

## PERSONAL INFORMATION

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## EDUCATION & DEGREES

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5/2023 *DSc in Chemistry (Hungarian Academy of Sciences)*  
4/2022 *Habilitation (University of Szeged)*  
12/2017 *Habilitation & Privat Docent (University of Geneva)*  
6/2006 *PhD in Chemistry (University of Szeged)*  
1/2003 *MSc in Chemical Education (University of Szeged)*  
6/2002 *MSc in Chemistry (University of Szeged)*

## POSITIONS

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1/2018 – present *UNIVERSITY OF SZEGED (Szeged, Hungary)*  
*Department of Physical Chemistry and Materials Science*  
*Associate Professor & Assistant Professor (2018 – 2022)*

7/2009 – 12/2017 *UNIVERSITY OF GENEVA (Geneva, Switzerland)*  
*Department of Inorganic, Analytical and Applied Chemistry*  
*Lecturer & Postdoctoral Research Associate (2009 – 2012)*

8/2006 – 6/2009 *MURDOCH UNIVERSITY (Perth, Australia)*  
*School of Chemical and Mathematical Sciences*  
*Postdoctoral Research Fellow*

1/2006 – 7/2006 *UNIVERSITY OF SZEGED (Szeged, Hungary)*  
*HAS Bioinorganic Chemistry Research Group*  
*Research Fellow*

9/2005 – 12/2005 *UNIVERSITY OF TURKU (Turku, Finland)*  
*Department of Chemistry*  
*Visitor Research Fellow*

9/2002 – 8/2005 *UNIVERSITY OF SZEGED (Szeged, Hungary)*  
*Department of Inorganic and Analytical Chemistry*  
*PhD student*

## LANGUAGE

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*Hungarian – Native*                      *English – Fluent*                      *French – Intermediate*

## RESEARCH INTEREST KEYWORDS

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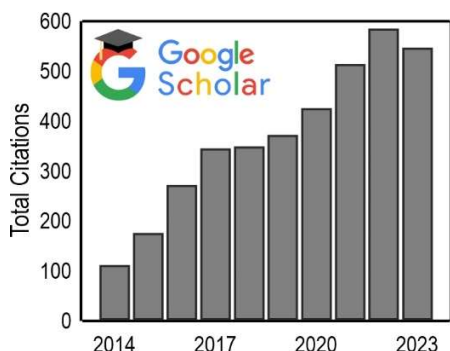
*Colloids and interfaces, Materials chemistry, Nanozymes, Antioxidants, Polyelectrolytes, Nanoplastics, Per- and polyfluoroalkyl substances, Particle aggregation & Ionic liquids*

CURRICULUM  
VITAE



ISTVÁN SZILÁGYI

## SCIENTIFIC DATA (1 November 2024)



|   |              |
|---|--------------|
| <b>Peer-reviewed papers</b>             | <b>140</b>   |
| Corresponding Author                    | 75           |
| First Author                            | 18           |
| <b>Cumulative Impact Factor</b>         | <b>593.8</b> |
| <b>Total Citations</b>                  | <b>~3500</b> |
| Independent                             | ~3000        |
| <b>Scientific Lectures</b>              | <b>73</b>    |
| Invited/Keynote                         | 32           |
| <b>H-Index (all citations included)</b> | <b>39</b>    |

## TEACHING & MENTORING ACTIVITY

- 2009 – 2014 *Analytical chemistry laboratory practice and exercise for BSc students*
- 2012 – 2017 *Advanced analytical and instrumental chemistry lecture for MSc students*
- 2012 – *General chemistry laboratory practice for undergraduate students*
- 2018 – *Physical chemistry laboratory practice for BSc students*
- 2018 – *Nanoparticle dispersions lecture for PhD students*
- 2019 – *Interfaces and nanostructures lecture for MSc students*
- 2022 – *General chemistry lecture for BSc students*
- 2014 – *Supervision of 5 postdoctoral fellows as well as 11 PhD students*

## MEMBERSHIPS & AWARDS

- President of the Geneva's Applied Physical and Analytical Chemistry Association*
- Vice-Head of the Chemistry Institute of the University of Szeged*
- Secretary of the Hungarian Chemical Society - Group of Csongrád County*
- Management Committee Member of the COST Actions CM1206 & MP1106*
- Member of the Société Académique de Genève*
- Member of the Hungarian, Swiss & American Chemical Society*
- Member of the European Colloid and Interface Society*
- Elected Member of the Council of the Faculty of Science and Informatics*
- Scientific Award of the Faculty of Science and Informatics, University of Szeged*
- Presentation Award at the Scientific Student Conference at the University of Szeged*
- Young Investigator Award of the Hungarian Academy of Science*
- Member of the International Association of Colloid and Interface Scientists*

## INDEPENDENT RESEARCH FUNDING (as PI)

- 03/2014 – 12/2017 *Swiss National Science Foundation (200021\_150162) – 289 065 CHF*
- 02/2016 – 10/2017 *Swiss COST/SERI Office (C15.0024) – 179 735 CHF*
- 01/2018 – 12/2022 *HAS/ELNR "Momentum" Starting Grant – 200 000 000 HUF*
- 12/2019 – 11/2022 *NRDI Office Regular Research Grant (131558) – 35 910 000 HUF*
- 12/2022 – 11/2027 *HAS "Momentum" Advanced Grant – 286 000 000 HUF*
- 01/2023 – 12/2025 *NRDI Office Regular Research Grant (142258) – 35 880 000 HUF*
- 03/2023 – 02/2027 *Horizon Europe MSCA SE "ENSIGN" (101086226) – 161 000 EUR*
- 12/2024 – 11/2027 *NRDI HU-Rizont International Cooperative Grant – 400 000 000 HUF*

CURRICULUM  
VITAE



ISTVÁN SZILÁGYI

## PEER-REVIEWED ARTICLES

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140. Attila Voros, Tibor G. Halmagyi, Szilárd Sáringer, Viktória Hornok, **Istvan Szilagyi**  
Role of fluorocarbon chain length in the adsorption of perfluoroalkyl substances on nanoplastic particles  
*ACS ES&T Water* **4**, 5114 (2024)
139. Attila Voros, Tibor G. Halmagyi, Szilárd Sáringer, Viktória Hornok, **Istvan Szilagyi**  
Papain functionalized Prussian blue nanozyme colloids of triple enzymatic function  
*Chemical Communications* **60**, 13032 (2024)
138. Tibor G. Halmagyi, Attila Voros, Szilard Saringer, Viktoria Hornok, Nora V May, Gergely F Samu, Imre Szenti, Adel Szerlauth, Zoltan Konya, **Istvan Szilagyi**  
Coamplified nanozyme cocktails for cascade reaction-driven antioxidant treatments  
*ACS Applied Materials & Interfaces* **16**, 54485 (2024)
137. Szilárd Sáringer, Gergő Terjéki, Árpád Varga, József Maléth, **Istvan Szilagyi**  
Optimization of interfacial properties improved the stability and activity of the catalase enzyme immobilized on plastic nanobeads  
*Langmuir* **31**, 16338 (2024)
136. Tibor G Halmagyi, Laila Noureen, Adel Szerlauth, **Istvan Szilagyi**  
Engineering inorganic nanozyme architectures for decomposition of reactive oxygen species  
*Dalton Transactions* **53**, 14132 (2024)
135. Bojana Katana, João Baptista, Ricardo Schneider, Rodrigo José de Oliveira, **Istvan Szilagyi**  
The impact of polyphosphates on the colloidal stability of laponite particles  
*Journal of Physical Chemistry B* **128**, 6957 (2024)
134. Helga Tóth Ugyonka, György Hantal, **Istvan Szilagyi**, Abdenacer Idrissi, Miguel Jorge, Pál Jedlovsky  
Spatial organization of the ions at the free surface of imidazolium-based ionic liquids  
*Journal of Colloid and Interface Science* **676**, 989 (2024)
133. Adel Szerlauth, Tamara Madácsy, Gergely F. Samu, Péter Bíró, Miklós Erdélyi, Gábor Varga, Zhi Ping Xu, József Maléth, **Istvan Szilagyi**  
Reduction of intracellular oxidative stress with a copper-incorporated layered double hydroxide  
*Chemical Communications* **60**, 1325 (2024)
132. Zsófia Vargáné Árok, Szilárd Sáringer, Gréta Papp, Ádám Juhász, Sándor Puskás, **Istvan Szilagyi**  
Ion-specific effects on the structure, size, and charge of polymers applied in enhanced oil recovery  
*Energy & Fuels* **38**, 6798 (2024)
131. Tamás Péter, Dóra Takács, Szilárd Sáringer, Adél Szerlauth, Kadosa Sajdik, Gábor Galbács, Matija Tomsic, Samuel Shaw, Katherine Morris, Grant Douglas, **Istvan Szilagyi**  
Interaction between uranyl cations and layered double hydroxide nanoparticles: Implications for nuclear wastewater management  
*ACS ES&T Water* **4**, 3059 (2024)
130. Tibor Halmágyi, Nizar B. Alsharif, Mohamed A. Berkal, Mark A. Hempenius, **Istvan Szilagyi**, G. Julius Vancso, Corinne Nardin  
Aptamer clicked poly(ferrocenylsilanes) at Au nanoparticles as platforms with multiple function  
*Chemistry - A European Journal* e202303979 (2024)
129. Adél Szerlauth, Szilárd Varga, **Istvan Szilagyi**  
Molecular antioxidants maintain synergistic radical scavenging activity upon co-immobilization on clay nanoplatelets  
*ACS Biomaterials Science & Engineering* **9**, 5622 (2023)
128. Dóra Takács, Tamás Szabó, Andrej Jamnik, Matija Tomsic, **Istvan Szilagyi**  
Colloidal interactions of microplastic particles with anionic clays in electrolyte solutions  
*Langmuir* **39**, 12835 (2023)

127. Nizar B. Alsharif, Dániel Viczián, Aleksandra Szczes, **Istvan Szilagyi**  
Formulation of antioxidant composites by controlled heteroaggregation of cerium oxide and manganese oxide nanozymes  
*Journal of Physical Chemistry C* **127**, 17201 (2023)
126. Nizar B. Alsharif, Tibor Halmágyi, Mark A. Hempenius, G. Julius Vancso, Corinne Nardin, **Istvan Szilagyi**  
Dual functionality of ferrocene-based metallopolymers as radical scavengers and nanoparticle stabilizing agents  
*Nanoscale* **15**, 11875 (2023)
125. Katalin Bere, Xiong Xiong, Szilárd Sáringer, Grant Douglas, **Istvan Szilagyi**  
Microplastics as an adsorption and transport medium for per- and polyfluoroalkyl substances in aquatic systems: polystyrene and undecafluorohexanoic acid interactions  
*Journal of Molecular Liquids* **384**, 122285 (2023)
124. Zsófia Vargáné Árok, Szilárd Sáringer, Dóra Takács, Coline Bretz, Ádám Juhász, **Istvan Szilagyi**  
Effect of salinity on solution properties of a partially hydrolyzed polyacrylamide  
*Journal of Molecular Liquids* **384**, 122192 (2023)
123. Adel Szerlauth, Árpád Varga, Tamara Madácsy, Dániel Sebők, Saha Bashiri, Mariusz Skwarczynski, Istvan Toth, József Maléth, **Istvan Szilagyi**  
Confinement of triple-enzyme-involved antioxidant cascade in two-dimensional nanostructure  
*ACS Materials Letters* **5**, 565 (2023)
122. Bojana Katana, Kata Panna Kókai, Szilárd Sáringer, Adel Szerlauth, Dóra Takács, **Istvan Szilagyi**  
The Influence of solvents and colloidal particles on the efficiency of molecular antioxidants  
*Antioxidants* **12**, 99 (2023)
121. Adel Szerlauth, Zsuzsanna D. Kónya, Gréta Papp, Zoltán Kónya, Ákos Kukovecz, Márton Szabados, Gábor Varga, **Istvan Szilagyi**  
Molecular orientation rules the efficiency of immobilized antioxidants  
*Journal of Colloid and Interface Science* **632**, 260 (2023)
120. Dóra Takács, Gábor Varga, Edit Csapó, Andrej Jamnik, Matija Tomsic, **Istvan Szilagyi**  
Delamination of layered double hydroxide in ionic liquids under ambient conditions  
*Journal of Physical Chemistry Letters* **13**, 11850 (2022)
119. Marko Pavlovic, Adel Szerlauth, Szabolcs Muráth, Gábor Varga, **Istvan Szilagyi**  
Surface modification of two-dimensional layered double hydroxide nanoparticles with biopolymers for biomedical applications  
*Advanced Drug Delivery Reviews* **191**, 114590 (2022)
118. Dóra Takács, Tamás Péter, Zsófia Vargáné Árok, Bojana Katana, Snežana Papović, Slobodan Gadzuric, Milan Vraneš, **Istvan Szilagyi**  
Structure-stability relationship in aqueous colloids of latex particles and gemini surfactants  
*Journal of Physical Chemistry B* **126**, 9095 (2022)
117. Nizar B. Alsharif, Gergely F. Samu, Szilárd Sáringer, Adel Szerlauth, Dóra Takács, Viktoria Hornok, Imre Dékány, **Istvan Szilagyi**  
Antioxidant colloids via heteroaggregation of cerium oxide nanoparticles and latex beads  
*Colloids and Surfaces B: Biointerfaces* **216**, 112531 (2022)
116. Adel Szerlauth, Lilla Szalma, Szabolcs Muráth, Szilárd Sáringer, Gábor Varga, Li Li, **Istvan Szilagyi**  
Nanoclay-based sensor composites for the facile detection of molecular antioxidants  
*Analyst* **147**, 1367 (2022)
115. Bojana Katana, Gábor Varga, Nóra V. May, **Istvan Szilagyi**  
Superoxide dismutase mimicking nanocomposites based on immobilization of metal complexes on nanotubular carriers  
*Journal of Molecular Structure* **1256**, 132492 (2022)

114. Dóra Takács, Matija Tomsic, **Istvan Szilagyi**  
Effect of water and salt on the colloidal stability of latex particles in ionic liquid solutions  
*Colloids and Interfaces* **6**, 2 (2022)
113. Adél Szerlauth, Edina Balog, Dóra Takács, Szilárd Sáring, Gábor Varga, Gábor Schuszter, **Istvan Szilagyi**  
Self-assembly of delaminated layered double hydroxide nanosheets for the recovery of lamellar structure  
*Colloids and Interface Science Communications* **46**, 100564 (2022)
112. Szilárd Sáring, Tamás Valtner, Árpád Varga, József Maléth, **István Szilagyi**  
Development of polymer-based multifunctional composite particles of protease and peroxidase activities  
*Journal of Materials Chemistry B* **10**, 2523 (2022)
111. Dóra Takács, Bojana Katana, Adél Szerlauth, Dániel Sebők, Matija Tomsic, **Istvan Szilagyi**  
Influence of adsorption of ionic liquid constituents on the stability of layered double hydroxide colloids  
*Soft Matter* **17**, 9116 (2021)
110. Bojana Katana, Dóra Takács, Adél Szerlauth, Szilárd Sáring, Gábor Varga, Andrej Jamnik, Felix D. Bobbink, Paul J. Dyson, **Istvan Szilagyi**  
Aggregation of halloysite nanotubes in the presence of multivalent ions and ionic liquids  
*Langmuir* **37**, 11869 (2021)
109. Ditta Ungor, **Istvan Szilagyi**, Edit Csapó  
Yellow-emitting Au/Ag bimetallic nanoclusters with high photostability for detection of folic acid  
*Journal of Molecular Liquids* **338**, 116695 (2021)
108. Nizar B. Alsharif, Katalin Bere, Szilárd Sáring, Gergely F. Samu, Dóra Takács, Viktória Hornok, **Istvan Szilagyi**  
Design of hybrid biocatalysts by controlled heteroaggregation of manganese oxide and sulfate latex particles to combat reactive oxygen species  
*Journal of Materials Chemistry B* **9**, 4929 (2021)
107. Nizar B. Alsharif, Szabolcs Muráth, Bojana Katana, **Istvan Szilagyi**  
Composite materials based on heteroaggregated particles: Fundamentals and applications  
*Advances in Colloid and Interface Science* **294**, 102456 (2021)
106. Livia Vásárhelyi, Tímea Hegedűs, Szilárd Sáring, Gergő Ballai, **Istvan Szilagyi**, Zoltán Kónya  
Stability of boron nitride nanosphere dispersions in the presence of polyelectrolytes  
*Langmuir* **37**, 5399 (2021)
105. Jure Cerar, Andrej Jamnik, **Istvan Szilagyi**, Matija Tomsic  
Solvation of nonionic poly(ethylene oxide) surfactant Brij 35 in organic and aqueous-organic solvents  
*Journal of Colloid and Interface Science* **594**, 150 (2021)
104. Marko Pavlovic, Szabolcs Muráth, Xénia Katona, Paul Rouster, Nizar B. Alsharif, József Maléth, **Istvan Szilagyi**  
Nanocomposite-based dual enzyme system for broad-spectrum scavenging of reactive oxygen species  
*Scientific Reports* **11**, 4321 (2021)
103. Tímea Hegedűs, Dóra Takács, Livia Vásárhelyi, **Istvan Szilagyi**, Zoltán Kónya  
Specific ion effects on aggregation and charging properties of boron nitride nanospheres  
*Langmuir* **37**, 2466 (2021)
102. Zoltán Somosi, Nóra V. Nagy, Dániel Sebők, István Pálkó, **Istvan Szilagyi**  
Catalytic antioxidant nanocomposites based on sequential adsorption of redox active metal complexes and polyelectrolytes on nanoclay particles  
*Dalton Transactions* **50**, 2426 (2021)
101. Hye Won Jeong, Wu Haihua, Gergely F. Samu, Paul Rouster, **Istvan Szilagyi**, Hyunwoong Park, Csaba Janáky  
The effect of nanostructure dimensionality on the photoelectrochemical properties of derived TiO<sub>2</sub> films  
*Electrochimica Acta* **373**, 137900 (2021)

100. Szilárd Sáringer, Paul Rouster, **Istvan Szilagyi**  
Co-immobilization of antioxidant enzymes on titania nanosheets for reduction of oxidative stress in colloid systems  
*Journal of Colloid and Interface Science* **590**, 28 (2021)
99. Gábor Varga, Zoltán Somosi, Zoltán Kónya, Ákos Kukovecz, István Pálinkó, **Istvan Szilagyi**  
A colloid chemistry route for the preparation of hierarchically ordered mesoporous layered double hydroxides using surfactants as sacrificial templates  
*Journal of Colloid and Interface Science* **581**, 928 (2021)
98. Bojana Katana, Dóra Takács, Edit Csapó, Tamás Szabó, Andrej Jamnik, **Istvan Szilagyi**  
Ion specific effects on the stability of halloysite nanotube colloids-Inorganic salts versus ionic liquids  
*Journal of Physical Chemistry B* **124**, 9757 (2020)
97. Bojana Katana, Dóra Takács, Felix D. Bobbink, Paul Dyson, Nizar B. Alsharif, Matija Tomsic, **Istvan Szilagyi**  
Masking specific effects of ionic liquid constituents at the solid-liquid interface by surface functionalization  
*Physical Chemistry Chemical Physics* **22**, 24764 (2020)
96. Adél Szerlauth, Szabolcs Muráth, **Istvan Szilagyi**  
Layered double hydroxide-based antioxidant dispersions of high colloidal and functional stability  
*Soft Matter* **16**, 10518 (2020)
95. Gregor Trefalt, **Istvan Szilagyi**, Michal Borkovec  
Schulze-Hardy rule revisited  
*Colloid and Polymer Science* **298**, 961 (2020)
94. Marco Galli, Szilárd Sáringer, **Istvan Szilagyi**, Gregor Trefalt  
A simple method to determine critical coagulation concentration from electrophoretic mobility  
*Colloids and Interfaces* **4**, 20 (2020)
93. Nizar B. Alsharif, Gergely F. Samu, Szilárd Sáringer, Szabolcs Muráth, **Istvan Szilagyi**  
A colloid approach to decorate latex particles with Prussian blue nanozymes  
*Journal of Molecular Liquids* **309**, 113066 (2020)
92. Szabolcs Muráth, Nizar B. Alsharif, Szilárd Sáringer, Bojana Katana, Zoltán Somosi, **Istvan Szilagyi**  
Antioxidant materials based on 2D nanostructures: A review on recent progresses  
*Crystals* **10**, 148 (2020)
91. Szabolcs Muráth, Adél Szerlauth, Gábor Varga, Dániel Sebők, **Istvan Szilagyi**  
Layered double hydroxide nanoparticles to overcome the hydrophobicity of ellagic acid: An antioxidant hybrid material  
*Antioxidants* **9**, 153 (2020)
90. Carlos Franco, David Rodríguez-San-Miguel, Alessandro Sorrenti, Semih Sevim, Ramon Pons, Ana E. Platero-Prats, Marko Pavlovic, **Istvan Szilagyi**, M. Luisa Ruiz Gonzalez, José M. González-Calbet, Davide Bochicchio, Luca Pesce, Giovanni M. Pavan, Inhar Imaz, Mary Cano-Sarabia, Daniel Maspoch, Salvador Pané, Andrew de Mello, Felix Zamora, Josep Puigmartí-Luis  
Biomimetic synthesis of sub-20 nanometer covalent organic frameworks in water  
*Journal of the American Chemical Society* **142**, 3540 (2020)
89. Bojana Katana, Paul Rouster, Gábor Varga, Szabolcs Muráth, Karine Glinel, Alain M. Jonas, **Istvan Szilagyi**  
Self-assembly of protamine biomacromolecule on halloysite nanotubes for immobilization of superoxide dismutase enzyme  
*ACS Applied Bio Materials* **3**, 522 (2020)
88. Tamas Szabó, Plinio Maroni, **Istvan Szilagyi**  
Size-dependent aggregation of graphene oxide  
*Carbon* **160**, 145 (2020)

87. Snezana Papovic, Milan Vranes, Aleksandar Tot, **Istvan Szilagyi**, Bojana Katana, Khalaf Alenezi, Slobodan Gadzuric  
Physicochemical investigations of a binary mixture containing ionic liquid 1-butyl-1-methylpyrrolidinium bis(trifluoromethylsulfonyl)imide and diethyl carbonate  
*Journal of Chemical & Engineering Data* **65**, 68 (2020)
86. Zoltán Somosi, Szabolcs Muráth, Péter Nagy, Dániel Sebők, **Istvan Szilagyi**, Grant Douglas  
Contaminant removal by efficient separation of in-situ formed layered double hydroxide compounds from mine wastewaters  
*Environmental Science: Water Research & Technology* **5**, 2251 (2019)
85. Szilárd Sáringér, Rita Akula Achieng, Adél Szerlauth, **Istvan Szilagyi**  
Papain adsorption on latex particles: Charging, aggregation and enzymatic activity  
*Journal of Physical Chemistry B* **123**, 9984 (2019)
84. Adél Szerlauth, Szabolcs Muráth, Sándor Viski, **Istvan Szilagyi**  
Radical scavenging activity of plant extracts from improved processing  
*Heliyon* **5**, 02763 (2019)
83. Xiao Di Sun Zhou, Robert Marzke, Zihui Peng, **Istvan Szilagyi**, Sandwip K. Dey  
Understanding the high longitudinal relaxivity of Gd(DTPA)-intercalated (Zn,Al)-layered double hydroxide nanoparticles  
*Inorganic Chemistry* **58**, 12112 (2019)
82. **Istvan Szilagyi**  
Layered double hydroxide-based nanomaterials-From fundamentals to applications  
*Nanomaterials* **9**, 1174 (2019)
81. Milan Vraneš, Nikola Cvjetičanin, Snežana Papović, Marko Pavlović, **Istvan Szilagyi**, Slobodan Gadžurić  
Electrochemical study of anatase TiO<sub>2</sub> nanotube array electrode in electrolyte based on 1,3-diethylimidazolium bis(trifluoromethylsulfonyl)imide ionic liquid  
*Ionics* **25**, 5501 (2019)
80. Paul Rouster, Marko Pavlovic, Tianchi Cao, Bojana Katana, **Istvan Szilagyi**  
Stability of titania nanomaterials dispersed in aqueous solutions of ionic liquids of different alkyl chain lengths  
*Journal of Physical Chemistry C* **123**, 12966 (2019)
79. Szilárd Sáringér, Paul Rouster, **Istvan Szilagyi**  
Regulation of the stability of titania nanosheet dispersions with oppositely and like-charged polyelectrolytes  
*Langmuir* **35**, 4986 (2019)
78. Szabolcs Muráth, Márton Szabados, Dániel Sebők, Ákos Kukovecz, Zoltán Kónya, **Istvan Szilagyi**, Pál Sipos, István Pálinkó  
Influencing the texture and morphological properties of layered double hydroxides with the most diluted solvent mixtures – the effect of 6-8 carbon alcohols and temperature  
*Colloids and Surfaces A: Physicochemical and Engineering Aspects* **574**, 146 (2019)
77. Marko Pavlovic, Bálint Náfrádi, Paul Rouster, Szabolcs Muráth, **Istvan Szilagyi**  
Highly stable enzyme-mimicking nanocomposite of antioxidant activity  
*Journal of Colloid and Interface Science* **543**, 174 (2019)
76. Zoltan Somosi, Marko Pavlovic, Istvan Palinko, **Istvan Szilagyi**  
Effect of polyelectrolyte mono- and bilayer formation on the colloidal stability of layered double hydroxide nanoparticles  
*Nanomaterials* **8**, 986 (2018)
75. Szabolcs Muráth, Szilárd Sáringér, Zoltán Somosi, **Istvan Szilagyi**  
Effect of ionic compounds of different valences on the stability of titanium oxide colloids  
*Colloids and Interfaces* **2**, 32 (2018)
74. Paul Rouster, Marko Pavlovic, Szilárd Sáringér, **Istvan Szilagyi**  
Functionalized titania nanosheet dispersions of peroxidase activity  
*Journal of Physical Chemistry C* **122**, 11455 (2018)

73. Samuel Pearson, Marko Pavlovic, Thomas Auge, Valerian Torregrossa, **Istvan Szilagyi**, Franck D'Agosto, Muriel Lansalot, Elodie Bourgeat-Lami, Vanessa Prevot  
Controlling the morphology of film-forming, nanocomposite latexes containing layered double hydroxide by RAFT-mediated emulsion polymerization  
*Macromolecules* **51**, 3953 (2018)
72. Takuya Sugimoto, Tianchi Cao, **Istvan Szilagyi**, Michal Borkovec, Gregor Trefalt  
Aggregation and charging of sulfate and amidine latex particles in the presence of oxyanions  
*Journal of Colloid and Interface Science* **524**, 456 (2018)
71. Marko Pavlovic, Paul Rouster, Zoltán Somosi, **Istvan Szilagyi**  
Horseradish peroxidase-nanoclay hybrid particles of high functional and colloidal stability  
*Journal of Colloid and Interface Science* **524**, 121 (2018)
70. Mohsen Moazzami-Gudarzi, Pavel Adam, Alexander M. Smith, Gregor Trefalt, **Istvan Szilagyi**, Plinio Maroni, Michal Borkovec  
Interactions between similar and dissimilar charged interfaces in the presence of multivalent anions  
*Physical Chemistry Chemical Physics* **20**, 9436 (2018)
69. Paul Rouster, Marko Pavlovic, **Istvan Szilagyi**  
Immobilization of Superoxide Dismutase on polyelectrolyte functionalized titania nanosheets  
*ChemBioChem* **19**, 404 (2018)
68. Paul Rouster, Marko Pavlovic, Endre Horváth, László Forró, Sandwip K. Dey, **Istvan Szilagyi**  
Influence of protamine functionalization on the colloidal stability of 1D and 2D titanium oxide nanostructures  
*Langmuir* **33**, 9750 (2017)
67. Marko Pavlovic, Paul Rouster, **Istvan Szilagyi**  
Synthesis and formulation of functional bionanomaterials with superoxide dismutase activity  
*Nanoscale* **9**, 369 (2017)
66. M. Ádok-Sipiczki, **I. Szilagyi**, I. Palinko, M. Pavlovic, P. Sipos, C. Nardin  
Design of nucleic acid-layered double hydroxide nanohybrids  
*Colloid and Polymer Science* **295**, 1463 (2017)
65. Paul Rouster, Marko Pavlovic, **Istvan Szilagyi**  
Destabilization of titania nanosheet suspensions by inorganic salts: Hofmeister series and Schulze-Hardy rule  
*Journal of Physical Chemistry B* **121**, 6749 (2017)
64. Tianchi Cao, Takuya Sugimoto, **Istvan Szilagyi**, Gregor Trefalt, Michal Borkovec  
Heteroaggregation of oppositely charged particles in the presence of multivalent ions  
*Physical Chemistry Chemical Physics* **19**, 15160 (2017)
63. Marko Pavlovic, Paul Rouster, Elodie Bourgeat-Lami, Vanessa Prevot, **Istvan Szilagyi**  
Design of latex-layered double hydroxide composites by tuning the aggregation in suspensions  
*Soft Matter* **13**, 842 (2017)
62. Gregor Trefalt, **Istvan Szilagyi**, Gabriel Tellez, Michal Borkovec  
Colloidal stability in asymmetric electrolytes: modifications of the Schulze-Hardy rule  
*Langmuir* **33**, 1695 (2017)
61. Marko Pavlovic, Paul Rouster, Tamas Oncsik, **Istvan Szilagyi**  
Tuning colloidal stability of layered double hydroxides: from monovalent ions to polyelectrolytes  
*ChemPlusChem* **82**, 121 (2017)
60. Paul Rouster, Marko Pavlovic, **Istvan Szilagyi**  
Improving the stability of titania nanosheets by functionalization with polyelectrolytes  
*RSC Advances* **6**, 97322 (2016)



59. Marko Pavlovic, Robin Huber, Monika Adok-Sipiczki, Corinne Nardin, **Istvan Szilagyi**  
Ion specific effects on the stability of layered double hydroxide colloids  
*Soft Matter* **12**, 424 (2016)
58. Marko Pavlovic, Li Li, Francois Dits, Zi Gu, Monika Adok-Sipiczki, **Istvan Szilagyi**  
Aggregation of layered double hydroxide nanoparticles in the presence of heparin: towards highly stable delivery systems  
*RSC Advances* **6**, 16159 (2016)
57. Tamas Oncsik, Anthony Désert, Gregor Trefalt, Michal Borkovec, **Istvan Szilagyi**  
Charging and aggregation of latex particles in aqueous solutions of ionic liquids: Towards an extended Hofmeister series  
*Physical Chemistry Chemical Physics* **18**, 7511 (2016)
56. Xiaojiang Xie, **Istvan Szilagyi**, Jingying Zhai, Lu Wang, Eric Bakker  
Ion-selective optical nanosensors based on solvatochromic dyes of different lipophilicity: from bulk partitioning to interfacial accumulation  
*ACS Sensors* **1**, 516 (2016)
55. Mohsen Moazzami-Gudarzi, Gregor Trefalt, **Istvan Szilagyi**, Plinio Maroni, Michal Borkovec  
Nanometer-ranged attraction induced by multivalent ions between similar and dissimilar surfaces probed by the atomic force microscope (AFM)  
*Physical Chemistry Chemical Physics* **18**, 8739 (2016)
54. Marko Pavlovic, Monika Adok-Sipiczki, Corinne Nardin, Samuel Pearson, Elodie Bourgeat-Lami, Vanessa Prevot, **Istvan Szilagyi**  
Effect of macroRAFT copolymer adsorption on the colloidal stability of layered double hydroxide nanoparticles  
*Langmuir* **31**, 12609 (2015)
53. Marko Pavlovic, Monika Adok-Sipiczki, Endre Horvath, Tamas Szabo, Laszlo Forro, **Istvan Szilagyi**  
Dendrimer-stabilized titanate nanowire dispersions as potential nanocarriers  
*Journal of Physical Chemistry C* **119**, 24919 (2015)
52. Tamás Oncsik, Gregor Trefalt, Michal Borkovec, **Istvan Szilagyi**  
Specific ion effects on particle aggregation induced by monovalent salts within the Hofmeister series  
*Langmuir* **31**, 3799 (2015)
51. Tamas Szabo, Viktor Tóth, Endre Horvath, Laszlo Forro, **Istvan Szilagyi**  
Tuning the aggregation of titanate nanowires in aqueous dispersions  
*Langmuir* **31**, 42 (2015)
50. Xiaojiang Xie, Agustín Gutiérrez, Valentin Trofimov, **Istvan Szilagyi**, Thierry Soldati, Eric Bakker  
Potassium sensitive optical nanosensors containing voltage sensitive dyes  
*Chimia* **69**, 196 (2015)
49. Tianchi Cao, **Istvan Szilagyi**, Tamas Oncsik, Michal Borkovec, Gregor Trefalt  
Aggregation of colloidal particles in the presence of multivalent coions: the inverse Schulze-Hardy rule  
*Langmuir* **31**, 6610 (2015)
48. Mohsen Moazzami Gudarzi, Gregor Trefalt, **Istvan Szilagyi**, Plinio Maroni, Michal Borkovec  
Forces between negatively charged interfaces in the presence of cationic multivalent oligoamines measured with the atomic force microscope  
*Journal of Physical Chemistry C* **119**, 15482 (2015)
47. Thi Nhu Y Hoang, Zheng Wang, Lucille Babel, Homayoun Nozary, Michal Borkovec, **Istvan Szilagyi**, Claude Piguet  
Metal loading of lanthanidopolymers driven by positive cooperativity  
*Dalton Transactions* **44**, 13250 (2015)
46. Xiaojiang Xie, Agustin Gutierrez, Valentin Trofimov, **Istvan Szilagyi**, Thierry Soldati, Eric Bakker  
Charged Solvatochromic Dyes as Signal Transducers in pH Independent Fluorescent and Colorimetric Ion Selective Nanosensors  
*Analytical Chemistry* **87**, 9954 (2015)

45. F. Javier Montes Ruiz–Cabello, Gregor Trefalt, Tamas Oncsik, **Istvan Szilagyi**, Plinio Maroni, Michal Borkovec  
Interaction Forces and Aggregation Rates of Colloidal Latex Particles in the Presence of Monovalent Counterions  
*Journal of Physical Chemistry B* **119**, 8184 (2015)
44. Tamas Szabo, Viktor Toth, Endre Horvath, **Istvan Szilagyi**  
Formulation of multifunctional material dispersions  
*Chimia* **68**, 454 (2014)
43. **Istvan Szilagyi**, Tamas Szabo, Anthony Desert, Gregor Trefalt, Tamas Oncsik, Michal Borkovec  
Particle aggregation mechanisms in ionic liquids  
*Physical Chemistry Chemical Physics* **16**, 9515 (2014)
42. Endre Horvath, Lucie Grebikova, Plinio Maroni, Tamás Szabo, Arnaud Magrez, Laszlo Forro, **Istvan Szilagyi**  
Dispersion characteristics and aggregation in titanate nanowire colloids  
*ChemPlusChem* **79**, 592 (2014)
41. Xiaojiang Xie, Gastón A. Crespo, Jingying Zhai, **Istvan Szilagyi**, Eric Bakker  
Potassium–selective optical microsensors based on surface modified polystyrene microspheres  
*Chemical Communications* **50**, 4592 (2014)
40. **Istvan Szilagyi**, Gregor Trefalt, Alberto Tiraferri, Plinio Maroni, Michal Borkovec  
Polyelectrolyte adsorption, interparticle forces, and colloidal aggregation  
*Soft Matter* **10**, 2479 (2014)
39. Endre Horvath, **Istvan Szilagyi**, Laszlo Forro, Arnaud Magrez  
Probing titanate nanowire surface acidity through methylene blue adsorption in colloidal suspension and on thin films  
*Journal of Colloid and Interface Science* **416**, 190 (2014)
38. Marco Finessi, **Istvan Szilagyi**, Plinio Maroni  
Dendrimer induced interaction forces between colloidal particles revealed by direct force and aggregation measurements  
*Journal of Colloid and Interface Science* **417**, 346 (2014)
37. Tamas Oncsik, Gregor Trefalt, Zita Csendes, **Istvan Szilagyi**, Michal Borkovec  
Aggregation of negatively charged colloidal particles in the presence of multivalent cations  
*Langmuir* **30**, 733 (2014)
36. Gregor Trefalt, **Istvan Szilagyi**, Tamas Oncsik, Amin Sadeghpour, Michal Borkovec  
Probing colloidal particle aggregation by light scattering  
*Chimia* **67**, 772 (2013)
35. F. Javier Montes Ruiz–Cabello, Gregor Trefalt, Zita Csendes, Prashant Sinha, Tamas Oncsik, **Istvan Szilagyi**, Plinio Maroni, Michal Borkovec  
Predicting aggregation rates of colloidal particles from direct force measurements  
*Journal of Physical Chemistry B* **117**, 11853 (2013)
34. Gregor Trefalt, **Istvan Szilagyi**, Michal Borkovec  
Poisson–Boltzmann description of interaction forces and aggregation rates involving charged colloidal particles in asymmetric electrolytes  
*Journal of Colloid and Interface Science* **406**, 111 (2013)
33. Prashant Sinha, **Istvan Szilagyi**, F. Javier Montes Ruiz–Cabello, Plinio Maroni, Michal Borkovec  
Attractive forces between charged colloidal particles induced by multivalent ions revealed by confronting aggregation and direct force measurements  
*Journal of Physical Chemistry Letters* **4**, 648 (2013)
32. **Istvan Szilagyi**, Anna Polomska, Damien Citherlet, Amin Sadeghpour, Michal Borkovec  
Charging and aggregation of negatively charged colloidal latex particles in the presence of multivalent oligoamine cations  
*Journal of Colloid and Interface Science* **392**, 34 (2013)

31. **Istvan Szilagyi**, Amin Sadeghpour, Michal Borkovec  
Destabilization of colloidal suspensions by multivalent ions and polyelectrolytes: from screening to overcharging  
*Langmuir* **28**, 6211 (2012)
30. Michal Borkovec, **Istvan Szilagyi**, Ionel Popa, Marco Finessi, Prashant Sinha, Plinio Maroni, Georg Papastavrou  
Investigating forces between charged particles in the presence of oppositely charged polyelectrolytes with the multi-particle colloidal probe technique  
*Advances in Colloid and Interface Science* **179–182**, 85 (2012)
29. Amin Sadeghpour, **Istvan Szilagyi**, Michal Borkovec  
Charging and aggregation of positively charged colloidal latex particles in presence of multivalent polycarboxylate anions  
*Zeitschrift für Physikalische Chemie* **226**, 597 (2012)
28. Prashant Sinha, Ionel Popa, Marco Finessi, Francisco Javier Montes Ruiz–Cabello, **Istvan Szilagyi**, Plinio Maroni, Michal Borkovec  
Exploring forces between individual colloidal particles with the atomic force microscope  
*Chimia* **66**, 214 (2012)
27. **Istvan Szilagyi**, Dana Rosická, José Hierrezuelo, Michal Borkovec  
Charging and stability of anionic latex particles in the presence of linear poly(ethylene imine)  
*Journal of Colloid and Interface Science* **360**, 580 (2011)
26. Amin Sadeghpour, Emek Seyrek, **Istvan Szilagyi**, José Hierrezuelo, Michal Borkovec  
Influence of the ionization degree and molecular mass of weak polyelectrolytes on charging and stability behavior of oppositely charged colloidal particles  
*Langmuir* **27**, 9270 (2011)
25. Marco Finessi, Prashant Sinha, **Istvan Szilagyi**, Ionel Popa, Plinio Maroni, Michal Borkovec  
Charge reversal of sulfate latex particles by adsorbed linear poly(ethylene imine) probed by multiparticle colloidal probe technique  
*Journal of Physical Chemistry B* **115**, 9098 (2011)
24. Emek Seyrek, José Hierrezuelo, Amin Sadeghpour, **Istvan Szilagyi**, Michal Borkovec  
Molecular mass dependence of adsorbed amount and hydrodynamic thickness of polyelectrolyte layers  
*Physical Chemistry Chemical Physics* **13**, 12716 (2011)
23. Emek Seyrek, José Hierrezuelo, **Istvan Szilagyi**, Amin Sadeghpour, Michal Borkovec  
Towards Ångström resolution with dynamic light scattering  
*Chimia* **65**, 439 (2011)
22. José Hierrezuelo, **Istvan Szilagyi**, Andrea Vaccaro, Michal Borkovec  
Probing nanometer–thick polyelectrolyte layers adsorbed on oppositely charged particles by dynamic light scattering  
*Macromolecules* **43**, 9108 (2010)
21. José Hierrezuelo, Amin Sadeghpour, **Istvan Szilagyi**, Andrea Vaccaro, Michal Borkovec  
Electrostatic stabilization of charged colloidal particles with adsorbed polyelectrolytes of opposite charge  
*Langmuir* **26**, 15109 (2010)
20. **Istvan Szilagyi**, Erich Königsberger, Peter M. May  
Characterization of chemical speciation of titanyl sulfate solutions for production of titanium dioxide precipitates  
*Inorganic Chemistry* **48**, 2200 (2009)
19. **Istvan Szilagyi**, Imre Labádi, Istvan Pálkó  
Thermal stabilities of nanocomposites: mono– or binuclear Cu complexes intercalated or immobilised in/on siliceous materials  
*Nanopages* **4**,1 (2009)
18. **Istvan Szilagyi**, Erich Königsberger, Peter M. May  
Spectroscopic characterization of weak interactions in acidic titanyl sulfate–iron(II) sulfate solutions  
*Dalton Transactions* 7717 (2009)

17. Imre Labádi, Mária Benkő, Kata Markó, **Istvan Szilagyi**  
Mimicking a superoxide dismutase (SOD) enzyme by copper(II) and zinc(II)-complexes  
*Reaction Kinetics and Catalysis Letters* **96**, 327 (2009)
16. **Istvan Szilagyi**, Ottó Berkesi, Mónika Sipiczki, Laszlo Korecz, Antal Rockenbauer, Istvan Pálínkó  
Preparation, characterization and catalytic activities of immobilized enzyme mimics  
*Catalysis Letters* **127**, 239 (2009)
15. Erich Königsberger, Lan-Chi Königsberger, **Istvan Szilagyi**, Peter M. May  
Measurement and prediction of physicochemical properties of liquors relevant to the sulfate process for titania production.  
1. Densities in the  $\text{TiOSO}_4\text{-FeSO}_4\text{-H}_2\text{SO}_4\text{-H}_2\text{O}$  system  
*Journal of Chemical & Engineering Data* **54**, 520 (2009)
14. Q. Wang, A. Jancsó, E. Leino, P. Poijarvi-Virta, K. Ketomaki, P. Virta, **I. Szilagyi**, S. Mikkola, T. Gajda, H. Lönnberg  
Base and sequence selective cleavage of RNA phosphodiester bonds by zinc(II) azacrown chelates  
*Collection Symposium Series – Chemistry of Nucleic Acid Components* **10**, 63 (2008)
13. Qi Wang, Ewelina Leino, Attila Jancsó, **Istvan Szilagyi**, Tamás Gajda, Emilia Hietamaki, Harri Lönnberg  
 $\text{Zn}^{2+}$  complexes of di- and tri-nucleating azacrown ligands as base moiety selective cleaving agents of RNA 3',5'-phosphodiester bonds: binding to guanine base  
*ChemBioChem* **9**, 1739 (2008)
12. **I. Szilagyi**, S. Mikkola, H. Lönnberg, I. Labádi, I. Pálínkó  
Hydrolysis of dinucleoside phosphates – mRNA 5' cap analogues – promoted by a binuclear copper(II)-zinc(II) complex  
*Journal of Inorganic Biochemistry* **101**, 1400 (2007)
11. Leena Maanpaa, Sharmin Taherpour, Zhibo Zhang, Clemence Guillaume, **Istvan Szilagyi**, Esa Maki, Satu Mikkola  
 $\text{Cu}^{2+}\text{TerPy}$  complexes as catalysts of the cleavage of the 5'-cap structure of mRNA  
*Nucleosides, Nucleotides and Nucleic Acids* **26**, 1423 (2007)
10. **Istvan Szilagyi**, Laszlo Horvath, Imre Labádi, Klara Hernadi, Istvan Pálínkó, Tamás Kiss  
Mimicking catalase and catecholase enzymes by copper(II)-containing complexes  
*Central European Journal of Chemistry* **4**, 118 (2006)
9. **I. Szilagyi**, I. Labádi, K. Hernadi, I. Pálínkó, I. Fekete, L. Korecz, A. Rockenbauer, T. Kiss  
Superoxide dismutase activity of a Cu-Zn complex – bare and immobilised  
*New Journal of Chemistry* **29**, 740 (2005)
8. **I. Szilagyi**, Z. Kele, I. Labádi, K. Hernadi, I. Pálínkó, T. Kiss  
ESI-MS and MALDI-MS investigation of a superoxide dismutase mimicking imidazolato-bridged Cu-Zn complex  
*Rapid Communications in Mass Spectrometry* **19**, 2878 (2005)
7. **I. Szilagyi**, E. Pál, L. Horvath, I. Labádi  
Interaction of N-hydroxyethyl-glycin with metal ions  
*Hungarian Journal of Chemistry* **111**, 83 (2005)
6. **I. Szilagyi**, I. Labádi, K. Hernadi, T. Kiss, I. Pálínkó  
Montmorillonite intercalated Cu(II)-histidine complex – synthesis, characterisation and superoxide dismutase activity  
*Studies in Surface Science and Catalysis* **158**, 1011 (2005)
5. **I. Szilagyi**, I. Labádi, K. Hernadi, I. Pálínkó, N.V. Nagy, L. Korecz, A. Rockenbauer, Z. Kele, T. Kiss  
Speciation study of an imidazolato-bridged copper(II)-zinc(II) complex in aqueous solution  
*Journal of Inorganic Biochemistry* **99**, 1619 (2005)
4. **I. Szilagyi**, I. Labádi, K. Hernadi, I. Pálínkó, T. Kiss  
Synthesis and IR spectroscopic characterisation of immobilised superoxide dismutase (SOD) mimicking complexes  
*Journal of Molecular Structure* **744-747**, 495 (2005)

3. **I. Szilagyi**, G. Nagy, K. Hernádi, I. Labádi, I. Pálinkó  
Modeling copper-containing enzyme mimics  
*Journal of Molecular Structure THEOCHEM* **666–667**, 451 (2003)
2. I. Labádi, **I. Szilagyi**, N. I. Jakab, K. Hernádi, I. Pálinkó  
Metal complexes immobilised in/on porous matrices – possible enzyme mimics  
*Material Science* **21**, 235 (2003)
1. E. Princz, **I. Szilagyi**, K. Mogyorósi, I. Labádi  
Lanthanide complexes of ethylenediaminetetramethylene–phosphonic acid  
*Journal of Thermal Analysis and Calorimetry* **69**, 427 (2002)

## LECTURES ON SCIENTIFIC MEETINGS (as presenting author)

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73. Adél Szerlauth, Árpád Varga, Tamara Madácsy, Istvan Toth, József Maléth, **Istvan Szilagyi**  
Immobilization of triple enzyme cascade on 2D nanosheets to reduce oxidative stress  
*5<sup>th</sup> International Conference on Bio-based Polymers and Composites*  
Esztergom (1-5 September 2024) Hungary
72. **Istvan Szilagyi**  
Nanozyme-based antioxidant colloids  
*Invited presentation at the Institute of Systems and Physical Biology, Shenzhen Bay Laboratories*  
Shenzhen (5 August 2024) China
71. **Istvan Szilagyi**  
Design of nanozyme architectures to combat oxidative stress  
*Invited presentation at the International Conference on Manipulation, Manufacturing and Measurement on the Nanoscale*  
Zhongshan (29 July–2 August 2024) China
70. **Istvan Szilagyi**  
Self-assembled nanozyme architectures as stable and efficient scavengers for reactive oxygen species  
*International Conference on Nanoscience and Nanotechnology (ICONN)*  
Melbourne (13–15 February 2024) Australia
69. **Istvan Szilagyi**  
Heteroaggregation as a tool to improve colloidal stability and antioxidant activity of nanozyme dispersions  
*Australasian Colloid & Interface Symposium*  
Terrigal (4–7 February 2024) Australia
68. Nizar Alsharif, Adél Szerlauth, **Istvan Szilagyi**  
How nanozyme-based colloids can combat oxidative stress?  
*37<sup>th</sup> Conference of the European Colloid and Interface Society*  
Naples (3–8 September 2023) Italy
67. **Istvan Szilagyi**  
Antioxidant colloids via immobilization of biocatalytic centers in composites  
*Invited presentation at the Centre for Micro- and Nanosciences and technologies, University of Rijeka*  
Rijeka (27 June 2023) Croatia
66. **Istvan Szilagyi**, Dóra Takács, Bojana Katana  
Specific effects of ionic liquids on the dispersion stability of low dimensional nanoparticles  
*9<sup>th</sup> International Congress on Ionic Liquids – COIL9*  
Lyon (24–28 April 2023) France
65. **I. Szilagyi**  
Stability of aqueous colloid systems in the presence of electrolytes: Classical theories versus recent results  
*Invited presentation at the European Water Technology Week*  
Leeuwarden (19–22 September 2022) The Netherlands

64. Nizar B. Alsharif, **I. Szilagy**  
Heteroaggregation of nanozymes and latex particles for highly stable antioxidant colloids  
*Conference on Chemistry, Physics and Biology of Colloids and Interfaces*  
Eger (6–10 June 2022) Hungary
63. **I. Szilagy**  
Nanoparticle-based biocatalytic systems to combat oxidative stress  
*Invited presentation at the 33rd Australian Colloid and Surface Science Student Conference*  
Online (31 January–2 February 2022)
62. Bojana Katana, Zoltán Somosi, Szilárd Sáringer, Szabolcs Muráth, **Istvan Szilagy**  
Polyelectrolyte-assisted immobilization of native and artificial enzymes for preparation of antioxidant colloids  
*Keynote presentation at the 35th Conference of the European Colloid and Interface Society*  
Online (5–10 September 2021)
61. **Istvan Szilagy**, József Maléth, Marko Pavlovic  
Broad-spectrum radical scavenging nanocomposites by co-immobilization of antioxidant enzymes  
*262nd American Chemical Society National Meeting & Exposition*  
Online (22–26 August 2021)
60. **Istvan Szilagy**  
Design of biocompatible colloid systems for scavenging reactive oxygen species  
*Keynote presentation at the VEBLEO Webinar on Nanomedicine, Nanomaterials and Nanotechnology*  
Online (25 June 2021)
59. Dóra Takács, Bojana Katana, **Istvan Szilagy**  
Specific effects of ionic liquid constituents on the stability of particle dispersions  
*95th ACS Colloid & Surface Science Symposium*  
Online (14–16 June 2021)
58. **Istvan Szilagy**  
Hybrid nanoparticles to combat oxidative stress  
*Invited seminar at the Department of Materials Science & NanoEngineering, Rice University*  
Online (4 March 2021)
57. **Istvan Szilagy**  
Light scattering techniques to study particle dispersions in the presence of biomacromolecules  
*SCCPLS 2020 Online Summer School and Workshop*  
Rijeka (27–29 July 2020) Croatia
56. **Istvan Szilagy**  
Reducing oxidative stress by enzyme-loaded nanoparticle dispersions  
*Invited presentation at the International Conference on Nanoscience and Nanotechnology (ICONN)*  
Brisbane (9–13 February 2020) Australia
55. **Istvan Szilagy**  
Immobilization of antioxidant proteins on polyelectrolyte-modified nanoparticles  
*Invited presentation at the Medicinal Chemistry Laboratory, University of Queensland*  
St Lucia (13 February 2020) Australia
54. **Istvan Szilagy**, Marko Pavlovic, Szabolcs Muráth  
Nanoclay-based enzyme cascade for decomposition of reactive oxygen species  
*93rd ACS Colloid & Surface Science Symposium*  
Atlanta (16–19 June 2019) United States of America
53. **I. Szilagy**, M. Pavlovic, S. Muráth  
Co-immobilization of superoxide dismutase and horseradish peroxidase on polyelectrolytefunctionalized layered double hydroxide particles  
*Invited presentation at the Conference on Chemistry, Physics and Biology of Colloids and Interfaces*  
Eger (2–6 June 2019) Hungary

52. Marko Pavlovic, Paul Rouster, Szabolcs Muráth, Zoltán Somosi, Szilárd Sáringer, **Istvan Szilagy**  
Immobilization of natural or artificial biocatalysts on polyelectrolyte functionalized inorganic nanoparticles  
*8th Szeged International Workshop on Advances in Nanoscience*  
Szeged (7–10 October 2018) Hungary
51. **I. Szilagy**, M. Pavlovic, P. Rouster  
Antioxidant inorganic-organic hybrids of high functional and colloid stability  
*32nd Conference of the European Colloid and Interface Society*  
Ljubljana (2–7 September 2018) Slovenia
50. S. Muráth, M. Pavlovic, Z. Somosi, S. Sáringer, **I. Szilagy**  
Ion specific effects on the colloidal stability of particle dispersions  
*35th International Conference on Solution Chemistry*  
Szeged (26–30 August 2018) Hungary
49. Paul Rouster, Marko Pavlovic, Szilárd Sáringer, Szabolcs Muráth, Zoltán Somosi, **István Szilagy**  
Antioxidant titania-enzyme hybrid materials  
*Keynote presentation at the 11th Conference on Colloid Chemistry*  
Eger (28–30 May 2018) Hungary
48. **Istvan Szilagy**  
Formulation of nanoparticles: from basic research to everyday systems  
*Invited presentation at the Faculty of Chemistry and Chemical Technology, University of Ljubljana*  
Ljubljana (11 April 2018) Slovenia
47. **Istvan Szilagy**, Marko Pavlovic, Paul Rouster  
Design of stable nanocomposite suspensions of enzymatic activity  
*31st Conference of the European Colloid and Interface Society*  
Madrid (3–8 September 2017) Spain
46. **Istvan Szilagy**  
Design of efficient enzyme delivery systems by tuning the colloidal stability of inorganic nanoparticles  
*Invited presentation at the Laboratory of Physics of Complex Materials, EPFL*  
Lausanne (15 March 2017) Switzerland
45. Marko Pavlovic, Paul Rouster, **Istvan Szilagy**  
Highly stable suspensions of enzyme-clay composites with antioxidant activity  
*7th International Colloids Conference*  
Sitges (18–21 June 2017) Spain
44. Marko Pavlovic, Paul Rouster, **Istvan Szilagy**  
Stabilization of enzyme-layered double hydroxide nanocomposites in suspensions  
*7th Szeged International Workshop on Advances in Nanoscience*  
Szeged (12–15 October 2016) Hungary
43. Marko Pavlovic, Paul Rouster, **Istvan Szilagy**  
Formulation of Enzyme-Layered Double Hydroxide Nanocomposites  
*8th International Conference on Advanced Nanomaterials*  
Guildford (12–14 September 2016) United Kingdom
42. **Istvan Szilagy**  
Tuning the Colloidal Stability of Enzyme-Clay Nanocomposites: Towards Efficient Delivery Systems  
*Invited presentation at the School of Chemistry, University of Nottingham*  
Nottingham (14 September 2016) United Kingdom
41. **Istvan Szilagy**  
Enzyme-Layered Double Hydroxide Nanocomposites: Synthesis, Characterization and Colloidal Stability  
*Invited presentation at the School of Science & Technology, Nottingham Trent University*  
Nottingham (15 September 2016) United Kingdom

40. **Istvan Szilagyi**  
Design and Formulation of Layered Inorganic Nanomaterials: Carrier Systems for Enzyme Delivery  
*Invited presentation at the School of Food Science and Nutrition, University of Leeds*  
Leeds (16 September 2016) United Kingdom
39. **Istvan Szilagyi**, Tamas Oncsik, Gregor Trefalt, Michal Borkovec  
Ion Specific Effects on Particle Aggregation in Aqueous Solutions of Ionic Liquids  
*XXVIth EUCHEM Conference on Molten Salts and Ionic Liquids*  
Vienna (3–8 July 2016) Austria
38. **Istvan Szilagyi**  
Tuning the Aggregation of Layered Nanoparticles by Polyelectrolytes  
*Invited presentation at the Laboratory of Chemistry, Catalysis, Polymers and Process, CPE Lyon*  
Lyon (11 February 2016) France
37. Marko Pavlovic, Endre Horvath, Laszlo Forro, **Istvan Szilagyi**  
Highly stable titanate nanowire dispersions as potential nanocarriers  
*251st American Chemical Society National Meeting & Exposition*  
San Diego (13–17 March 2016) United States of America
36. **Istvan Szilagyi**  
Design of Efficient Delivery Systems by Tuning the Aggregation of Layered Nanoparticles  
*Invited presentation at the Ira A. Fulton Schools of Engineering, Arizona State University*  
Phoenix (18 March 2016) United States of America
35. **Istvan Szilagyi**  
Formulation of carrier nanoparticles: Towards highly stable delivery systems  
*Invited presentation at the EMN Meeting on Energy, Materials and Nanotechnology*  
Dubrovnik (4–7 May 2016) Croatia
34. **Istvan Szilagyi**, Tamas Szabo, Anthony Desert, Tamas Oncsik, Gregor Trefalt, Michal Borkovec  
Effect of Ionic Liquids on Aggregation of Latex Colloids  
*Invited presentation at the Workshop on Ionic Liquids at Interfaces*  
Belek (3–5 October 2015) Turkey
33. **Istvan Szilagyi**, Endre Horvath, Laszlo Forro, Vanessa Prevot  
Dispersion stability of layered materials in the presence of polyelectrolytes  
*Euroclay 2015 – the quadrennial meeting of the European Clay Groups Association*  
Edinburgh (5–10 July 2015) United Kingdom
32. **I. Szilagyi**, T. Oncsik, T. Szabo, A. Desert, G. Trefalt, M. Borkovec  
Aggregation Rates and Mechanism of Latex Particles in Ionic Liquids  
*15th Conference of the International Association of Colloid and Interface Scientists*  
Mainz (24–29 May 2015) Germany
31. Endre Horvath, Laszlo Forro, **Istvan Szilagyi**  
Aggregation of Titanate Nanowires in the Presence of Polyelectrolytes  
*5th International Colloids Conference*  
Amsterdam (21–24 June 2015) The Netherlands
30. E. Horvath, L. Forro, T. Szabo, **I. Szilagyi**  
Formulation of multifunctional titanate nanowire dispersions by polyelectrolytes  
*Smart and Green Interfaces Conference*  
Belgrade (30 March – 1 April 2015) Serbia
29. **Istvan Szilagyi**, Tamas Szabo, Anthony Desert, Gregor Trefalt, Tamas Oncsik, Michal Borkovec  
Aggregation rates of latex particles in ionic liquids  
*7th Biennial Australian Colloid & Interface Science Symposium*  
Hobart (1–5 February 2015) Australia



28. **Istvan Szilagy**  
Layered nanomaterial dispersions for energy related applications  
*Invited presentation at the Department of Chemistry and Biochemistry, University of Bern*  
Bern (20 February 2015) Switzerland
27. **Istvan Szilagy**  
Formulation of nanoparticle dispersions  
*Invited presentation at the Adolphe Merkle Institute, University of Fribourg*  
Fribourg (2 March 2015) Switzerland
26. **Istvan Szilagy**  
Colloidal stability of particles in ionic liquids  
*Invited presentation at the Department of Materials Science and Engineering, Cornell University*  
Ithaca (26 June 2014) United States of America
25. **Istvan Szilagy**  
Stabilization mechanism of colloidal particles in molten salts  
*Invited presentation at the Department of Chemistry and Biomolecular Science, Clarkson University*  
Potsdam (1 July 2014) United States of America
24. **Istvan Szilagy**, Tamas Szabo, Anthony Desert, Gregor Trefalt, Tamas Oncsik, Michal Borkovec  
Particle aggregation in ionic liquids  
*XXVth EUCHEM Conference on Molten Salts and Ionic Liquids*  
Tallinn (6–11 July 2014) Estonia
23. **Istvan Szilagy**, Tamas Szabo, Anthony Desert, Gregor Trefalt, Michal Borkovec  
Stability of particle dispersions in ionic liquids  
*International Conference on Nanoscience and Nanotechnology (ICONN)*  
Adelaide (2–6 February 2014) Australia
22. **Istvan Szilagy**  
Stability of colloidal particles in ionic liquids  
*Invited presentation at the School of Chemistry, Monash University*  
Melbourne (6 February 2014) Australia
21. **Istvan Szilagy**  
Aggregation of colloidal particles induced by oligomers and polyelectrolytes  
*Invited presentation at the Chemistry Institute, Blaise Pascal University*  
Clermont–Ferrand (23 September 2013) France
20. **Istvan Szilagy**, Prashant Sinha, Tamás Oncsik, Gregor Trefalt, Francisco Javier Montes Ruiz–Cabello, Plinio Maroni, Michal Borkovec  
Interaction forces in particle dispersions revealed by aggregation and direct force measurements  
*27th Conference of the European Colloid and Interface Society*  
Sofia (1–6 September 2013) Bulgaria
19. **Istvan Szilagy**  
Nanoparticle dispersions: where inorganic and colloid chemistry meet  
*Invited presentation at the Department of Chemistry, University of Fribourg*  
Fribourg (8 February 2013) Switzerland
18. **Istvan Szilagy**, Amin Sadeghpour, Michal Borkovec  
Stability of colloidal suspensions in the presence of multivalent ions  
*Swiss Chemical Society – 2012 Fall Meeting*  
Zürich (13 September 2012) Switzerland
17. **Istvan Szilagy**  
Effect of multivalent ions on colloidal stability of charged particles  
*Invited presentation at the Department of Geography and Environmental Engineering, John Hopkins University*  
Baltimore (16 August 2012) United States of America

16. **Istvan Szilagyi**, Amin Sadeghpour, Michal Borkovec  
Aggregation in colloidal dispersions induced by polyelectrolytes or their oligomers  
*244<sup>th</sup> American Chemical Society National Meeting & Exposition*  
Philadelphia (19–23 August 2012) United States of America
15. **I. Szilagyi**, E. Seyrek, J. Hierrezuelo, A. Sadeghpour, M. Borkovec  
Structure of polyelectrolyte layers adsorbed on charged colloidal particles  
*9<sup>th</sup> International Symposium on Polyelectrolytes – ISP 2012*  
Lausanne (9–12 July 2012) Switzerland
14. **Istvan Szilagyi**, José Hierrezuelo, Emek Seyrek, Michal Borkovec  
Characterization of polyelectrolyte films adsorbed on colloidal particles  
*International Symposium on Advanced Macromolecular Systems Across the Length Scales*  
Siófok (3–6 June 2012) Hungary
13. **Istvan Szilagyi**  
Surface characteristics of latex particles modified by polyelectrolyte adsorption  
*Invited presentation at the School of Environmental and Life Sciences, University of Newcastle*  
Newcastle (24 February 2012) Australia
12. **I. Szilagyi**, E. Seyrek, J. Hierrezuelo, A. Sadeghpour, M. Borkovec  
Surface characteristics of latex particles modified by polyelectrolyte adsorption  
*International Conference on Nanoscience and Nanotechnology (ICONN)*  
Perth (5–9 February 2012) Australia
11. **Istvan Szilagyi**  
Interaction of polyelectrolytes with charged particles  
*Invited presentation at the Department of Inorganic and Analytical Chemistry, University of Szeged*  
Szeged (21 April 2011) Hungary
10. **Istvan Szilagyi**, José Hierrezuelo, Andrea Vaccaro, Michal Borkovec  
Charging properties and colloidal aggregation in latex particle dispersions in the presence of linear polyethyleneimine  
*24<sup>th</sup> Conference of the European Colloid and Interface Society*  
Prague (5–10 September 2010) Czech Republic
9. **Istvan Szilagyi**  
Adventures in materials science: from bio- to colloid chemistry  
*Invited presentation at the Applied Cigarette Research Group of Phillip Morris International*  
Neuchatel (7 June 2010) Switzerland
8. **Istvan Szilagyi**  
Science at interface: from surface phenomena to colloid stability  
*Invited presentation at the Friedrich–Schiller–Universität*  
Jena (26 March 2010) Germany
7. **Istvan Szilagyi**, Erich Königsberger, Peter M. May  
Speciation study of titanyl sulphate solutions  
*The Snowstorm Project University Collaboration Workshop*  
Perth (7 November 2007) Australia
6. **Istvan Szilagyi**  
Characterization of titanyl solutions  
*Invited presentation at the Newcastle Technology Centre of BHP Billiton Ltd.*  
Newcastle (1 December 2006) Australia
5. **Szilagyi, Istvan**; Wang, Qi; Lönnberg, Harri; Mikkola, Satu; Labádi, Imre; Kiss, Tamás  
Interaction of dinucleotide mono and triphosphates with metal complexes  
*XXXX<sup>th</sup> Conference on Coordination Chemistry*  
Mátrafüred (31 May – 2 June 2006) Hungary

4. **Szilagyi, Istvan**; Labádi, Imre; Hernádi, Klára; Pálinkó, Istvan; Győr, Miklós; Rockenbauer, Antal; Kiss, Tamás  
Potentiometric, spectrophotometric and EPR spectroscopic investigation of the system containing copper(II), diethylenetriamine, imidazole, zinc(II), tris(aminoethyl)amine  
*XXXIX<sup>th</sup> Conference on Coordination Chemistry*  
Agárd–Gárdony (26–28 May 2004) Hungary
3. **Szilagyi, I.**; Labádi, I.; Hernádi, K.; Pálinkó, I.; Kiss, T.  
SOD mimicking metal complexes studied by the Riboflavin/NBT probe reaction  
*Chemistry Lectures (KEN)*  
Szeged (27–29 October 2003) Hungary
2. **Szilagyi I.**; Labádi I.; Kiss T.; Pálinkó I.; Hernádi K.  
Immobilization of enzyme mimicking complexes in/on porous materials – superoxide dismutase (SOD) activity  
*XXXVIII<sup>th</sup> Conference on Coordination Chemistry*  
Gyula (21–23 May 2003) Hungary
1. Labádi, I., **Szilagyi, I.**  
Investigation of complexing agents with fast biodecomposition  
*Chemistry Lectures (KEN)*  
Szeged (28–30 October 2002) Hungary