

Curriculum vitae

CATALINA ANISOARA PEPTU

Born 09.09.1976, married, Romanian,

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“Gheorghe Asachi” Technical University of Iasi, Romania

Studies:

2010-present	Postdoctoral researcher at “Gheorghe Asachi” Technical University of Iasi (POSDRU – PERFORMERA - 57649)
2008	<i>Galenos Euro-PhD in advanced Drug Delivery</i> (Patras, Greece, 2008, Galenos Network in Pharmaceutical Sciences – Saarland University, Germany)
2008	PhD in Materials Science and Engineering at “Gheorghe Asachi” Technical University of Iasi, Romania – thesis entitled Contribution to the obtaining of polymer – active principle systems in microparticles and films forms - defended on 21.04.2008; PhD in Molecular Chemistry and Bioactive Molecules at University of Provence, Marseille, France – co-shared thesis
2006 - 2007	University of Patras, Department of Pharmacy, Patras Greece Marie Curie Scholarship – PhD student
2003 - 2004	University of Provence, Marseille, France, Department of Macromolecular Chemistry,
1996 - 2002	<i>Bioengineer Degree in Biomaterials and Prosthetics</i> - University of Medicine and Pharmacy, Faculty of Bioengineering, Iasi, Romania

Professional Experience:

2010 - present	“Gheorghe Asachi” Technical University of Iasi (POSDRU – PERFORMERA - 57649) – postdoctoral fellow <i>Experience</i> – micro and nanoparticles based on natural polymers for applications in ophthalmology
2008 – 2009	“Petru Poni Institute of Macromolecular Chemistry – junior researcher <i>Experience</i> – mass spectrometry of polymers
2006 – 2007	University of Patras, Department of Pharmacy, Patras Greece – Marie Curie fellow <i>Experience</i> – Liposomes as drug delivery systems; liposomes in polymer hydrogels
2003 - 2004	Université de Provence, Marseille, France – PhD student <i>Experience</i> – micro and nanoparticles based on natural and synthetic

Competences: advanced drug delivery systems, polymeric micro and nanoparticles, hydrogels, macromolecular chemistry, chemical crosslinking, biological tests of drug delivery systems

Stays abroad:

2003-2004 - Socrates Erasmus - Université de Provence, Marseille, France (7 months)

- **Leonardo da Vinci - Université de Provence, Marseille, France (2 months)**

2006-2007 – Marie Curie – Patras University, Patras, Greece (12 months)

2012 – postdoctoral scholarship – Université du Pau et du Pays de L’Adour, Pau, France

Scientific activity:

13 papers published in ISI journals (2 papers are under review)

5 papers published in BDI journals

1 paper published in conference proceedings

1 monograph published by national publishing houses

2 book chapters published by internationally publishing houses

2 book chapters under publishing by international publishing house

43 scientific communications (39 presented at international conferences)

1 invited conference (Nanoparticles based on natural and synthetic polymers carrier systems for ocular drug delivery – Université du Pau et des Pays de l’Adour)

1 research grant – as project manager

8 research grants – as member in the research team

HIRSCH INDEX is 3 and the total number of citations is 19.

Researcher ID: **C-4813-2012**

Books and Book Chapters

1. M. Iancu, **C. A. Peptu**, M. Popa, V. Sunel, “*Aplicatii farmaceutice ale emulsiilor*”, Editura Politehnicum, Iasi 2010, ISBN 978-973-621-262-8

2. **C. A. Peptu**, Marcel Popa, “*Micro- and Nano-particles Based on Polysaccharides for Drug Release Applications*” in “*Polysaccharides in Medicinal and Pharmaceutical Applications*”, edited by Valentin I. Popa, iSmithers – A Smithers Group Company, 2011, **978-1-84735-436-5**

3. S. G. Antimisiaris, **C. A. Peptu**, “*Liposomes as drug delivery systems*”, in *Medical Applications of Polymers*, Edited by Marcel Popa, Constantin Uglea and R. Ottenbrite, American Scientific Publishers, ISBN: 978-1-84735-436-5
4. **C. A. Peptu**, Dănuț Costin, Anca Niculina Jătariu, Gabriela Lupescu (Andrei) and Marcel Popa, *Nanoophthalmology* in Polymeric Nanomedicine, Ed. Bentham, 2012
5. A.N. Jatariu (Cadinoiu), **C. A. Peptu**, M.Popa, *Liposomes as drug carriers in cancer therapy in Polymeric Nanomedicine*, Ed. Bentham, 2012

Lucrări publicate ISI:

1. G.Buhus, M.Popa, **C. Peptu**, J.Desbrieres, “*Hydrogel based on carboxymethylcellulose and poly(vinyl alcohol) for controlled loading and release of chlormaphenicol*”, Journal of Optoelectronics and Advanced Materials, 9, 11, 3440-3444, November, 2007;
2. **C. Peptu**, M. Popa, S.G. Antimisiaris, “*Release of Liposome-encapsulated calcein from Liposome entrapping Gelatin – Carboxymethylcellulose films: A presentation of different possibilities*”, Journal of Nanoscience and Nanotechnology, 8, 1–10, 2008;
3. **C.Peptu**, M. Popa, G.Tătaru, A. Perichaud, S. Antimisiaris, “*Double Crosslinked Chitosan-Gelatin Particulate Systems for Controlled Drug Release*”, Journal of Bioactive and Compatible Polymers, vol 25, no. 1, january 2010, p. 98-116;
4. Anca N. Jătariu, Marcel Popa, and **Cătălina A. Peptu**, “*Different particulate systems—bypass the biological barriers?*”, Journal of Drug Targeting May 2010, Vol. 18, No. 4: 243-253;
5. G. Buhuș (Tataru), **C. Peptu**, M Popa, J. Desbrieres, “*Controlled release of water soluble antibiotics by carboxymethylcellulose and gelatin based hydrogels crosslinked with epichlorohydrin*”, Cellulose Chemistry and Technology, 43 (4-6), 141-151, 2009;
6. Cristian Peptu, Alina Nicolescu, **Catalina A. Peptu**, Valeria Harabagiu, Bogdan C. Simionescu, Marek Kowalczyk, “*Mass spectrometry characterization of 3-OH butyrate β-cyclodextrin*”, Volume 48, Issue 23, pages 5581–5592, 1 December 2010
7. **C. A. Peptu**, M. Popa, A. Perichaud, “*Novel Gelatin – poly (vinyl alcohol) hydrogel microspheres for the controlled release of Chloramphenicol*”, Environmental Engineering and Management Journal, May 2011, Vol.10, No. 5, 717-727; 0
8. Anamaria Durdureanu-Angheluta, LuciaPricop, IulianaStoica, **Catalina-AnisoaraPeptu**, Andrei Dascalu, NarcisaMarangoci, FloricaDoroftei, HoriaChiriac, MarianaPinteala, Bogdan C.Simionescu, “*Synthesis and characterization of magnetite particles covered with a-trietoxysil-*

polydimethylsiloxane”, Journal of Magnetism and Magnetic Materials, Volume 322, Issue 19, October 2010, Pages 2956-2968

9. Anca N. Jătariu (Cadinoiu), Marcel Popa, Silvia Curteanu, **Cătălina A. Peptu**, “*Covalent and ionic co-crosslinking-an original way to prepare chitosan-gelatin hydrogels for biomedical applications*”, Journal of Biomedical Materials Research – part A, J Biomed Mater Res A. 2011 Sep 1;98(3):342-50;

10. A.N. Jătariu (Cadinoiu), M. Danu, **C. A. Peptu**, G. Ioanid, C. Ibanescu, M. Popa, “*Ionicallly and covalently crosslinked hydrogels based on gelatin and chitosan*”, Soft Materials, 10.1080/1539445X.2011.580409;

11. Anca N. Jătariu (Cadinoiu), Mihaela N. Holban, **Cătălina A. Peptu**, Anca Sava, Marcel Costuleanu, Marcel Popa, ”Double crosslinked interpenetrated network in nanoparticle form for drug targeting—Preparation, characterization and biodistribution studies, International Journal of Pharmaceutics, Volume 436, Issues 1–2, 15 October 2012, Pages 66-74

12. Delia Mihaela Iurea (Rață), Marcel Popa, Jean-François Chailan, Bogdan Ionel Tamba, Ionut Tudorancea, **Cătălina Anișoara Peptu**, Ibuprofen Chitosan/ Poly (maleic anhydride -alt - vinyl acetate) controlled release nanocapsules for pain treatment, sent for publication in Journal of Bioactive and Compatible Polymers

13. Delia Mihaela Iurea (Rață), **Cătălina Anișoara Peptu**, Jean-François Chailan, Pascal Carriere, Marcel Popa, Sub-micronic capsules based on Gelatin and Poly (maleic anhydride -alt- vinyl acetate) obtained by interfacial condensation with potential biomedical applications, sent for publication in Journal of Nanoscience and Nanotechnology (under review)

Research Grants

- **Project CNCSIS - TD 135/2005** – “*Contribution to the obtaining of polymer – active principle systems under microparticles form*” – *project manager* – (98.000 Euro) 350.000 lei

- **Marie Curie fellowship in the frame of the Galenos Network** - Contract MEST-CT-2004-504992 – **Advanced drug delivery** (January 2006- January 2007, University of Patras, Greece)

Member in the research team:

1. CERES (131/2001-2004) “*Noi rețele macromoleculare interpenetrate: procedee, mecanisme, proprietăți, aplicații*”;

2. CERES (3-49/2003), “*Sisteme polimere purtătoare de principii biologice active (medicamente și enzime)*”;

3. CERES (3-51/2003), “*Materiale polimerice multifazice – biodegradabile, biocompatibile, biologic active, sisteme motile artificiale – cu aplicații în medicină și pentru asigurarea protecției mediului*”;
4. CEEX 9/2005, “*Biomateriale polimere avansate cu structură și proprietăți dirijate, cu aplicații în industria farmaceutică și alimentară*”;
5. CEEX (10/2005) “*Arhitecturi inovative degradabile, biocompatibile și bioactive pe bază de polimeri naturali și sintetici*”;
6. PN II- IDEI-708/2009 “*Immobilized liposomes in crosslinked polymer matrices - a novel concept of controlled biological active principles delivery systems*”
7. PN II-IDEI- 335/2011 “*Innovative electroluminescent nanocomposites for a new approach in polymer based light emitting devices*”

Project proposals 2010-2012:

1. **FP7-REGPOT-2010-1** - Strengthening the scientific and technological potential of the Department of Natural and Synthetic Polymers for the integration in European excellence research (2010 – project rejected)
2. **PN-II-PT-PCCA-2011-3** - Advanced Materials Based On Polymeric Micro/Nanoparticles With Applications In The Treatment Of Posterior Ocular Segment Diseases (Oculomat) – project coordinator (2011 – project rejected)
3. **PN-II-IDEI-2011** Proiecte de Cercetare Exploratorie PCE - New Approach On The Chorioretinal Neovascularization Combined Therapy By Intravitreal Administration Of Micro/Nanoparticulate Polymer–Drug Systems (2011 – project rejected)
4. **PN-II-ID-JRP-2011-2** - Polysaccharidic Micro And Nanoparticles With Predictable Physico Chemical Properties Suitable For Certain Biomedical Applications (2012 – under evaluation)
5. **PN-II-RU-TE-2012-3** - "Double crosslinked nanoparticles based on polysaccharides for passive and active targeting of malign tumors" (2012 – under evaluation)

Comunicari la manifestari stiintifice nationale si internationale:

1. C.Peptu, M.Popa, L.Verestiuc, *Microparticule pe baza de colagen si copolimer stiren-anhidrida maleica, cu aplicatii farmaceutice*, Simpozionul National de Biomateriale, Ed. III-a, 13-14 decembrie, 2002, Bucuresti

2. M. Popa, **C.Peptu**, L.Verestiuc, A.Perrichaud, *Microparticules a base de gelatine et poly(alcool vinylique). Applications pharmaceutiques*, 6^{eme} Colloque Franco-Roumain sur les Polymeres, Rouen, France, 8-10 septembre 2003
3. C.Ivanov, D.Spataru, **C.A.Peptu**, M.Popa, *Synthesis and characterization of natural polymers hydrogels used in pharmacological applications*, International Conference - Biomaterials & Medical Devices – BiomMedD 2004, 5-7 november 2004, Bucaresti, Romania
4. **C.Peptu**, C.Ivanov, D.Spataru, M.Popa, *Comparative study concerning characteristics of multicomponent polymers systems based on gelatine and poly(vinyl alcohol) – films and microparticles*, International Conference - Biomaterials & Medical Devices - BiomMedD'2004, 5-7 november 2004, Bucarest, Romania
5. **C.Peptu**, C.Ivanov, D.Spataru, M.Popa, *Comparative study concerning characteristics of multicomponent systems based on biodegradable polymers*, First European Summer School on Green Chemistry of Polymers, EUROGREENPOL, 21-27 August 2005 Iasi, Romania
6. **C.Peptu**, M.Popa, A.Perichaud, *Microparticules a base des polymeres biocompatibles et biodegradables pour le relargage controle du chloramphenicol*, 7-^{eme} Colloque Franco-Roumain sur les Polymeres, Iasi, 2-6 septembre 2005
7. **C.Peptu**, M.Popa, A.Perichaud, G.Buhus, *Etudes comparatives sur la synthese et les proprietes des hydrogels a base de gelatine et de carboxynethylcellulose*, 7-^{eme} Colloque Franco-Roumain sur les Polymeres, Iasi, 2-6 septembre 2005
8. G.Buhus, M.Popa, **C.Peptu**, J.Desbrieres, *Hydrogels a base de carboxymethyl cellulose destines a l'inclusion et le relargage controle des medicaments*, 4-eme Colloque Franco-Roumain de Chimie Appliquee, 24-27 juin 2006, Clermont- Ferrand, France
9. G.Buhus, M.Popa, **C.Peptu**, J.Desbrieres, *Hydrogels based on carboxymethyl cellulose and poly(vinyl alcohol) as supports for drug delivery systems*, 20th European Conference on Biomaterials (ESB), 27 september-1 october 2006, Nantes, France
10. **C. A. Peptu**, M Popa, S. G. Antimisiaris , *Entrapped liposomes in polymer matrix for controlled drug delivery*, Patras, iunie 2006
11. **C. A. Peptu**, M Popa, S. G. Antimisiaris, *Entrapped liposomes in polymer matrix for controlled drug delivery*, Socrates Intensive Programme: Innovative therapeutics: from molecules to medicines, Athens, 3-13 Iulie 2006
12. **C. A. Peptu**, M Popa, S. G. Antimisiaris, *Entrapped liposomes in polymer matrix for controlled drug delivery*, Socrates Intensive Program - Galenos Course, Skin Barrier Function : Pharmaceutic and Cosmetic Applications, 15-28 septembrie 2006, Lyon, Franta

13. **C. A. Peptu**, M Popa, S. G. Antimisiaris, *Entrapped liposomes in polymer matrix for controlled drug delivery*, Marie Curie EST Thematic Workshop, 7-9 septembre 2006, Cagliari, Italia
14. **C.Peptu**, M.Popa, S.Antimisiaris, *Controlling drug release from liposome trapping gelatin-carboxymethylcellulose crosslinked matrices*, Pre-Satellite World Congress-Young Pharmaceutical Scientists Meet in Amsterdam, 20-21 Aprilie 2007, Amsterdam, Olanda.
15. **C. Peptu**, M. Popa, A. Perichaud, S. Antimisiaris, *Liposomes charges des médicaments inclus dans des matrices polymères, - 8^{ème} Colloque Franco-Roumain sur les Polymères* (CFR 8), Grenoble, Franta, 26 – 30 Aout 2007
16. G.Buhus, M.Popa, **C.Peptu**, J.Desbrières, “Hydrogels based on carboxymethyl cellulose and poly(vinyl alcohol) as supports for drug delivery systems”, 20th *European Conference on Biomaterials (ESB)*, 27 september-1 october 2006, Nantes, France
17. **C. Peptu**, M. Popa, S.G. Antimisiaris, *Controlling drug release from Liposome trapping Gelatin Carboxymethylcelulose crosslinked matrices*, - 21-st European Conference on Biomaterials, 9-13 september 2007, Brighton, Anglia
18. **C.Peptu**, M.Popa, G.Tataru, A. Perichaud, “Double Crosslinked Chitosan-Gelatin Particulate Systems for Controlled Drug Release”, poster World Biomaterials Congress, Amsterdam, mai 2008;
19. G.Buhus, M.Popa, J.Desbrieres, **C.Peptu**, “*Polysaccharide and Protein Based Microparticles for Ophthalmic Formulations*“, 8-th World Biomaterials Congress, 28 May-1 June 2008, Amsterdam, Olanda;
20. A.N. Jătariu, **C. A. Peptu**, M. Popa, C. Ibanescu, M. Danu, G. Ioanid, « *Hydrogels a base de gelatine et chitosane obtenus par double réticulation : synthèse, caractérisation, applications* », IX-eme Colloque franco-roumain sur les polymères, Alba Iulia, Roumanie, 27 – 29 Août 2009
21. A.N. Jătariu, **C. A. Peptu**, M. Popa, C. Ibanescu, M. Danu, G. Ioanid, «*Réseaux interpénétrés – interconnectés à base de gélatine et chitosane obtenus par double réticulation* », IX-eme Colloque franco-roumain sur les polymères, Alba Iulia, Roumanie, 27 – 29 Août 2009
22. **C. A. Peptu**, A.N. Jatariu, M. Popa, “*Preparation and properties of the two steps crosslinked hydrogels based on gelatin and chitosan*”, European Conference on Biomaterials, ESB2009, Lausanne, Suisse, 5-9 september 2009
23. M.N.Iancu, **C.A.Peptu**, M.Popa, V.Sunel, „*Synthesis and Characterization of New Drug-Polymer Conjugates Based on Starch*”, European Conference on Biomaterials, ESB2009, Lausanne, Suisse, 5-9 september 2009

24. M.N. Holban, **C.A. Peptu**, A.N. Jätariu, D.M. Iurea (Rata), M. Popa, V. Sunel “*Preparation of Microcapsules Based on Natural Polymers Using a Double Emulsion Technique*”, European Conference on Biomaterials, ESB2010, Tampere, Finland, 11-15 september 2010
25. A.N. Jätariu, M. Popa, **C. A. Peptu**, “*Two Steps Crosslinked Hydrogels Based on Natural and Synthetic Polymers – Preparation and Characterization*”, European Conference on Biomaterials, ESB2010, Tampere, Finland, 11-15 september 2010
26. A.N. Jätariu, M Popa, A. Indrei, **C.A. Peptu**, „*Ionic and Covalent Crosslinked Microparticles Based on Chitosan and Gelatin*”, European Conference on Biomaterials, ESB2010, Tampere, Finland, 11-15 september 2010
27. D.M. Iurea (Rata), M. Popa, J.Morris, I. Bunia, M.N.Holban, **C.A.Peptu**, „*New Nanoparticles Based On Natural And Synthetic Polymers Prepared By An Interfacial Condensation Method*”, European Conference on Biomaterials, ESB2010, Tampere, Finland, 11-15 september 2010
28. **C.Peptu**, M.Popa, “*Drug loaded particles immobilized in polymer hydrogel*”, International Symposium “International Symposium "Technology & Sustainable Development", Bethune France, 20-23 octombrie 2010
29. D.Rață, D. Grebinișan, M. Popa, **C. A. Peptu**, « *Sinteza și caracterizarea de micro și nanocapsule pe bază de polimeri naturali și sintetici preparate prin metoda de policondensare interfacială* », Zilele Universitatii "A. I. Cuza", Facultatea de Chimie, Editia 2010, împlinirea a "150 de ani de la fondarea primei Universități moderne din România" Iasi, 12-13 noiembrie 2010
30. **Cătălina A. Peptu**, Anca Jätariu, Marcel Popa, « *Drug loaded particles immobilized in polymer hydrogels*”, Technological Days - IUT Béthune Technological Days - IUT Béthune, Bethune, Franta, 20-22 october 2010;
31. Anca Niculina Jätariu (Cadinouiu), Marcel Popa, **Cătălina Anișoara Peptu**, “*Polymer interpenetrated networks entrapping drug loaded liposomes - solution for a better control of release kinetic*”, 9th International Symposium on Frontiers in Biomedical Polymers - FBPS 2011, in Funchal, Madeira, Portugalia,
32. Marcel Popa, **Catalina Peptu**, “*A challenge in the preparation of complex particulated system with potential biomedical applications*”, 9th International Symposium on Frontiers in Biomedical Polymers FBPS 2011, in Funchal, Madeira, Portugalia
33. Raluca Nicu, Mihail Lupei, **Catalina A. Peptu**, Elena Bobu, « *Alkylated chitosan – nanostructured calcium carbonate formula for developing barrier properties of paper*

surface », A 10-a conferinta de chimia coloizilor si suprafetelor, Galati, 9-11 iunie 2011 (prezentare orala)

34. I.A. Gilca, **C.A. Peptu**, V.I.Peptu, “*Obtaining nanoparticles based lignin*”, Science &Technology of Biomasses: Advances and challenges, 5-8 sept. 2011 Viterbo, Italy,

35. Anca Niculina Jătariu (Cadinoiu), Marcel Popa and **Cătălina Anișoara Peptu**, „*Chitosan/Gelatin Double Crosslinked Matrices for the Entrapment of Drug Loading Liposomes*”, 24th European Conference on Biomaterials, Dublin, Irlanda, 4-8 septembrie 2011 – POSTER

36. Anca Niculina Jătariu (Cadinoiu), **Cătălina Anișoara Peptu** and Marcel Popa, „*Double Crosslinked Hydrogels Based on Chitosan and Poly(Vinyl Alcohol) for Liposomes Immobilization*”, 24th European Conference on Biomaterials, Dublin, Irlanda, 4-8 septembrie 2011 – POSTER

37. Fotios Gardikiotis, **Catalina A.Peptu**, Anca Indrei, Marcel Costuleanu, Danut Costin, Marcel Popa, “*Targeting the Ophthalmic Tissues by Using Chitosan Based Nanoparticles*”, 24th European Conference on Biomaterials, Dublin, Irlanda, 4-8 septembrie 2011- RAPID FIRE PRESENTATION (COMUNICARE ORALA)

38. Delia Mihaela Iurea (Rață), Oana Mihaela Baltag, Marcel Popa, Jean François Chailan, **Cătălina Anișoara Peptu**, *Original Method for Preparing Nanocapsules Based on Gelatin and Maleic Anhydride-Vinyl Acetate Copolymer Suitable for Biomedical Applications*, 24th European Conference on Biomaterials, Dublin, Irlanda, 4-8 septembrie 2011-POSTER

39. D. M. Iurea (Rata), M. Popa, J.-F. Chailan, O.M. Baltag, **C.A. Peptu**, „*Nanocapsules polymeres porteuses de principes biologiquement actifs*”, X-eme Colloque Franco-Roumain sur les Polymeres, Douai, Franta, 6-8 sept 2011 – COMUNICARE ORALA

40. A.N.Jatariu, **C.A. Peptu**, M. Popa, „*Microparticules a base de chitosane et de poly (alcool vinylique) – potentielles applications en ophtalmologie*”, X-eme Colloque Franco-Roumain sur les Polymeres, Douai, Franta, 6-8 sept 2011 – COMUNICARE ORALA

41. A.N.Jatariu, B. C. Ciobanu, **C.A. Peptu**, S. Curteanu, M. Popa, „*Hydrogels a base de gelatine et chitosane obtenus par double reticulation – modelisation du processus a l'aide de reseaux neronaux*”, X-eme Colloque Franco-Roumain sur les Polymeres, Douai, Franta, 6-8 sept 2011 – POSTER

42. Corneliu S. Stan, **Cătălina A. Peptu**, Ioan Roșca, Veronica Mușat, Marcel Popa, “*Highly luminescent Europium (III) complexes based on Succinimide and Maleimide*, 12th Eurasia Conference on Chemical Sciences, 16-21 april, Corfu, Greece

43. Gabriela Lupescu (Andrei), Marcel Popa, **Cătălina A. Peptu**, “*Double crosslinking of*

natural polymers bearing amine groups – original way to obtain nanocapsules for biomedical applications”, 12th Eurasia Conference on Chemical Sciences, 16-21 april, Corfu, Greece