



## Ph. D. Yong-Ho, SHIM

Actual position :  
Senior Scientific Consultant at WYSE S.A. (Mons, Belgium)  
Tel : +32-(0)497-795-748  
E-mail : shim@eurocobusiness.com

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### **Formation**

2004 : Ph. D. of Université Pierre et Marie Curie (UPMC-Paris VI) in Molecular chemistry (Paris, France)  
1995 : Master of Science in Bio-organic chemistry at POSTECH (Pohang, Korea)  
1992 : Bachelor of Science in Chemistry at Yonsei University (Seoul, Korea)

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### **Specialty**

Biodegradable Polymer, MIP (Molecularly Imprinted Polymer), ROP and ATRP polymerization, Synthesis of organic chemistry, DNA/peptide interaction analysis, DDS (Drug Delivery System), Adaptation to cells (*in vitro* & *in vivo*), Nano/micro technology, HPLC, GPC, SEM, TEM, AFM, Patent.

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### **Activity**

2009 ~ Senior Scientific Consultant at WYSE S.A. (Mons, Belgium)  
2006 ~ Foreign Consultant of Science and Technology of CBTB (Chungbuk Technopark, Korea)  
2007 ~ KOSEN expert in Biomaterial/Chemistry/Biochemistry (Korea)  
2000 ~ Scientific Consultant of Hankook BioPharm (korea)  
2002 ~ 2003 Audit (inspection and comptability) of ASCoF (Association of Korean Scientist in France)  
2001 ~ 2002 General Affair Manager of ASCoF of Paris  
1999 ~ 2002 Vice-President of Han-Ma-Um-Whoi (Association of the scientist in SamYang R&D Center)

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### **Short résumé**

2006 ~ 2009 Researcher/project manager in SMPC-UMH : Carcinom treatment via phototherapy, Mons, Belgium (Région Wallone)  
2005 ~ 2006 Researcher/project manager in CEIB : Optimisation of the new biomaterial for GBR, Liège, Belgium (Région Wallone)  
2000 ~ 2004 Doctorant researcher : UPMC-Paris VI (Laboratoire de Chimie Organique Biologique) (Scholarship from French Government - BGF of Pasteur)  
Thesis: DNA/PEPTIDE RECOGNITION : PRELIMINARY STAGE OF ANALYSIS  
2003 4 months collaboration with Lund University on MIP with  $\beta^2$ -amino acid (Department of Pure and Applied Biochemistry, Lund, Sweden)  
1995 ~ 2000 Researcher/manager in Samyang R&D Center (www.samyang.com - industry of textile, polymer, chemical and Drug Delivery System/Pharmaceutical in Korea)  
In Pharmaceutical Group : Drug Delivery system  
1. Production of rheumatism plaster with diclofenac diethylammonium on GMP  
2. Initiation of anti-vomiting reservoir with tropisetron  
3. Synthesis of PEG-PLA for polymeric micelle of the paclitaxel (taxol)  
4. Synthesis of the biodegradable polymer and formulation for drug delivery  
In Pharmaceutical Group : Biodegradable Polymer  
1. Synthesis of chemically modified bio-degradable starch and chitosan  
2. Synthesis of glycolide monomer from glycolic acid on « pilot scale »  
3. Supervisor of the project : Continuous production of polyglycolic acid for suture on « pilot scale »  
In Textile Group:  
1. Benzoic acid recycling from the dust of terephthalic acid production.  
2000 1 month collaboration at Birmingham Polymer Incorporation (AL, USA):  
Supervisor of the project : Manufacturing PEG-PLA polymer on GMP  
1993 ~ 1994 Researcher Student of 'Master of Science' at POSTECH (Pohang Institute of Science and Technology) : Collaboration with the Institut of Mogam Biotech (www.mogam.re.kr - industry of pharmaco-biology) : Synthesis of tetra-peptide inhibiting the interaction between SH2 and tyrosine kinase.  
1992 Researcher at POSTECH with the collaboration of the Institut of Mogam Biotech :  
1. Synthesis of myristic acid derivative for antiviral-drug  
2. Synthesis of liposome derivative for transmission of drug

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## ANNEXE

### Publication

0. Yong-Ho Shim, Yu-Chan Kim, F. Bougard, P. Dubois, Young-Il Jeong, Amphotericin B-incorporated Nanoparticles Composed of Poly( $\epsilon$ -caprolactone) and Poly(N,N-dimethylamino-2-ethyl methacrylate) Diblock Copolymer : Toxicity and Drug Release Study. *Journal of Pharmaceutical sciences* (submitted **2009**)
1. W. Kong, Y.-H. Shim, P. Dubois, J. Kim, S. Seo, Enhancement of intracellular siRNA delivery through rapid and noncovalent post-PEGylation of poly(dimethylaminoethyl methacrylate)/siRNA ternary complexes *Journal of Controlled Release* doi:10.1016/j.jconrel.2009.04.034 (accepted **2009**)
2. Yong-Ho Shim, F. Bougard, R. Lazzaroni, P. Dubois, Synthesis and aqueous solution properties of 2-(dimethylamino)ethyl methacrylate based (co)polymers : Viscometric and AFM analysis *European polymer journal* **44**, 3715-3723, **2008**.
3. F. Mazzuchelli, N. Cellier, V. Mshviladze, R. Elias, O. Peulen, O. Jolois, Yong-Ho Shim, Edwin A. De Pauw and Marie-Claire A. De Pauw-Gillet, Pores formation on cell membranes by hederacolchisides A1 leads to a rapid sub-proteomic analysis of released cytosolic proteins, *J Proteomic Research* **7**, 1683, **2008**
4. Young-Il Jeong, Yong-Ho Shim, C. Kim, G. Lim, K. Choi and C. Yoon; The effect of cryoprotectants on the reconstitution of surfactant-free nanoparticles of poly(DL-lactide-co-glycolide), *Journal of Microencapsulation* **22**, 593-601, **2005**
5. Yong-Ho Shim, Ecevit Yilmaz, Solange Lavielle, Karsten Haupt; Chiral Separation of N-(2-Cl-Z)- $\beta^2$ -homophenylalanine Using Non-Covalent Molecularly Imprinted Polymer, *The Analyst* **129**, 1211-1215, **2004**
6. Yong-Ho Shim, Paola B. Arimondo, Alain Laigle, Anna Garbesi and Solange Lavielle; Relative DNA binding affinity of helix 3 homeodomain analogues, major groove binders, can be rapidly screened by displacement of prebound ethidium bromide. A comparative study, *Org. Biomol. Chem.* **2**, 915-921, **2004**
7. Young-Il Jeong Heung-Suk Sun, Yong-Ho Shim, C. Kim, S. H. Park, K.C. Choi, Chong-Su Cho; Nifedipine encapsulated core-shell type nanoparticles based on poly( $\gamma$ -benzyl-L-glutamate)/poly(ethylene glycol) diblock copolymer, *Journal of Microencapsulation* **21**, 445-453, **2004**
8. Young-Il Jeong, Yong-Ho Shim, Changyong Choi, Mi-Kyeong Jang, Gil Man Shin, Jae-Woon Nah; Surfactant-free nanoparticles of Poly(DL-lactide-co-glycolide) prepared with Poly(L-lactide)/Poly(ethylene glycol), *Journal of applied polymer science* **89**, 1116-1123, **2003**
9. Young-Il Jeong, Yong-Ho Shim, Ki-chan Song, Youeng-Guen Park, Hwa-Won Ryu, and Jae-Woon Nah; Testosterone-encapsulated surfactant-free nanoparticles of poly(DL-lactide-co-glycolide): preparation and release behavior, *Bull. Korean Chem. Soc.* **23**, 11, 1579, **2002**
10. Jeong-Jun Yu, Young-Il Jeong, Yong-Ho Shim, Gyun-Taek Lim; Preparation of core-shell type nanoparticles of diblock copolymers of poly(L-lactide)/poly(ethylene glycol) and their characterization, *in vitro Journal of applied polymer science* **85**, (13), 2625-2634, **2002**
11. S.C.Kim, D.W.Kim, Yong Ho SHIM, J.S.Bang, H.S.Oh, S.W.Kim, M.H.Seo; *In vivo* evaluation of polymeric micellar paclitaxel formulation : toxicity and efficacy, *Journal of Controlled Release* **72**, 191-202, **2001**
12. Jeong-YI; Cho-CS; Kim-SH; Ko-KS; Kim-SI; Shim-YH; Nah-JW; Preparation of poly (DL-lactide-co-glycolide) nanoparticles without surfactant, *Journal of applied polymer science* **80**, (12), 2228-2236, **2001**
13. Sung-Chul Kim, Dong-Wook Kim, Yong-Ho Shim, Joon-Seok Bang, Hun-Seung Oh, Sung-Wan Kim, Min-Hyo Seo; Paclitaxel delivery via polymeric micelles: *In vivo* studies, *Biomaterials and Drug Delivery toward New Millenium* 321-332, **2000**

### Patent (KR=Korean patent, WO=World patent, BE=Belgium patent)

1. Anti-inflammatory plaster with diclofenac diethyl ammonium salt; Yong-Ho SHIM ; **BE-08-036559**
2. Anti-inflammatory plaster with diclofenac diethyl ammonium salt; Jindeok Song, Heanhan Lee, Yong-Ho SHIM, Cholmin Pak, Hyejung Yoon, Youngkwon Choi; **WO-99/16434**
3. Anti-inflammatory plaster with diclofenac diethyl ammonium salt; Jindeok Song, Heanhan Lee, Yong-Ho SHIM, Cholmin Pak, Hyejung Yoon, Youngkwon Choi; **KR-98-036559**
4. Continuous copolymerization of glycolic acid with lactic acid; Yong-Ho SHIM, Jongtaek Hong, Myongseok Kho, Taehyeun Kim; **KR-98-007822**
5. Purification method and apparatus of beta-type glycolide by crystallization; Myongseob Khil, Yong-Ho SHIM, Jongtaek Hong, Junyung Kim; **KR-98-039505**
6. Copolymerization of glycolic acid with lactic acid; Yong-Ho SHIM, Jongtaek Hong, Myongseok Kho, Taehyeun Kim; **KR-97-066136**

7. New method of PGA polymerization; Myongseok Kho, Jongtaek Hong, Yong-Ho SHIM, Taehyeun Kim; **KR-97-078261**
8. New method of purification of benzoic acid with halogenated solvent; Yong-Ho SHIM; **KR-97-024580**
9. Purification of terephthalic acid for the purpose of recovery of highly pure benzoic acid; Yong-Ho SHIM, Joomoon Lee; **KR-97-013962**
10. Synthesis of biodegradable starch and its character; Joomoon Lee, Yong-Ho SHIM; **KR-97-015856**
11. Recovery and purification of highly pure benzoic acid using hydrophobic solvent  
Yong-Ho SHIM, Gunphoon Kim; **KR-97-004565**
12. Recovery and purification of benzoic acid from the waste of the terephthalic acid production; Yong-Ho SHIM, Gunphoon Kim; **KR-96-026688**
13. Recovery of terephthalic acid from the waste of the terephthalic acid production; Yong-Ho SHIM, Gunphoon Kim; **KR-96-022104**
14. Recovery of benzoic acid from the waste of the terephthalic acid production; Yong-Ho SHIM, Gunphoon Kim; **KR-96-020325**

### Participated Project

1. Development of new biopolymers for carcinom treatment via phototherapy (Région Wallonne-WINNOMAT)
2. Optimisation of the new biomaterial for GBR (Région Wallonne –WINNOMAT)
3. Molecularly imprinting of  $\beta^2$ - amino acid (UPMC-Lund)
4. Analysis of DNA/peptide interaction by Fluorescent Intercalant Displacement (UPMC-MNHN)
5. Particulate drug delivery : Synthesis of PEG-PLA for polymeric micelle of paclitaxel –Taxol-PM ® (Samyang Co.)
6. Transdermal drug delivery : Anti-vomiting reservoir with tropisetron. (Samyang Co.)
7. Transdermal drug delivery : Rheumatism plaster with diclofenac diethylammonium – Rheumastop ® (Samyang Co.)
8. Transdermal drug delivery : Anti-smoking plaster with nicotine – Nicostop ® (Samyang Co.)
9. Medical device : Continuous pilot scale production of polyglycolic acid (PGA) for suture. (Samyang Co.)
10. Medical device : Synthesis of glycolide monomer from glycolic acid. (Samyang Co.)
11. Synthesis of soluble chitosan derivative. (Samyang Co.)
12. Synthesis of chemically modified bio-degradable starch. (Samyang Co.)
13. Benzoic acid recycling from the dust of terephthalic acid production. (Samyang Co.)
14. Synthesis and analysis of flame retardant material using HPLC. (Samyang Co.)
15. Synthesis of myristic acid derivative for antiviral-drug. (POSTECH)
16. Synthesis of liposome derivative for transmission of drug. (POSTECH)
17. Synthesis of tetra-peptide inhibiting the interaction between SH2 and tyrosine kinase. (POSTECH)