.**  
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11. **Szafrański A.W.**  
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## LECTURES AND COMMUNICATIONS PRESENTED AT SCIENTIFIC CONFERENCES

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2. **Baranowski B.**  
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4. **Dudek D.**  
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5. **Filipek S.M., Paul-Boncour V., Sugiura H., Liu R.S., Marchuk I., Dorogova M.**  
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6. **Filipek S.M.**  
High pressure studies of metal-hydrogen systems as possible carriers of energy.  
RP Embassy in Tokio. Dni Nauki Polskiej w Japonii, Tokio, Japan, 2004 (*invited lecture*).
7. **Myłswamy S., Wang C.Y., Liu R.S., Paul-Boncour V., Filipek S.M., Chen Y.Y., Yang H.D.**  
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10. **Sugiura H., Filipek S.M., Paul-Boncour V., Marchuk I., Liu R.S., Dorogova M., Pyun S.I.**  
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11. **Szafrański A.W.**  
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1. **Filipek S.M.**  
High pressure and novel synthesis of hydrides (in Japanese).  
Tokai University, Tokyo, Japan, 2004.
2. **Filipek S.M.**  
Ciekawe epizody w historii stosunków polsko-japońskich (in Japanese).  
Konan Joshi University, Kobe, Japan, 2004.
3. **Filipek S.M.**  
Equation of state and pressure-induced transitions in novel metal hydrides.  
Ritsumeikan University, Kyoto, Japan, 2004.
4. **Filipek S.M.**  
High pressure and blue lasers - including research activity on GaN in Unipress.  
Meijo University, Nagoya, Japan, 2004.
5. **Filipek S.M.**  
High pressure investigations of metal-hydrogen systems.  
Academia Sinica, Department of Physics, Taiwan, 2004.

- 6. Filipek S.M.**  
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Academia Sinica, Institute of Physics, Taiwan, 2004.
- 7. Filipek S.M.**  
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Osaka University, Osaka, Japan, 2004.
- 8. Filipek S.M.**  
Role of dislocation-free GaN substrates in quantum structures and blue lasers.  
Osaka University, Osaka, Japan, 2004.
- 9. Filipek S.M.**  
Role of high pressure in optoelectronics and biology.  
Ritsumeikan University, Kyoto, Japan, 2004.
- 10. Filipek S.M.**  
Why Polish like Japan and Japanese people?. Unknown relations between Japan and Poland... (in Japanese).  
Daido Institute of Technology, Nagoya, Japan, 2004.
- 11. Filipek S.M.**  
High pressure and GaN based blue lasers (in Japanese).  
Tokai University, Tokyo, Japan, 2004.
- 12. Tkacz M.**  
Materiały do magazynowania wodoru jako paliwa samochodowego.  
Department of Chemistry, Warsaw University, Warsaw, Poland, 2004.

## DEPARTMENT II

### PHYSICAL CHEMISTRY OF SUPRAMOLECULAR COMPLEXES

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#### MONOGRAPHS

- 1. Gierycz P.**  
Computer Simulation - Application to Thermodynamic Models in  
"Thermodynamics for Environment." (ed. P. Gierycz and  
S.K. Malanowski)  
Information Processing Centre, Warsaw, Poland, 2004, pp.73-88.
- 2. Lipkowski J.**  
Chemia Supramolekularna –szkic perspektyw in „Misja Chemii”  
(ed. B. Marciniec)  
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- 3. Lipkowski J.**  
The Concept of Supramolecular Chemistry in „Lectures by Honorary  
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- 4. Stryjek R.**  
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- 3. Bielejewska A., Głód B.K.**  
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- 9. Chyliński K., Fraś Z., Malanowski S.K.**  
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J. Chem. Eng. Data, **49**, 2-6 (2004).
- 10. Costes J.-P., Dahan F., Novitchi G., Arion V., Shova S.,  
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- 11. Defossement G., Randzio S.L., Legendre B.**  
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- 12. Di Nicola G., Giuliani G., Passerini G., Polonara F., Stryjek R.**  
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- 13. Di Nicola G., Giuliani G., Polonara F., Stryjek R.**  
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<sup>1</sup> Department X

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- 29. Jarosz S., Szewczyk K., Gawel A., Luboradzki R.**  
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Eur. J. Inorg. Chem. 3335-3344 (2004).
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*New J. Chem.*, **28**, 1320-1325 (2004).
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- 41. Madalan A.M., Kravtsov V.Ch., Pajic D., Zadro K., Simonov Yu.A., Stanica N., Ouahab L., Lipkowski J., Andruh M.**  
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- 42. Malinovskii S.T., Bologa O.A., Coropceanu E.B., Luboradzki R., Gerbeleu N.V.**  
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*Russ. J. Coord. Chem.* **30**, 339-345 (2004).

- 43. Marinescu G., Visinescu D., Cucos A., Andruh M., Journaux Y., Kravtsov V., Simonov Yu.A., Lipkowski J.**  
Oxalato-bridged [Cu<sup>II</sup>Cr<sup>III</sup>] and [Mn<sup>II</sup>Cr<sup>III</sup>] binuclear complexes synthesis, crystal structures, magnetic and EPR investigations.  
Eur. J. Inorg. Chem. 2914-2922 (2004).
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## DEPARTMENT III

### SOFT CONDENSED MATTER AND FLUIDS

*Head of the Department:* prof. dr hab. Robert Holyst

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**DEPARTMENT IV**  
**CHEMICAL DYNAMICS**

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**Phone: +48(22) 343 34 29**

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## DEPARTMENT V

### CATALYSIS ON METALS

#### *Head of the Department:*

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**Phone: +48(22) 343 33 56**

### MONOGRAPHS IN PRESS

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PAN, Katowice, Poland, 2004.

## DEPARTMENT VI

### ELECTROCHEMISTRY, CORROSION AND APPLIED SURFACE SCIENCE

*Head of the Department:* prof. dr hab. Tadeusz Zakroczymski  
Phone: +48(22) 343 32 34

#### MONOGRAPHS

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- 27. Lesiak B., Zemek J., Józwik A.**  
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- 28. Łunarska E., Chernyayeva O.**  
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- 29. Łunarska E., Chernyayeva O.**  
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and Applications, Kraków, Poland, 2004.
- 32. Łunarska E., Czernyayeva O.**  
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17-21 May 2004. (*invited lecture*).
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- 36. Łunarska E., Wierzchoń T.**  
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- 37. Łunarska E., Wierzchoń T.**  
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- 38. Mańkowski J.**  
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- 39. Michalski J., Tacikowski J., Wach P., Łunarska E., Tafta N., Fraczek T.**  
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- 40. Narojczyk J., Werner Z., Piekoszewski J., Szymczyk W.**  
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- 41. Nykyforchyn H., Kurzydłowski K., Łunarska E.**  
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- 42. Nykyforchyn H., Kurzydłowski K.J., Łunarska E., Tsybulnyk O., Ciupinski L.**  
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55<sup>th</sup> Annual Meeting of the International Society of Electrochemistry, Thessaloniki, Greece, 2004 (*invited lecture*).
- 45. Pisarek M., Janik-Czachor M., Hughes K.**  
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\*International Conference on Electrode Processes, Szczyrk, Poland, 2004.  
\*\*55<sup>th</sup> Annual Meeting of the International Society of Electrochemistry, Thessaloniki, Greece, 2004.
- 46. Powell C.J., Jabłoński A.**  
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51<sup>st</sup> International Symposium of American Vacuum Society, Anaheim, California, USA, 2004.
- 47. Powell C.J., Jabłoński A., Salvat F.**  
NIST databases with electron elastic-scattering cross sections, inelastic mean free paths, and effective attenuation lengths.  
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- 48. Powell C.J., Jabłoński A., Salvat F., Tanuma S., Penn D.R.**  
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3<sup>rd</sup> International Symposium on Practical Surface Analysis, Jeju, South Korea, 2004 (*invited lecture*).

- 49. Powell C.J., Jabłoński A., Werner W.S.M., Smekal W.**  
Characterization of thin films on the nanometer scale by AES and XPS.  
9<sup>th</sup> International Symposium on Advanced Physical Fields (APF-9),  
Tsukuba, Japan, 2004.
- 50. Ryumshyna T., Łunarska E., Chernyayeva O.**  
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VLIII Miedzunarodnaja konferencija. Aktualnyje problemy  
procznosti, Witebsk, Belarus, 2004.
- 51. Sadkowski A.**  
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impedance spectroscopy data close to discontinuity points oral  
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- 52. Sobczak J.W., Sobczak E., Krawczyk M., Drelinkiewicz A.,  
Hasik M.**  
XANES and EXAFS studies of Pt-doped polymers.  
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- 53. Tabakova T., Bocuzzi F., Manzoli M., Sobczak J.W., Idakiev V.,  
Andreeva D.**  
Low-temperature WGS reaction on nanosized 1B/ceria catalysts:  
preparation, characterization, mechanism.  
The 13<sup>th</sup> International Congress on Catalysis, Paris, France, 2004.
- 54. Wierzchoń T., Słoma J., Garbacz H., Łunarska E.**  
Modifying the properties of nickel alloys by duplex method using  
glow discharge assisted treatment and the PVD methods.  
16<sup>th</sup> International Vacuum Congress-IVC-16,  
12<sup>th</sup> International Conference on Solid Surface-ICSS-12,  
8<sup>th</sup> International Conference on Nanometer Scale Science and  
Technology - NANO-8,  
17<sup>th</sup> Vacuum National Symposium – AIV-17, Venice, Italy, 2004.

- 55. Wolarek Z. Zakroczymski T.**  
Characterisation of hydrogen transport in nitrided iron.  
4<sup>th</sup> Kurt Schwabe Corrosion Symposium „Mechanisms of Corrosion and Corrosion Prevention, Espoo, Finland, 2004.
- 56. Zagórski A., Spsychalski W., Matysiak H., Majdan W., Słobodyan Z., Łunarska E., Nykyforchyn H., Kurzydłowski K.J.**  
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VII Krajowa Konferencja Techniczna „Zarządzanie ryzykiem w eksploatacji rurociągów”, Płock, Poland, 2004.
- 57. Zakroczymski T.**  
Adaptation of the electrochemical permeation technique for studying entry, transport and trapping of hydrogen in metals.  
International Conference on Electrode Processes, Szczyrk, Poland, 2004.
- 58. Zakroczymski T.**  
Experimental evaluation of hydrogen transport In two-phase alloys.  
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- 59. Zakroczymski T.**  
Rola naprężenia i odkształcania w korozji naprężeniowej i kruchości wodorowej stali duplex.  
X Ogólnopolskie Sympozjum Naukowo-Techniczne “Nowe osiągnięcia w badaniach i inżynierii korozyjnej”, Szczyrk, Poland, 2004.

#### **INVITED LECTURES PRESENTED AT UNIVERSITIES AND OTHER SCIENTIFIC CENTERS (UNPUBLISHED)**

- 1. Lesiak B.**  
Spektroskopia piku elastycznego w zastosowaniu do złożonych układów.  
Rozprawa habilitacyjna. Uniwersytet Wrocławski, Wydział Fizyki i Astronomii, Wrocław, Poland, 2004.



**2. Lesiak B.**

Wybrane metale syntetyczne – fizykochemia i zastosowania.  
Rozprawa habilitacyjna. Uniwersytet Wrocławski, Wydział Fizyki i  
Astronomii, Wrocław, Poland, 2004.

**3. Łunarska E.**

Effect of hydrogen charging on steels of different strength at cathodic  
protection and bacteria action in sea water.  
Competence Center on Marine Corrosion, Gdańsk, Poland, 2004.

## DEPARTMENT VII

### ELECTRODE PROCESSES

*Head of the Department: doc. dr hab. Marcin Opallo*

**Phone: +48(22) 343 33 75**

#### PAPERS PUBLISHED IN SCIENTIFIC JOURNALS AND PROCEEDINGS OF SCIENTIFIC CONFERENCES

1. **Borkowska Z., Tymosiak-Zielińska A., Nowakowski R.<sup>8</sup>**  
High catalytic activity of chemically activated gold electrodes towards electro-oxidation of methanol.  
Electrochim. Acta, **49**, 2613-2621 (2004).
2. **Borkowska Z., Tymosiak-Zielińska A., Shul G.**  
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Electrochim. Acta, **49**, 1209-1220 (2004).
3. **Di Caprio D., Borkowska Z., Stafiej J.**  
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4. **Di Caprio D., Stafiej J., Badiali J.P.**  
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5. **McKenzie K.J., Niedziółka J., Paddon C.A., Marken F., Roźniecka E., Opallo M.**  
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Analyst, **129**, 1181-1185, (2004).
6. **Niedziółka J., Opallo M.**  
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7. **Saunier J., Chausse A., Stafiej J., Badiali J.P.**  
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8. **Shul G., Opallo M.**  
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Electroanalysis, **16**, 1524-1530 (2004).
10. **Stott S.J., McKenzie K.J., Mortimer R.J., Hayman C.M., Buckley B.J., Bulman Page P.C., Marken F., Shul G., Opallo M.**  
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Anal. Chem., **76**, 5364-5369 (2004).
11. **Taleb A., Chausse A., Dymitrowska M., Stafiej J., Badiali J.P.**  
Simulations of corrosion and passivation phenomena: Diffusion feedback on the corrosion rate.  
J. Phys. Chem. B, **108**, 952-958 (2004).

12. **Vautrin-Ul C., Chausse A., Stafiej J., Badiali J.P.**  
Simulations of corrosion processes with spontaneous separation of cathodic and anodic reaction zones.  
Polish J. Chem., **78**, 1795-1810 (2004).
13. **Zawisza I., Cai X., Zamlynyy V., Burgess I., Majewski J., Szymanski G., Lipkowski J.**  
New methods to study thin organic films at electrode surfaces.  
Polish J. Chem., **78**, 1165-1181 (2004).
14. **Żółtowski P., Legawiec B.**<sup>9</sup>  
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2. **Marken F., McKenzie K.J., Shul G., Opallo M.**  
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Farad. Discuss.,
3. **McKenzie K.J., Marken F., Opallo M.**  
TiO<sub>2</sub> phytate films as hosts and conduits for cytochrome c electrochemistry.  
Bioelectrochem.,

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4. **Opallo M., Sączek-Maj M., Shul G., Hayman C.M., Bulman Page P.C., Marken F.**  
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5. **Shul G., Opallo M., Marken F.**  
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6. **Żółtowski P.**  
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Solid State Ionics,

#### LECTURES AND COMMUNICATIONS PRESENTED AT SCIENTIFIC CONFERENCES

1. **Borkowska Z., Tymosiak-Zielińska A., Nowakowski R.<sup>10</sup>**  
Electrocatalytic oxidation of methanol on activated gold electrodes. Relation between structure and reactivity.  
International Conference on Electrode Processes, Szczyrk, Poland, 2004.
2. **Di Caprio D., Stafiej J., Badiali J.P.**  
Density field theory route to virial and contact theorems.  
NATO Advanced Research Workshop – Ionic Soft Matter, Lviv, Ukraine, 2004.
3. **Di Caprio D., Stafiej J., Badiali J.P.**  
Field theoretic approach of ionic solutions. Exact results and introduction of Dyson like equations.  
NATO Advanced Research Workshop – Ionic Soft Matter, Lviv, Ukraine, 2004.

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4. **Di Caprio D., Stafiej J., Badiali J.P.**  
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5. **Marken F., McKenzie K.J., Shul G., Opallo M.**  
Liquid|liquid ion transfer processes at 4-(3-phenylpropyl)-  
pyridine|aqueous electrolyte|electrode triple phase boundary systems  
supported by graphite and mesoporous TiO<sub>2</sub>.  
129 Faraday Discussions, Cambridge, UK, 2004.
6. **Niedziółka J., Pałys B., Nowakowski R.<sup>11</sup>, Opallo M.**  
Elektroda złota modyfikowana cienką warstwą hydrofobowego  
polikrzemianu i cieczą redoks.  
Chem Session'04, Warsaw, Poland, 2004.
7. **Niedziółka J., Pałys B., Nowakowski R.<sup>11</sup>, Opallo M.**  
Gold electrode modified with thin hydrophobic silicate film and redox  
liquid.  
55<sup>th</sup> Annual ISE Meeting, Thessaloniki, Greece, 2004.
8. **Niedziółka J., Pałys B., Nowakowski R.<sup>11</sup>, Opallo M.**  
Thin hydrophobic silicate film deposited on gold.  
International Conference on Sol-Gel Materials '04, Wrocław, Poland,  
2004.
9. **Opallo M.**  
Silicate modified electrodes.  
International Conference on Sol-Gel Materials '04, Wrocław, Poland,  
2004 (*invited lecture*).
10. **Opallo M., Niedziółka J., Pałys B., Nowakowski R.<sup>11</sup>, Marken F.**  
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hydrophobic silicate film.  
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2004.

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- 11. Opałło M., Prokopowicz A., Zadecki K., Borkowska R.**  
Low temperature electrochemical study of nickel hydroxide film in frozen electrolyte.  
55<sup>th</sup> Annual ISE Meeting, Thessaloniki, Greece, 2004.
- 12. Opałło M., Shul G., Marken F.**  
Liquid|liquid interfacial processes at hydrophobic silica carbon composite electrodes: Ion transfer at water|nitrobenzene, water|*o*-nitrophenyloctylether and at water|*o*-nitrophenylphenylether interfaces.  
129 Faraday Discussions, Cambridge, UK, 2004.
- 13. Roźniecka E., Shul G., Sirieix-Plenet J., Gaillon L., Opałło M.**  
Immobilisation of ionic liquid in carbon ceramic materials.  
International Conference on Sol-Gel Materials '04, Wrocław, Poland, 2004.
- 14. Roźniecka E., Shul G., Sirieix-Plenet J., Gaillon L., Opałło M.**  
Ionic liquid modified electrodes.  
International Conference on Electrode Processes, Szczyrk, Poland, 2004.
- 15. Shul G., McKenzie K.J., Opałło M., Marken F., Hayman C.M., Bulman Page P.C.**  
Ceramic carbon electrodes modified with microphases of redox liquid.  
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- 16. Shul G., Opałło M.**  
Ceramiczna elektroda węglowa modyfikowana eterem 2-nitrofenylooktylowym.  
Chem Session'04, Warsaw, Poland, 2004.
- 17. Shul G., Opałło M., Marken F.**  
Electroactive ceramic carbon electrode modified with 2-nitrophenyloctyl ether.  
55<sup>th</sup> Annual ISE Meeting, Thessaloniki, Greece, 2004.

- 18. Stott S.J., McKenzie K.J., Mortimer R.J., Hayman C.M., Buckley B.J., Bulman Page P.C., Marken F., Shul G., Opallo M.**  
Electrochemically driven proton exchange at biphasic dioctylphosphoric acid | aqueous electrolyte electrodes.  
RSC Electroanalytical Group Conference, Durham, UK, 2004.
- 19. Stott S.J., McKenzie K.J., Mortimer R.J., Hayman C.M., Buckley B.J., Bulman Page P.C., Marken F., Shul G., Opallo M.**  
Electrochemically driven ion exchange processes at biphasic organic oil | aqueous electrolyte electrodes.  
Midlands Electrochemistry Group Meeting, Loughborough, Durham, UK, 2004.
- 20. Vautrin-Ul C., Chausse A., Stafiej J., Badiali J.P.**  
Lattice gas – cellular automata simulations of corrosion processes on metallic material in contact with aggressive environment.  
55<sup>th</sup> Annual ISE Meeting, Thessaloniki, Greece, 2004.
- 21. Vautrin-Ul C., Chausse A., Stafiej J., Badiali J.P.**  
Numerical simulation for describing the evolution of a simple material-environment interface.  
NATO Advanced Research Workshop – Ionic Soft Matter, Lviv, Ukraine, 2004.
- 22. Zawisza I., Lipkowski J.**  
In situ spectroelectrochemical characterization of Langmuir-Blodgett bilayers of DMPC on an Au(111) electrode surface.  
International Conference on Electrode Processes, Szczyrk, Poland, 2004.
- 23. Żóltowski P.**  
Comparison of Transfer Functions of Transport of Hydrogen in Elastic Metals.  
6<sup>th</sup> International Symposium on Electrochemical Impedance Spectroscopy, Cocoa Beach, Florida, USA, 2004 (*invited lecture*).



**24. Żółtowski P.**

Complex Non-linear Least Squares method (CNLS) for fitting measurement models to impedance spectra.

International Workshop “Advanced Techniques for Energy Sources Investigation and Testing”, Centre of Excellence “PORTable and EMERGENCY Power Sources (POEMES) development”, Sofia, Bulgaria, 2004 (*invited lecture*).

**INVITED LECTURES PRESENTED AT UNIVERSITIES  
AND OTHER SCIENTIFIC CENTERS (UNPUBLISHED)**

**1. Opallo M.**

Silicate based electrodes modified with redox liquid.

Universite Pierre et Marie Curie, Paris, France, 2004.

**2. Opallo M.**

Elektrody modyfikowane polikrzemianami.

Wydział Chemii, Uniwersytet Gdański, Gdańsk, Poland, 2004.

**3. Stafiej J.**

Simulations of corrosion processes based on stochastic cellular automata.

Institute of Condensed Matter Physics, Lviv, Ukraine, 2004.

**4. Zawisza I.**

In situ odbiciowo-absorpcyjna spektroskopia w podczerwieni ze zmienną polaryzacją światła.

Wydział Chemii, Uniwersytet Warszawski, Warsaw, Poland, 2004.

## DEPARTMENT VIII

### ELECTROCHEMICAL OXIDATION OF GASEOUS FUELS (CRACOW)

*Head of the Department:* prof. dr hab. Leszek Suski

Phone: +48(12) 66 03 41

#### PAPERS PUBLISHED IN SCIENTIFIC JOURNALS AND PROCEEDINGS OF SCIENTIFIC CONFERENCES

**1. Bieniasz L.K.**

A fourth-order accurate, Numerov-type, three-point finite-difference discretization of electrochemical reaction-diffusion equations on nonuniform (exponentially expanding) spatial grids in one-dimensional space geometry.

J. Comput. Chem., **25**, 1515-1521 (2004).

**2. Bieniasz L.K.**

Improving the accuracy of the spatial discretization in finite-difference electrochemical kinetic simulations by means of the extended Numerov method.

J. Comput. Chem., **25**, 1076-1083 (2004).

**3. Bieniasz L.K.**

Use of dynamically adaptive grid techniques for the solution of electrochemical kinetics equations. Part 14. Extension of the patch-adaptive strategy to time-dependent models involving migration-diffusion transport in one-dimensional space geometry and its application to example transient experiments described by Nernst-Planck-Poisson equations.

J. Electroanal. Chem., **565**, 251-271 (2004).

4. **Bieniasz L.K.**  
Use of dynamically adaptive grid techniques for the solution of electrochemical kinetics equations. Part 15. Patch-adaptive of example transient experiments described by Nerst- Planck electroneutrality equations in one-dimensional space geometry. *J. Electroanal. Chem.*, **565**, 273-285 (2004).
5. **Bieniasz L.K., Britz D.**  
Recent developments in digital simulation of electroanalytical experiments. Review Article. *Polish J. Chem.* **78**, 1195-1219 (2004).
6. **Danek V., Tarniowy M., Suski L.**  
Kinetics of the  $\alpha \rightarrow \gamma$  phase transformation in  $\text{LiAlO}_2$  under various atmospheres within the 1073-1173 K temperature range. *J. Mater. Sci.*, **39** (7), 2429-2435 (2004).

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1. **Bieniasz L.K.**  
A singularity correction procedure for digital simulation of potential-step chronoamperometric transients in one-dimensional homogeneous reaction diffusion systems. *Electrochim. Acta*,
2. **Mordarski G., Suski L., Kolacz J., Ruggiero M.**  
Electrode open circuit potentials and oxidation process at Au and Pt electrodes/solid oxide electrolyte interfaces in common methane + air gas mixtures. *Polish J. Chem.*,
3. **Mordarski G., Suski L., Ruggiero M., Kolacz J., Wyrwa J.**  
Open-circuit-potentials of gas/electrode/YSZ boundary vs. molten carbonate reference electrode at medium temperatures. II. Potential response of Au, Pt and Ni-cermet electrodes in  $\text{CH}_4+\text{O}_2$  and  $\text{H}_2+\text{O}_2$  gas mixtures. *Electrochim. Acta*,

4. **Suski L., Kołacz J., Mordarski G., Ruggiero M.**  
Determination of open-circuit-potentials at gas/electrode/YSZ boundary vs. molten carbonate reference electrode at medium temperatures. I. Potentials of Au and Pt electrodes in O<sub>2</sub> and H<sub>2</sub>+H<sub>2</sub>O atmospheres.  
Electrochim. Acta,
5. **Żurek P., Mosiałek M., Tomczyk P., Obląkowska D.**  
Investigation of the partial oxidation of methane at the interface metal (Pt, Au)/YSZ.  
J. Electroceramics,

#### LECTURES AND COMMUNICATIONS PRESENTED AT SCIENTIFIC CONFERENCES

1. **Godula-Jopek A.**  
Use of fuel cell technology in aviation industry.  
FDFC 2004, 2<sup>nd</sup> France - Deutschland Fuel Cell Conference Fuel Cells: Materials, Engineering, Systems and Applications, Belfort, France, 2004.
2. **Godula-Jopek A., Nitschke F., Wolff Ch.**  
Experimental validation of electro-osmotic flow using selected semi-permeable membranes.  
4-ème Conference SFE Société Française d'Electrostatique, Poitiers, France, 2004.
3. **Godula-Jopek A., Nitschke F., Wolff Ch.**  
Dehumidification principles based on semi-permeable membranes, driven by the electro-osmosis force.  
The 5<sup>th</sup> International EHD Workshop, Poitiers, France, 2004.
4. **Godula-Jopek A., Sterr W., Hornung M.**  
Fuel Cells for Military Aircraft – “Usage of fuel cell systems for secondary power generation in HALE surveillance aircraft.”: In the section: Les applications aux véhicules aérospatiaux. Association Aeronautique et Astronautique de France. Commission Propulsion. Perspectives d'utilisation de la pile à combustible dans les systèmes aérospatiaux, Toulouse, France, 2004.

5. **Kendall K., Kosseva M., Godula-Jopek A.**  
Processing Kerosene for SOFCs.  
Sixth European Solid Oxide Fuel Cell Forum, Lucerne, Switzerland,  
2004.
6. **Suski L., Kołacz J., Mordarski G., Ruggiero M., Wyrwa J.**  
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ze stałym elektrolitem tlenkowym.  
IX Krajowe Sympozjum Przewodniki Szybkich Jonów, Borowice  
k/Wrocławia, Poland, 2004.
7. **Suski L., Mordarski G., Ruggiero M., Kołacz J., Wyrwa J.**  
Koncepcja jednokomorowego ogniwa paliwowego z elektrolitem  
stałym.  
Symposium : Ogniwa i akumulatory. Chemiczne Źródła Prądu w  
Nauce i Technice. Poznań, Poland, 2004 (*invited lecture*).
8. **Tomczyk P., Żurek S.**  
Redukcja tlenu na platynie w elektrolicie polimerowym Nafionie.  
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Nauce i Technice. Poznań, Poland, 2004.

## DEPARTMENT IX

### PHOTOCHEMISTRY AND SPECTROSCOPY

*Head of the Department:* prof. dr hab. Jacek Waluk

Phone: +48(22) 343 33 32

### MONOGRAPHS

1. **Kapturkiewicz A.**

Electron transfer and spin up-conversion processes.

in: Electrogenenerated chemiluminescence (ed. A.J. Bard)

Marcel Dekker, New York (USA), Ch. 4, 2004, pp.163-211.

### PAPERS PUBLISHED IN SCIENTIFIC JOURNALS AND PROCEEDINGS OF SCIENTIFIC CONFERENCES

1. **Âkimenko O., Smirnowa N., Èremienko G., Rotkiewicz K.**

Fotonika 4-(4'-N,N-dietil-aminofenil-3,5-dimetil-1,7difenil-  
bis-pírazolo-[3,4-b,3'-e]-píridihy w silíkatnih matricâh.

in: Hímíâ, fízika ta tehnologíâ powerhni (ed. O.O. Čujko), Wip. 10,  
2004, pp.100-104

2. **Bialoń M., Hetper J., Pietraszkiewicz M., Pietraszkiewicz O.**

Thermodynamic interaction parameters of

*tetra-n*-undecylcalix[4]resorcinarenes with selected solvents studied  
by inverse gas chromatography.

J. Incl. Phenom. Macro., **49**, 69-73 (2004).

3. **Bizjak T., Karpiuk J., Lochbrunner S., Riedle E.**  
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4. **Borowicz P., Nickel B.**  
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5. **Deperasińska I., Prochorow J., Stepanenko Y.**  
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7. **Dobkowski J., Galievsky V.A., Jasny J., Sazanovich I.V.**  
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8. **Drobizhev M., Stepanenko Y., Dzenis Y., Karotki A., Rebane A., Taylor P.N., Anderson H.L.**  
Understanding strong two-photon absorption in  $\pi$ -conjugated porphyrin dimers via double-resonance enhancement in a three-level model.  
J. Am. Chem. Soc. **126**, 15352-15353 (2004).
9. **Gawryszewska P., Malta O.L., Longo R.L., Goncalves e Silva F.R., Alves S., Mierzwicki K., Latajka Z., Pietraszkiewicz M., Legendziewicz J.**  
Experimental and theoretical study of the photophysics and structures of europium cryptates incorporating 3,3'-bi-isoquinoline-2,2'-dioxide.  
Chem. Phys. Chem., **5**, 1577-1584 (2004).

- 10. Jasny J., Nickel B., Borowicz P.**  
Wavelength- and temperature-dependent measurement of refractive indices.  
J. Opt. Soc. Am. B, **21**, 729-738 (2004).
- 11. Kapturkiewicz A.**  
Elektrochemiluminescencja kompleksów irydu(III).  
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- 12. Kapturkiewicz A., Chen T.-M., Laskar I.R., Nowacki J.**  
Electrochemiluminescence studies of the cyclometalated iridium(III) complexes with substituted 2-phenylbenzothiazole ligands.  
Electrochem. Commun., **6**, 827-831 (2004).
- 13. Karpiuk J.**  
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- 14. Kijak M., Zielińska A., Chamchoumis C., Herbich J., Thummel R.P., Waluk J.**  
Conformational equilibria and photoinduced tautomerization in 2-(2'-pyridyl)pyrrole.  
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- 16. Lepeshkevich S.V., Karpiuk J., Sazanovich I.V., Dzhagarov B.M.**  
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- 19. Nosenko Y., Jasny J., Pietraszkiewicz M., Mordziński A.**  
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J. Alloys Compd., **380**, 241-247 (2004).
- 22. Pietraszkiewicz M., Prus P., Pietraszkiewicz O.**  
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- 23. Posokhov Y., Gorski A., Spanget-Larsen J., Duus F., Hansen P.E., Waluk J.**  
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Chem. Phys. Chem., **5**, 495- 502 (2004).
- 24. Prochorow J., Deperasińska I., Stepanenko Y.**  
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- 25. Rotkiewicz K., Rettig W., Köhler G., Rechthaler K., Danel A., Grabka D.**  
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- 26. Seurre N., Le Barbu-Debus K., Lahmani F., Zehnacker-Rentien A., Sepiól J.**  
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- 27. Seurre N., Sepiól J., Lahmani F., Zehnacker-Rentien A., Le Barbu-Debus K.**  
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- 29. Szemik-Hojniak A., Balkowski G., Worpel G.W.H., Herbich J., van der Waals J.H., Buma W.J.**  
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- 30. Utzig E.<sup>12</sup>, Pietraszkiewicz O., Pietraszkiewicz M.**  
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J. Therm. Anal. Calorim., **78**, 973-980 (2004).

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31. **Wiosna G., Petkova I., Mudadu A., Thummel R.P., Waluk J.**  
Intra- and intermolecular fluorescence quenching in  
7-(pyridyl)indoles.  
Chem. Phys. Lett. **400**, 379-383 (2004).
  
32. **Wojtkowski M., Bajraszewski T., Gorczynska I., Targowski P.,  
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33. **Zielińska D., Gil A., Pietraszkiewicz M., Pietraszkiewicz O.,  
van de Vijver D., Nagels L.J.**  
Podand and macrocyclic amine receptors with urea functionalities for  
potentiometric detection of organic acids in HPLC.  
Anal. Chim. Acta, **523**, 177- 184 (2004).
  
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1. **Borowicz P., Leś A., Adamowicz L., Waluk J.**  
Vibrational spectroscopy of hydroxy-heterobiaryls. IR-active modes  
of [2,2'-bipyridyl]-3,3'-diol.  
Photochem. Photobiol. Sci.,
  
2. **Borowicz P., Nickel B.**  
Triplet-triplet annihilation in viscous solutions as an example of  
non-Fickian diffusion.  
J. Opt. Soc. Am. B,
  
3. **Czerwieniec R., Kapturkiewicz A., Nowacki J.**  
Re(I)(tricarbonyl)<sup>+</sup> complexes with anionic N∩S<sup>-</sup> thioxalato ligand.  
Inorg. Chem. Commun.,

4. **Fita P., Stepanenko Y., Radzewicz C.**  
Femtosecond transient fluorescence spectrometer based on parametric amplification.  
Appl.Phys.Lett.,
5. **Johannessen C., Gorski A., Waluk J., Spanget-Larsen J.**  
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Polycyclic Aromatic Compounds,
6. **Kowalczyńska H.M., Nowak-Wyrzykowska M., Kołos R., Dobkowski J., Kamiński J.**  
Fibronectin adsorption and arrangement on copolymer surfaces and their significance in cell adhesion.  
J. Biomed. Mater. Res. A,
7. **Szkulmowski M., Wojtkowski M., Bajraszewski T., Gorczynska I., Targowski P., Wasilewski W., Kowalczyk A., Radzewicz C.**  
Resolution improvement for high resolution in vivo images by spectral optical coherence tomography with supercontinuum source.  
Opt. Commun.,
8. **Szydłowska I., Kubicki J. Herbich J.**  
Picosecond kinetics of excited-state charge separation in 4-(dimethylamino)pyridine.  
Photochem. Photobiol. Sci.,

#### LECTURES AND COMMUNICATIONS PRESENTED AT SCIENTIFIC CONFERENCES

1. **Bizjak T., Karpiuk J., Lochbrunner S., Riedle E.**  
Experimental verification of the ultrafast intramolecular electron transfer in triphenylmethane lactones.  
68. Physikertagung der Deutschen Physikalischen Gesellschaft, Monachium, Germany, 2004.

2. **Dobkowski J., Sazanovich I.V., Lobko E.E.**  
TICT - the most controversial state of the last 40 years: the case of carbonyl *p*-derivatives of N,N-dimethylaniline.  
Photoinduced Charge (Electron and Proton) Migration Workshop,  
Wdzydze, Poland, 2004.
3. **Dobrowolski J.Cz., Rode J.E., Kołos R., Jamróz M.H., Bajdor K., Mazurek A.P.**  
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Poland, 2004.
4. **Drobizhev M., Karotki A., Dzenis Y., Rebane A., Stepanenko Y., Meng F., Spangler C.W., Taylor P.N., Anderson H.L.**  
Uncovering the mechanisms of strong two-photon absorption in new tetrapyrroles: from relationships between linear and nonlinear absorption to structure-property relationships.  
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New Orleans, USA, 2004.
5. **Drobizhev M., Karotki A., Dzenis Y., Rebane A., Stepanenko Y., Meng F., Spangler C.W., Taylor P.N., Anderson H.L.**  
Uncovering the mechanisms of strong two-photon absorption in new tetrapyrroles: from relationships between linear and nonlinear absorption to structure-property relationships.  
SPIE Conference, Denver, USA, 2004.
6. **Gil A., Nagels O., Bilewicz R., Pietraszkiewicz O., Pietraszkiewicz M.**  
Studies of the derivatives of hexaazamacrocycles – as ionophores for ion-selective electrodes, and their orientation at the air-water interface.  
13<sup>th</sup> International Symposium on Supramolecular Chemistry, Notre Dame, USA, 2004.
7. **Gil A., Pietraszkiewicz M., Pietraszkiewicz O.**  
Supramolecular Advanced Materials - Recognition of carboxylic acids with hexaazacyclophanes possessing 2,6-diaminopyridine subunits as receptors.  
VI<sup>th</sup> Konferencja Polskiej Sieci Chemii Supramolekularnej – Krutyń, Poland, 2004.

- 8. Gil A., Pietraszkiewicz O., Pietraszkiewicz M.**  
Synthesis of hexaazacyclophanes possessing 2,6-diaminopyridine subunits as receptors for carboxylic acids.  
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- 9. Gil M., Urbańska N., Pietraszkiewicz M., Waluk J.**  
Steady-state and time-resolved anisotropy as a tool for investigation of the tautomerization reaction in porphycene.  
Photoinduced Charge (Electron and Proton) Migration Workshop, Wdzydze, Poland, 2004.
- 10. Gorski A., Köhler T., Seidel D., Sessler J.L., Waluk J.**  
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- 11. Gorski A., Posokhov Y., Spanget-Larsen J., Duus F., Hansen P.E., Fita P., Radzewicz C., Waluk J.**  
Photochromism in  $\beta$ -thioxoketones.  
4<sup>th</sup> International Symposium on Photochromism, Arcachon, France, 2004.
- 12. Gorski A., Posokhov Y., Spanget-Larsen J., Duus F., Hansen P.E., Waluk J.**  
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- 13. Grabowska A., Borowicz P.**  
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- 14. Hansen B.K.V., Gorski A., Posokhov Y., Waluk J., Duus F., Hansen P.E., Spanget-Larsen J.**  
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- 15. Kapturkiewicz A., Czerwieniec R.**  
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Photoinduced Charge (Electron and Proton) Migration Workshop,  
Wdzydze, Poland, 2004.
- 16. Kapturkiewicz A.**  
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- 17. Kapturkiewicz A.**  
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complexes.  
Fast Reactions in Solutions - Conference of the Royal Society.  
Burgos, Spain, 2004.
- 18. Karpiuk J.**  
Rola dynamiki solwatacji w fotoindukowanym procesie przeniesienia  
elektronu w laktonie fioletu krystalicznego.  
Mikrosymposium „Kinetyczne mechanizmy badania reakcji w  
roztworach”, Poznań, Poland, 2004.
- 19. Karpiuk J., Bizjak T., Lochbrunner S., Riedle E.**  
Sub-50 fs photoinduced intramolecular charge separation in  
triphenylmethane lactones.  
XX<sup>th</sup> IUPAC Symposium on Photochemistry, Granada, Spain, 2004.
- 20. Karpiuk J., Schmidhammer U., Lochbrunner S., Riedle E.**  
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process in crystal violet lactone.  
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Wdzydze, Poland, 2004.
- 21. Karpiuk J., Schmidhammer U., Lochbrunner S., Riedle E.**  
Ultrafast intramolecular electron transfer dynamics in crystal violet  
lactone.  
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- 22. Kijak M., Herbich J., Kyrychenko A., Thummel R.P., Waluk J.**  
Excited state intramolecular proton transfer in 2-(2'-pyridyl)pyrrole.  
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- 23. Kijak M., Herbich J., Thummel R.P., Waluk J.**  
Photophysics of 2,2'-pyridylpyrrole.  
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Wdzydze, Poland, 2004.
- 24. Kołos R.**  
Chemia poza Ziemią.  
ChemSession '04, Warsaw, Poland, 2004 (*plenary lecture*).
- 25. Kołos R.**  
On the production of cyanoacetylene-related molecules.  
XXVII European Congress on Molecular Spectroscopy, Kraków,  
Poland, 2004.
- 26. Kołos R., Dobrowolski J.Cz.**  
Hydrogen transfer in space. A route towards interstellar  
cyanovinylidene.  
Photoinduced Charge (Electron and Proton) Migration Workshop,  
Wdzydze, Poland, 2004.
- 27. Krauß O., Brutschy B., Gorski A., Nosenko Y., Thummel R.P.,  
Waluk J., Herbich J.**  
Spectroscopic and theoretical studies of 1H-pyrrolo[3,2-h]quinoline  
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- 28. Kyrychenko A., Gorski A., Waluk J.**  
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Wdzydze, Poland, 2004.



- 29. Lahmani F., Seurre N., Le Barbu-Debus K., Zehnacker-Rentien A., Sepiol J.**  
Structural effects and chiral recognition in jet-cooled complexes as studied by IR-UV dip spectroscopy.  
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- 30. Lepeshkevich S.V., Karpiuk J., Sazanovich I.V., Dzhagarov B.M.**  
Kinetic studies of the differences between  $\alpha$  and  $\beta$  chains in oxygenation of human hemoglobin in the R-state.  
29<sup>th</sup> FEBS Congress, Warsaw, Poland, 2004.
- 31. Luzina E.**  
Proton transfer spectroscopy of 2,5-bis-(benzoxazolyl)hydroquinone derivatives and their molecular clusters in the supersonic jet.  
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- 32. Luzina E., Fita P., Kopeć D., Dziembowska T., Grabowska A., Radzewicz C., Mordziński A.**  
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Photoinduced Charge (Electron and Proton) Migration Workshop, Wdzydze, Poland, 2004.
- 33. Petkova I., Mudadu M.S., Thummel R.P., Waluk J.**  
Photophysical properties of 2-(pyridyl)-benzoindoles.  
Euroconference: Chemistry and physics of multifunctional materials: „from clever molecules to smart materials”; Tomar, Portugal, 2004.
- 34. Pietraszkiewicz M.**  
Comments on my activities in FP5 and FP6 programmes.  
Industrylink 2004 - Poznań, Poland, 2004 (*invited lecture*).
- 35. Pietraszkiewicz M.**  
Highly photoluminescent lanthanide complexes based on phosphinoxides.  
VI<sup>th</sup> Conference of the Polish Supramolecular Chemistry Network – Krutyń, Poland, 2004.

- 36. Pietraszkiewicz M.**  
Kształtowanie entuzjazmu i pasji w nauce (About rising the enthusiasm and passion in science).  
Industrylink 2004 - Poznań, Poland, 2004 (*invited lecture*).
- 37. Pietraszkiewicz M.**  
Molecular recognition of organic species by polyfunctionalised hexaazamacrocycles.  
4<sup>th</sup> International Conference on Supramolecular Science & Technology, Prague, Czech Republic, 2004.
- 38. Pietraszkiewicz M.**  
Polska Sieć Chemii Supramolekularnej wczoraj i dziś.  
Microsymposium of the Polish Supramolecular Chemistry Network,  
Wydział Chemii UJ, Kraków, Poland, 2004.
- 39. Pietraszkiewicz M.**  
Wysoce luminescencyjne kompleksy lantanowców z ligandami fosfitotlenkowymi.  
Microsymposium of the Polish Supramolecular Chemistry Network,  
Katowice, Poland, 2004.
- 40. Pietraszkiewicz M., Pietraszkiewicz O.**  
Protonation features in 1,5,9,18,22,26-hexaaza[11.11]-*p*-cyclophane.  
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- 41. Pietraszkiewicz O., Pietraszkiewicz M., Gil A.**  
Binding of nitrophenols by hexaazacyclophane.  
Photoinduced Charge (Electron and Proton) Migration Workshop,  
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- 42. Piwoński H., Sepioł J., Meixner A., Waluk J.**  
Proton transfer in a single molecule: Porphycene.  
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- 43. Radzewicz C.**  
Entanglement-enhanced classical communication over a quantum channel.  
Photoinduced Charge (Electron and Proton) Migration Workshop,  
Wdzydze, Poland, 2004.
- 44. Rotkiewicz K.**  
Reactivity of molecules in excited state with charge separation-TICT.  
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Wdzydze, Poland, 2004.
- 45. Sepioł J., Lahmani F., Zehnacker-Rentien A., Deperasińska I.**  
Fluorescence Spectroscopy of terylene in a supersonic jet.  
XXVII European Congress on Molecular Spectroscopy, Kraków,  
Poland, 2004.
- 46. Sepioł J., Piwoński H., Meixner A., Waluk J.**  
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the single molecule.  
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Wdzydze, Poland, 2004.
- 47. Svartsov Y., Karpiuk J.**  
Photophysics of aminophthalides – a view from the perspective of  
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- 48. Svartsov Y., Karpiuk J.**  
The effect of substituent position on the photophysics of  
aminophthalides.  
XX<sup>th</sup> IUPAC Symposium on Photochemistry, Granada, Spain, 2004.
- 49. Szydłowska I., Stepanenko Y., Nowacki J., Brutschy B.,  
Herbich J.**  
Laser spectroscopy of donor-acceptor pyridine derivatives in a  
supersonic jet.  
Photoinduced Charge (Electron and Proton) Migration Workshop,  
Wdzydze, Poland, 2004.

- 50. Urbańska N., Pietraszkiewicz M., Waluk J.**  
 Synthesis and spectral properties of substituted porphycenes.  
 Photoinduced Charge (Electron and Proton) Migration Workshop,  
 Wdzydze, Poland, 2004.
- 51. Vdovin A., Sepioł J., Mordziński A., Urbańska N., Waluk J.**  
 Laser spectroscopy of 9,10,19,20-tetramethylporphycene seeded in a  
 supersonic jet.  
 Photoinduced Charge (Electron and Proton) Migration Workshop,  
 Wdzydze, Poland, 2004.
- 52. Waluk J.**  
 Secrets of porphycenes.  
 MichlFest Symposium, Salt Lake City, USA, 2004 (*invited lecture*).
- 53. Wiosna G., Petkova I., Mudadu M.S., Thummel R.P., Waluk J.**  
 Quenching of fluorescence by hydrogen bonding in  
 7-(pyridyl)-indoles.  
 Photoinduced Charge (Electron and Proton) Migration Workshop,  
 Wdzydze, Poland, 2004.

**INVITED LECTURES PRESENTED AT UNIVERSITIES AND  
 OTHER SCIENTIFIC CENTERS (UNPUBLISHED)**

- 1. Dobkowski J.**  
 TICT- the most controversial state of the last 40 years: the case of  
 carbonyl *p*-derivatives of N,N-dimethylaniline.  
 Institute of Atomic and Molecular Physics, Belarussian Academy of  
 Sciences, Belarus, 2004.
- 2. Kapturkiewicz A.**  
 Studies of the cyclometalated Ir(III) complexes.  
 Fraunhofer Institut für Angewandte Polymerforschung, Potsdam,  
 Germany, 2004.
- 3. Kapturkiewicz A.**  
 Elektrochemiluminescencja – wprowadzenie.  
 Department of Chemistry, Warsaw University, Warsaw, Poland, 2004.

- 4. Karpiuk J.**  
Ultrafast photoinduced electron transfer in spiro-systems.  
Physical and Theoretical Chemistry Institute, Johann Wolfgang  
Goethe University, Frankfurt/Main, Germany, 2004.
- 5. Kołos R.**  
Carbon-nitrogen chains of astrophysical importance.  
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- 6. Kołos R.**  
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- 7. Mordziński A.**  
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- 8. Mordziński A.**  
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- 9. Pietraszkiewicz M.**  
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- 10. Waluk J.**  
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- 11. Waluk J.**  
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conformational equilibria.  
Department of Chemistry, Freie Universität Berlin, Germany, 2004.
- 12. Waluk J.**  
Symmetry as a law and a tool in chemistry and spectroscopy.  
Roskilde University, Denmark, 2004.

## DEPARTMENT X

### QUANTUM THEORY OF SOLIDS AND MOLECULES

*Head of the Department:* prof. dr hab. Andrzej Holas  
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### MONOGRAPHS

1. **Holas A.**

Electronic density functional theory: Ground-state properties, in:  
„Proceedings of the International School of Physics ‘Enrico Fermi’,  
Course CLVII”, (ed. G.F. Giuliani and G. Vignale)  
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1. **Balawender R., Holas A., March N.H.**

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2. **Dodziuk H., Demchuk O.M., Bielejewska A.<sup>13</sup>, Koźmiński W.,  
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<sup>13</sup> Department II

3. **Dodziuk H., Demchuk O.M., Schilf W., Dolgonos G.**  
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4. **Dodziuk H., Koźmiński W., Ejchart A.**  
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5. **Olszewski S.**  
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6. **Olszewski S.**  
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7. **Olszewski S.**  
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8. **Olszewski S.**  
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9. **Olszewski S., Pietrachowicz M., Baszczak M.**  
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## MONOGRAPHS AND PAPERS IN PRESS IN SCIENTIFIC JOURNALS

1. **Dodziuk H.**

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Organika,

## LECTURES AND COMMUNICATIONS PRESENTED AT SCIENTIFIC CONFERENCES

1. **Dodziuk H.**

How credible is the modeling of molecular and chiral recognition by cyclodextrins?

2. Seminarium Naukowe "Modelowanie Molekularne – Zastosowania i Rozwój", Częstochowa, Poland, 2004 (*invited lecture*).

2. **Dodziuk H.**

Topological chemistry.

IV Jesienne Spotkanie polsko-niemieckiego Kolegium Doktoranckiego ", Będlewo, Poland, 2004 (*invited lecture*).

3. **Dinadayalane T.C., Gorb L., Dodziuk H., Leszczyński J.**

A theoretical study on the interactions of  $C_nH_4$  and  $C_nH_2$  ( $n = 8, 6, 4$  and  $2$ ) with a single walled (5.5) carbon nanotube  $C_{60}H_{20}$ .

13<sup>th</sup> Conference „Current Trends in Computational Chemistry”, Jackson, USA, 2004.

4. **Dodziuk H.**

NMR, chromatographic and modeling studies of some multiple complexes of dendrimers with cyclodextrins.

XXIX International Symposium of Macrocyclic Chemistry, Cairns, Australia, 2004.



**INVITED LECTURES PRESENTED AT UNIVERSITIES AND  
OTHER SCIENTIFIC CENTERS (UNPUBLISHED)**

- 1. Cinal M.**  
Anizotropia magnetokrystaliczna w ultracienkich układach warstwowych metali przejściowych  
Instytut Fizyki Molekularnej PAN, Poznań, Poland, 2004.
- 2. Dodziuk H.**  
Chemia biomimetyczna – co to jest?  
PTChem, Poland, 2004.
- 3. Dodziuk H.**  
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Szkoła Fizykochemii Organicznej, Polanica, Poland, 2004.
- 4. Dodziuk H.**  
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Uniwersytet w Heidelbergu, Heidelberg, Germany, 2004.
- 5. Holas A.**  
Podstawy teorii funkcyjonału gęstości III.  
Uniwersytet Warszawski, Instytut Fizyki Teoretycznej, Warsaw, Poland, 2004.

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### MONOGRAPHS IN PRESS

- 1. Cybulski A., Moulijn J.A.**  
The Present and the Future of Structured Catalysts – An overview, in: “Structured Catalysts and Reactors”, (eds A. Cybulski, J.A. Moulijn), 2nd Ed., Taylor & Francis, Boca Raton, USA.
- 2. Cybulski A., Edvinsson Albers R., Moulijn J.A.**  
Monolithic Reactors for Three-Phase Processes, in: “Structured Catalysts and Reactors”, (eds A. Cybulski, J.A. Moulijn), 2nd Ed., Taylor & Francis, Boca Raton, USA.
- 3. Kreutzer M., Kapteijn F., Moulijn J.A., Andersson B., Cybulski A.**  
Segmented Two-Phase Flow in Monolithic Reactors, in: “Structured Catalysts and Reactors”, (eds A. Cybulski, J.A. Moulijn), 2nd Ed., Taylor & Francis, Boca Raton, USA.
- 4. Kreutzer M., Kapteijn F., Moulijn J.A., Edvinsson Albers R., Cybulski A.**  
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## PAPERS PUBLISHED IN SCIENTIFIC JOURNALS

- 1. Cybulski A., Trawczyński J.**  
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- 2. Kudyba I., Raczko J., Jurczak J.**  
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- 3. Kudyba I., Raczko J., Jurczak J.**  
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- 4. Kudyba I., Raczko J., Jurczak J.**  
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- 5. Kudyba I., Raczko J., Urbańczyk-Lipkowska Z., Jurczak J.**  
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- 6. Sukovata L., Kolk A., Cieślak M.**  
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## PAPERS IN PRESS IN SCIENTIFIC JOURNALS

- 1. Trawczyński J., Cybulski A.**  
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## MISCELLANEA

1. **Olszewski S.**  
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Studia Philosophiae Christianae, **39**, 377-379 (2003).
2. **Olszewski S.**  
Maksymilian Pluta (1929-2002).  
Postępy Fizyki, **55**, 41-42 (2004).
3. **Zięborak-Tomaszkiewicz I.**  
Wspomnienia pośmiertne. Prof. dr. inż. Kazimierz Bolesław Zięborak (1923 – 2004).  
Przem. Chem., **83**, 571-574 (2004).
4. **Zommer L.**  
Czy cel uświęca środki i zasada zachowania energii.  
Foton, 78 (2002).

## EDITORIAL ACTIVITY

### SCIENTIFIC JOURNALS

#### **Baranowski B.**

- Member of the International Advisory Board of **Journal of Nonequilibrium Thermodynamics**. Published by Walter de Gruyter
- Editor-In-Chief of **Polish Journal of Chemistry**. Published by Polish Chemical Society

#### **Cieślak M.**

- Associate Editor of **Przemysł Chemiczny**. Published by SIGMA-NOT Ltd.

#### **Flis J.**

- Associate Editor of **Ochrona przed Korozją**. Published by SIGMA-NOT, Ltd.

#### **Grabowski Z.R.**

- Member of the Editorial Board of **Journal of Fluorescence**. Published by Plenum Publishing Corporation

#### **Herbich J.**

- Member of the Editorial Board of **European Photochemistry Association Newsletter**. Published by European Photochemistry Association

#### **Holyst R.**

- Member of the Editorial Board of **Macromolecular Theory Simulations**. Published by J.Wiley & Sons, Ltd.

**Jabłoński A.**

- Associate Editor of **Surface Science Spectra**. Published by American Institute of Physics
- Member of the International Advisory Board of **Surface and Interface Analysis**. Published by Wiley & Sons, Ltd.
- Member of the International Advisory Board of **Journal of Surface Analysis**. Published by Surface Analysis Society of Japan

**Kaszur Z.**

- Guest Editor of the **Journal of Alloys and Compounds**. Special edition. Proceedings of VII<sup>th</sup> International School and Symposium on Synchrotron Radiation in Natural Sciences. Published by Elsevier.

**Kutner W.**

- Guest Editor of **Bioelectrochemistry**. Published by Elsevier (2004-2005)
- Member of the A-page Advisory Panel of **Analytical Chemistry**. Published by American Chemical Society (2003-2005)

**Lipkowski J.**

- Co-Editor-in-chief of **Inclusion Phenomena and Macrocyclic Chemistry**. Published by Kluwer Academic Publishers
- Member of the Editorial Board and Regional Editor for Eastern Europe of **Journal of Coordination Chemistry, Section B**. Published by Taylor & Francis
- Member of the Editorial Board of **Journal of Chemical Crystallography**. Published by Plenum Press
- Member of the Editorial Board of **Supramolecular Chemistry**. Published by Gordon & Breach
- Member of the Editorial Board of **Crystal Engineering**. Published by Pergamon
- Member of the **Journal of Supramolecular Chemistry**. Published by Elsevier
- Member of the Advisory Board of **Moldavian Journal of the Physical Sciences**. Published by Centrul LISES al Academiei de Stiinte a Republicii Moldova

**Lunarska E.**

- Member of the Editorial Board of **International Journal of the Physicochemical Mechanics of Materials**. Published by National Academy of Sciences of Ukraine.
- Member of the Editorial Board of **Advances in Materials Sciences**.

Published by Polish Materials Society.

- Member of the Editorial Board of **Corrosion Reviews**. Published by Freund Publishing House Ltd.

**Maczyński A.**

- Associate Editor of **International Data Series, Selected Data on Mixtures**. Published by National Institute of Standards and Technology, Boulder, USA

**Malanowski S.K.**

- Member of the Editorial Board of **Chemical & Biochemical Engineering Quarterly**. Published by Savez Kemicara i Technologa Hrvatska

- Member of the Advisory Board of **Journal of Chemical Engineering Data**. Published by American Chemical Society (2004-2006)

**Pasiuk-Bronikowska W.**

- Member of the Programming Board of the **Ecological Chemistry and Engineering**. Published by the Society for Ecological Chemistry and Engineering

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- Editor of **International Data Series, Selected Data on Mixtures**. Published by National Institute of Standards and Technology, Boulder, USA

**Suwińska K.**

- Member of the Editorial Board of **Crystal Engineering**. Published by Pergamon

**Waluk J.**

- Member of the Editorial Board of **Journal of Luminescence**. Published by Elsevier

- Member of the Editorial Board of **Chemical Physics**. Published by Elsevier

- Member of the Ownership Board of **Photochemical and Photobiological Sciences**. Published by Royal Society of Chemistry

**Zielenkiewicz W.**

- Member of the Editorial Board of **Bull. Acad. Polish Sci. Ser.: Chim.** Published by Polish Academy of Sciences

## BOOK SERIES

### **Bylicki A.**

- Member of the Editorial Board of **Vapor-Liquid Equilibria Series**.  
Published by Thermodynamics Data Center, Warsaw
- Member of the Editorial Board of **Wiley Series in Solution Chemistry**.  
Published by John Wiley & Sons, Chichester, New York, Toronto

### **Lipkowski J.**

- Member of the Editorial Board of monograph series: **Inclusion Compounds**.  
Published by Academic Press

### **Maczyński A.**

- Editor-in-Chief of **Vapor-Liquid Equilibria Series**.  
Published by Thermodynamics Data Center, Warsaw
- Member of the Editorial Board of **IUPAC-NIST Solubility Data Series**.  
Published by IUPAC-NIST, USA

### **Skrzecz A.**

- Member of the Editorial Board of **IUPAC-NIST Solubility Data Series**.  
Published by IUPAC-NIST, USA
- Member of the Editorial Board of **Wiley Series in Solution Chemistry**.  
Published by John Wiley & Sons, Chichester, New York, Toronto
- Member of the Editorial Board of **Vapor-Liquid Equilibria Series**.  
Published by Thermodynamics Data Center, Warsaw



## CONFERENCE PROCEEDINGS

**Gierycz P.**

Editor, **Thermodynamics for Environment**,  
published by Information Processing Centre, Warsaw, Poland, 2004.

**Mączyński A.**

Editor, **Thermodynamics for Environment**,  
published by Information Processing Centre, Warsaw, Poland, 2004.

## MEMBERSHIP IN INTERNATIONAL ORGANIZATIONS

### **Baranowski B.**

- Deutsche Akademie der Naturforscher „Leopoldina“ (member since 1976)
- International Academy of Sciences (member since 1987)
- Deutsche Bunsengesellschaft für Physikalische Chemie (member since 1989)
- International Association for Advancement of High Pressure, Science and Technology AIRAPT (past-president since 1993 and member of Executive Committee)
- Ukrainian Academy of Sciences (foreign member since 1994)

### **Bronikowski T.**

- European Geosciences Union, EGU (formerly European Geophysical Society, EGS; member since 1999)
- International Union of Pure and Applied Chemistry, IUPAC (affiliate member since 1990)

### **Borkowska Z.**

- International Society of Electrochemistry (vice president since 1999)

### **Bylicki A.**

- Commission on Solubility Data IUPAC (national representative since 1987)

### **Cinal M.**

- American Physical Society (member since 2002)

### **Dobkowski J.**

- European Photochemistry Association (treasurer since 1994, 1998)

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- American Physical Society (member since 2002)

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- International Union of Vacuum Science, Technology and Applications, Division of section „Applied Surface Analysis” (member of Committee and national representative since 1992)
- Surface Analysis Society of Japan (member of Advisory Committee since 1995)

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- International Society of Electrochemistry (member since 1985)

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- Council of the International Association of Catalysis Societies (national representative since 1996)

**Kutner W.**

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- Analytical Chemistry Division Committee (V) IUPAC (associate member 2002-2003, member 2004-2005)

**Lipkowski J.**

- American Crystallographic Association (member since 1998)
- American Chemical Society (member since 1999)
- European Crystallographic Association (member since 1999)
- British Crystallographic Association (member since 1999)

**Łunarska E.**

- International Association on Hydrogen Energy (since 1993)
- European Federation of Corrosion (since 1991)  
Working Party WP15 (Corrosion and Refinery Industry)  
Working Party WP13 (Corrosion in Oil and Gas Industry)

**Mączyński A.**

- IUPAC Subcommittee on Solubility and Equilibrium Data (member since 1994)

**Olszewski S.**

- European Academy of Sciences and Arts (full member since 1991)

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- International Society of Electrochemistry (member since 2000)

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- European Photochemistry Association (president 2000-2004)
- Intersociety Committee for Photosciences (member since 2002)
- American Chemical Society (member since 2002)
- International Society of Porphyrins and Phthalocyanines (member since 2000)

**Zielenkiewicz W.**

- American Chemical Society (member since 1999)
- International Society of Nucleocides and Nucleosides (member since 2002)
- International Union of Pure and Applied Chemistry, IUPAC (affiliate member since 1988)

**Żółtowski P.**

- European Internet Center of Impedance Spectroscopy (patronage UNESCO) (chairman of backbone cluster „New Frontiers & Advances” since 2001)
- International Society of Electrochemistry (member since 1995)
- Electrochemical Society (USA) (member since 2003)

## AUTHORS' INDEX

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