



## Dr. Maria Valentina Dinu

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### Research topics

- **Hydrogels/cryogels** synthesized by conventional methods, ice-templating process (cryogelation) and/or leaching techniques with applications in the field of environmental protection (removal of heavy metal ions, dyes, pesticides), medicine (drug delivery, tissue engineering), and food industry;
- **Organic sorbents (ion exchangers) and ionic composites** for removal of contaminants from industrial wastewaters;
- **Micro-/nanogels** entrapping enzymes or antioxidants as catalytic tools for environmental, biomedical and food applications;
- **Polymer-filled nanoreactors** as tools for investigation of enzymatic behavior in crowded environments.

### Scientific research

Author and co-author of **40 ISI articles, one book, 9 book chapters, 9 articles in proceedings, one national patent**, over 70 participations at national and international scientific meetings, and 6 research grants. In 2012, the Romanian Academy conferred the “Nicolae Teclu” Award on my results related to “Cross-linked ionic composites prepared from renewable resources for recovery of heavy metal ions from aqueous solutions”. **Author output:** h-index = 17; citations = 959 (Scopus); cumulative impact factor 2016 = 124.66 (Web of Knowledge).

### 7 most relevant publications

1. M. V. Dinu, M. M. Ozmen, E. S. Dragan, O. Okay  
**Freezing as a path to build macroporous structures: Superfast responsive polyacrylamide hydrogels**  
*Polymer* 48 (2007) 195–204.  
<https://doi:10.1016/j.polymer.2006.11.022>
2. M. V. Dinu, E. S. Dragan  
**Heavy metals adsorption on some iminodiacetate chelating resins as a function of the adsorption parameters**  
*React. Funct. Polym.* 68 (2008) 1346–1354.  
<https://doi:10.1016/j.reactfunctpolym.2008.06.011>
3. M. V. Dinu, E. S. Dragan  
**Evaluation of Cu<sup>2+</sup>, Co<sup>2+</sup> and Ni<sup>2+</sup> ions removal from aqueous solution using a novel chitosan/clinoptilolite composite: Kinetics and isotherms**  
*Chemical Engineering Journal* 160 (2010) 157–163.  
<https://doi:10.1016/j.cej.2010.03.029>
4. M. V. Dinu, M. Prádny, E. S. Dragan, J. Michálek  
**Ice-templated hydrogels based on chitosan with tailored porous morphology**  
*Carbohydrate Polymers* 94 (2013) 170–178.  
<http://dx.doi.org/10.1016/j.carbpol.2013.01.084>
5. M. V. Dinu, M. Spulber, K. Renggli, D. Wu, C. A. Monnier, A. Petri-Fink, N. Bruns  
**Filling polymersomes with polymers by peroxidase-catalyzed atom transfer radical polymerization**  
*Macromolecular Rapid Communication* 36 (2015) 507–514.

<https://doi.org/10.1002/marc.201400642>

6. M. V. Dinu, A. I. Cocarta, E. S. Dragan  
**Synthesis, characterization and drug release properties of 3D chitosan/clinoptilolite biocomposite cryogels**  
*Carbohydrate Polymers* 153 (2016) 203–211.  
[https://doi: 10.1016/j.carbpol.2013.01.084](https://doi:10.1016/j.carbpol.2013.01.084)
7. M. V. Dinu, I. A. Dinu, M. M. Lazar, E. S. Dragan  
**Chitosan-based ion-imprinted cryo-composites with excellent selectivity for copper ions**  
*Carbohydrate Polymers* 186 (2018) 140–149.  
<https://doi.org/10.1016/j.carbpol.2018.01.033>