Curriculum Vitae

Personal information

Sonja Beken

Work experience

1. Employer: Belgian Platform for alternative Methods to Animal Experiments
    - Start date: 031998
    - End date: 042000
    - Position: Scientific Staff Member
    - Activities: Set_up of a BPAM Coordination of the scientific activities of the BPAM Liaise with stakeholders Fundraising for BPAM Organisation of a press conference in the presence of Prince Laurent for the creation and presentation of BPAM (Belgisch Platform voor Alternative Methoden _ Plate_Forme Belge pour Methodes Alternatives). Palais des Congrès 9/2/1999. Member of the organising Committee. Organisation of 3 plenary meetings of the Scientific Section of BPAM with representatives of industry, ministries, animal welfare and universities in 1999; 1 plenary meeting in 2000 at VUB, Campus Jette. Organisation of meeting BPAM with animal welfare/protection on budget planning – Budgetplanning. 10/2/2000.
    - Country: Belgium
2. Employer: Federal Agency for Medicines and Health Products
    - Start date: 022001
    - End date:
    - Position: Coordinator of the Unit of Non_Clinical Assessors
    - Activities: Senior Non_clinical assessor involved in numerous centralised procedures (Rapporteur, Co_rapporteur, Peer Reviewer), European scientific advice procedures and paediatric investigation plans, national scientific advice requests, and clinical trial applications Daily management of a team of 11 non-clinical assessors
    - Country: Belgium

Education and training

1. Subject: University of Surrey
    - Start date: 2003
    - End date: 042013
    - Qualification: Master in Applied Toxicology
    - Organisation: Principles of Toxicological Pathology, 27 – 31/01/2003. Principles of Experimental Toxicology and Risk Assessment, 18 _ 22/10/2004. Reproductive Toxicology, 03_07/10/2005. Target Organ Toxicology – Systems III: Cardiorespiratory and haematopoietic systems, 15_19/01/2007. Immunotoxicology,14_18/05/2007. Target Organ Toxicology – Systems I: Liver, kidney, gastrointestinal tract and skin,14_18/01/2008. Target Organ Toxicology – Systems II: CNS, PNS, Endocrine and Musculo_Skeletal Systems,16_20/06/2008. Biomarkers, 18_22/05/2009. Carcinogenicity and Mutagenicity, 14_18/03/2011.
    - Country: United Kingdom
2. Subject: Vrije Universiteit Brussel
    - Start date: 1993
    - End date: 2000
    - Qualification: PhD in Pharmaceutical Sciences
    - Organisation: Thesis: Characterisation and optimisation of collagen gel cultures of hepatocytes as in vitro tools in pharmaco_toxicology. An evaluation of phase II xenobiotic biotransformation
    - Country: Belgium
3. Subject: Vrije Universiteit Brussel
    - Start date: 1989
    - End date: 1993
    - Qualification: Master in Biological Sciences
    - Organisation: Thesis: Validation of the in vitro micronucleus test on human epidermal keratinocytes
    - Country: Belgium

Additional information

Publications

Scientific Publications

1. S. BEKEN AND V. ROGIERS. Three_dimensional cultures of hepatocytes as suitable in vitro systems for metabolism studies of cosmetic ingredients. in "Alternatives to animal testing, Proceedings of an International Scientific Conference organised by the European Cosmetic Industry", COLIPA, Eds. S. Lisansky, R. Macmillan and J. Dupuis, Cpl Press, 1995, 243_245.

2. F. ROELS, T. TYTGAT, S. BEKEN, M. GIROS, M. ESPEEL, B. DE PREST, I. KERCKAERT, T. PAMPOLS AND V. ROGIERS. Peroxisome mosaics in the liver of patients and the regulation of peroxisome expression in rat hepatocyte cultures. 1996, Annals of the New York Academy of Science, 804, pp. 502 _ 515.

3. V. ROGIERS, S. BEKEN, T. VANHAECKE, S. COECKE, A. VERCRUYSSE, I. PHILLIPS AND E. SHEPHARD. Dependency of glutathione S_transferase(GST) expression in long_term hepatocyte cultures on culture condition factors. 1996, In Vitro Cellular and Developmental Biology, 32(3), Part II, pp. 18A.

4. V. ROGIERS, S. BEKEN AND A. VERCRUYSSE. Effects of the extracellular matrix protein collagen I on glutathione S_transferase expression of adult rat hepatocytes in primary culture. 1996. Cell Biology and Toxicology, 3, S6.

5. S. BEKEN, M. PAUWELS, S. PAHERNIK, H._G. KOEBE, A. VERCRUYSSE AND V. ROGIERS. Collagen gel sandwich and immobilisation cultures of rat hepatocytes : problems encountered in expressing Glutathione S_transferase activities. 1997, Toxicology In Vitro, 11, pp.741_752.

6. S. BEKEN, T. TYTGAT, S. PAHERNIK, H._G. KOEBE, A. VERCRUYSSE AND V. ROGIERS. Cell morphology, albumin secretion and glutathione S_transferase expression in collagen gel sandwich and immobilisation cultures of rat hepatocytes. 1997, Toxicology In Vitro, 11(5), pp. 409_416.

7. T. TYTGAT, M. DEPRETER, S. BEKEN, M. ESPEEL AND F. ROELS. Extracellular matrix and regulation of liver peroxisome expression. 1997. Cell Biology International, 21 (1), pp. 57_58.

8. S. BEKEN, K. SLAUS, A. VERCRUYSSE AND V. ROGIERS. Effect of the extracellular matrix composition on the expression of glutathione S_transferase isoenzymes in organotypical hepatocyte cultures. 1998. Experimental and Toxicological Pathology, 50 (2), pp. 92.

9. M. DEPRETER, S. BEKEN, T. TYTGAT, F. HALLEZ, M. ESPEEL, V. ROGIERS AND F. ROELS. Hepatocyte polarity and differentiation of peroxisomes. 1998. Cell Biology International, 22 (1), 62_63.

10. S. BEKEN, K. SLAUS, K. DE SMET, M. DEPRETER, F. ROELS, A. VERCRUYSSE AND V. ROGIERS. Effect of the extracellular matrix composition on the expression of glutathione S_transferase isoenzymes in organotypical hepatocyte cultures. 1999. Toxicology In Vitro, 13 (4/5), pp.571_577.

11. DE SMET K, BEKEN S, DEPRETER M, ROELS F, VERCRUYSSE A AND ROGIERS V. Effect of epidermal growth factor in collagen gel cultures of rat hepatocytes. 1999. Toxicology in Vitro 13 (4/5), pp. 579_585.

12. S. BEKEN, R. DOMINGO, G. DE PAUW, A. VERCRUYSSE AND V. ROGIERS. Suitability of collagen gel sandwich cultures of rat hepatocytes for long_term induction studies. 1999. Alternatives to Laboratory Animals, 27, pp. 282.

13. S. BEKEN AND V. ROGIERS. The Belgian Platform for Alternative Methods (BPAM) "Alternatives to animal testing II, Proceedings of the Second International Scientific Conference organised by the European Cosmetic Industry", COLIPA, Eds. D. Clark, S. Lisansky and R. Macmillan, Cpl Press, 1999, 266.

14. J. VAN DER VALK, B. GARTHOFF, A. SCHLITT, S. BEKEN, V. ROGIERS AND A. VAN IERSEL. Improving international co_operation between national organisations promoting the 3Rs. 1999, Alternatieven zu Tierexperimenten, 16, 3, pp. 166_168.

15. M. DEPRETER, T. TYTGAT, S. BEKEN, M. ESPEEL, K. DESMET, V. ROGIERS AND F. ROELS. Effects of extracellular matrix on the expression of peroxisomes in primary rat hepatocyte cultures. 2000. Journal of Hepatology, 32, 3, pp. 381_91.

16. M. DEPRETER, T. WALKER, K. DE SMET, V. ROGIERS, F. ROELS, S. BEKEN. Variable peroxisome expression in different primary hepatocyte cultures. 2000. Molecular Biology of the Cell, 10, Suppl 1, 109a, abstr 630.

17. S. BEKEN, K. DE SMET, M. DEPRETER, F. ROELS, A. VERCRUYSSE AND V. ROGIERS. Influence of L_proline on phase I and phase II xenobiotic biotransformation capacity of rat and human hepatocytes in collagen gel cultures. 2001. ATLA., 29, 1, pp. 35_53.

18. E.H. DELBANCO, H.M. BOLT, W.W. HUBER, S. BEKEN, F. GELLER, S. PHILIPPOU, F.H. BRANDS, T. BRUNING, R. THIER. Glutathione transferase activities in renal carcinomas and adjacent normal renal tissues: factors influencing renal carcinogenesis induced by xenobiotics. 2001. Archives of Toxicology, 74, 11, pp. 688_94.

19. M. DEPRETER, T. WALKER, K. DE SMET, S. BEKEN, I. KERCKAERT, V. ROGIERS AND F. ROELS. Hepatocyte polarity and the peroxisomal compartment: a comparative study. 2002. The Histochemical Journal, 34, pp. 139_151.

20. M. DEPRETER, T. WALKER, S. BEKEN, K. DE SMET, P. PAPELEU, T. TYTGAT, M. ESPEEL, V. ROGIERS AND F. ROELS. Modified peroxisomes in primary hepatocyte cultures. 2003. Advances in Experimental Medicine and Biology, 544, pp. 255_64.

21. S. STEWART, A.H. PIERSMA,P.T. THEUNISSEN, G.D. CAPPON, S. BEKEN. Cross_industry data survey of the value of rabbit developmental toxicity data in the risk assessment for pharmaceutics: Sponsored by ILSI Health and Environmental Sciences Institute, USA. Speaker Panel. 2013. Reproductive Toxicology 41, pp. 16.

22. M._J. W. A. SCHIFFELERS, B. J. BLAAUBOER, W. E. BAKKER, S. BEKEN, C. F. M. HENDRIKSEN, H. B. W. M. KOËTER, C. KRUL. Regulatory acceptance and use of 3R models for pharmaceuticals and chemicals: Expert opinions on the state of affairs and the way forward. 2014. Regulatory Toxicology and Pharmacology, 69, pp. 41_48.

23. P.T. THEUNISSEN, S. BEKEN, G. D. CAPPON, C. CHEN, A .M. HOBERMAN, J. W. VAN DER LAAN, J. STEWART, A.H. PIERSMA. Towards a comparative retrospective analysis of rat and rabbit developmental toxicity studies for pharmaceutical compounds. 2014. Reproductive Toxicology 47, pp. 27_32.

24. S. BEKEN. S5: Regulatory Perspective: How might the risk assessment of novel drugs and regulatory decisions profit from the results from this survey? 2014. Birth Defects Research, Part A, 100, pp. 366.

25. J. LALOY, V. MINET, L. ALPAN, F. MULLIE, S. BEKEN, O. TOUSSAINT, S. LUCAS, J_M. DOGNE. Impact of Silver Nanoparticles on Haemolysis, Platelet Function and Coagulation. 2014. Nanobiomedicine, 4, 7, pp. 1_9.

26. B. DE WEVER, A. GOLDBERG, C. ESKES, E. ROGGEN, P. VANPARYS, K. SCHROÖDER, B. LE VARLET, H. MAIBACH, S. BEKEN, B. DE WILDE, C. TURCHINA, G. BOGAERT, J._P. BOGAERT. "Open Source"–Based Engineered Human Tissue Models: A New Gold Standard for Nonanimal Testing Through Openness, Transparency, and Collaboration, Promoted by the ALEXANDRA Association. 2015. Applied In vitro Toxicology, 1, 1, pp. 5_9.

27. T. RAMIREZ, S. BEKEN, M. SCHLEBUS, G. ELLIS, C. GRIESINGER, S. DE JONGHE, I. MANOU, A. MEHLING, K. REISINGER, L.H. ROSSI, J. VAN BENTHEM, J.W. VAN DER LAAN, R. WEISSERHORN, U.G. SAUER. Knowledge sharing to facilitate regulatory decision_making in regard to alternatives to animal testing: Report of an EPAA workshop. 2015. Regulatory Toxicology and Pharmacology, 73, 1, pp. 210_226.

28. M. BONELLI, F. DI GIUSEPPE, S. BEKEN. Impact Analysis of ICH S9 on Non_Clinical Development of Anticancer Drugs. 2015. Regualtory Toxicology and Pharmacology, 73, 1, pp. 361_366.

29. THEUNISSEN PT, BEKEN S, CAPPON GD, CHEN CL, HARROUK W, HOBERMAN AM, STEWART J, VAN DER LAAN, PIERSMA AH. A comparison of rat and rabbit developmental toxicity study outcomes of 379 pharmaceutical compounds. 2015. Reproductive Toxicology 56, 5, pp. 19

30. S. BEKEN. Removing Obstacles on the Way to Implement 3R Methods in Toxicology: Regulatorys Point of View. 2015. Toxicology Letters, 282, 2, S3.

31. MARX U, ANDERSSON TB, BAHINSKI A, BEILMANN M, BEKEN S, CASSEE FR, CIRIT M, DANESHIAN M, FITZPATRICK S, FREY O, GAERTNER C, GIESE C, GRIFFITH L, HARTUNG T, HERINGA MB, HOENG J, DE JONG WH, KOJIMA H, KUEHNL J, LEIST M, LUCH A, MASCHMEYER I, SAKHAROV D, SIPS AJ, STEGER_HARTMANN T, TAGLE DA,

TONEVITSKY A, TRALAU T, TSYB S, VAN DE STOLPE A, VANDEBRIEL R, VULTO P, WANG J, WIEST J, RODENBURG M, ROTH A. Biology_inspired microphysiological system approaches to solve the prediction dilemma of substance testing. 2016. ALTEX.;33, 3, pp. 272_321.

32. THEUNISSEN PT, BEKEN S, BEYER BK, BRESLIN WJ, CAPPON GD, CHEN CL, CHMIELEWSKI G, DE SCHAEPDRIJVER L, ENRIGHT B, FOREMAN JE, HARROUK W, HEW KW, HOBERMAN AM, HUI JY, KNUDSEN TB, LAFFAN SB, MAKRIS SL, MARTIN M, MCNERNEY ME, SIEZEN CL, STANISLAUS DJ, STEWART J, THOMPSON KE, TORNESI B, VAN DER LAAN JW, WEINBAUER GF, WOOD S, PIERSMA AH. Comparison of rat and rabbit embryo_fetal developmental toxicity data for 379 pharmaceuticals: on the nature and severity of developmental effects. 2016. Crit Rev Toxicol.;46, 10, pp. 900_910.

33. THEUNISSEN PT, BEKEN S, BEYER B, BRESLIN WJ, CAPPON GD, CHEN CL, CHMIELEWSKI G, DE SCHAEPDRIJVER L, ENRIGHT B, FOREMAN JE, HARROUK W, HEW KW, HOBERMAN AM, Y HUI J, KNUDSEN TB, LAFFAN SB, MAKRIS SL, MARTIN M, MCNERNEY ME, SIEZEN CL, STANISLAUS DJ, STEWART J, THOMPSON KE, TORNESI B, VAN DER LAAN JW, WEINBAUER GF, WOOD S, PIERSMA AH. Comparing rat and rabbit embryo_fetal developmental toxicity data for 379 pharmaceuticals: on systemic dose and developmental effects. 2017. Crit Rev Toxicol, 7 5, pp. 402_414.

34. D. Basketter, S. Beken, H. Bender, J. Bridges, S. Casati, M. Corvaro, S. Cuvellier, B. Hubesch, A. Irizar, M.N. Jacobs, P. Kern, F. Lamplmair, I. Manou, B.P. Müller, R. Roggerbrand, L.H. Rossi. Building confidence in skin sensitization potency assessment using new approach methodologies: report of the 3rd EPAA Partners Forum, Brussels, 28th October 2019. 2020. Regul. Toxicol. Pharmacol., 117, pp. 104767.

35. H. Prior, P. Baldrick, S. Beken, H. Booler, N. Bower, Paul Brooker, P. Brown, B. Burlinson, L.A. Burns_Naas, W. Casey, M. Chapman, D. Clarke, L. de Haan, O. Doehr, N. Downes, M. Flaherty, N. Gellatly, S. Gry Moesgaard, J. Harris, M. Holbrook, J. Hui, D. Jones, K. Jones, H. Kedar, A. Mahl, Alli Manninen, A. McGuire, E. Mortimer_Cassen, M. Peraza, M. K. Pugsley, J. Richard, R. Roberts, W. Roosen, A. Rothfuss, A. Schoenmakers, F. Sewell, R. Weaver, L. Weir, A. Wolfreys, I. Kimber. Opportunities for use of one species for longer_term toxicology testing during drug development: A cross_industry evaluation. 2020. Regulatory Toxicology and Pharmacology 113, 14624 (Epub).

36. U. Marx, T. Akabane, T. B. Andersson, B. Elizabeth, M. Beilmann, S. Beken, S. Brendler_Schwaab, M. Cirit, R. David, E.M. Dehne, I. Durieux, L. Ewart, S. C. Fitzpatrick, O. Frey, F. Fuchs, L. G. Griffith, G. A. Hamilton, T. Hartung, J. Hoeng, H. Hogberg, D. J. Hughes, D. E. Ingber, A. Iskandar, T. Kanamori, H. Kojima, J. Kuehnl, M. Leist, B. Li, P. Loskill, D. L. Mendrick, T. Neumann, G. Pallocca, I. Rusyn, L. Smirnova, T. Steger_Hartmann, D. A. Tagle, A. Tonevitsky, S. Tsyb, M. Trapecar, B. van de Water, J. van den Eijnden_van Raaij, P. Vulto, K. Watanabe, A. Wolf, X. Zhou and A. Roth. t4 Workshop Report* Biology_inspired Microphysiological Systems to Advance Patient Benefit and Animal Welfare in Drug Development. 2020. ALTEX, 37, 3, pp. 364_394.

37. P.L. Candarlioglu, G. Dal Negro, D. Hughes, F. Balkwill, K. Harris, H. Screen, H. Morgan, R. David, S. Beken, O. Guenat, W. Rowan, A. Amour. Organ_on_a_chip: current gaps and future directions. 2022. Biochem. Soc. Trans., 50, 2, pp. 665_673.

Books and Chapters in books

S. BEKEN, T. VANHAECKE, K. DE SMET, M. PAUWELS, A. VERCRUYSSE AND V. ROGIERS. Collagen gel cultures of rat hepatocytes : collagen gel sandwich and immobilisation cultures. in "Cytochrome P450 Protocols", Vol. 107 in series "Methods in Molecular Biology", Eds. I. Phillips and E. Shephard, Humana Press, Totowa, pp. 303_309, 1998. ISBN 0_89603_519_0.

T. VANHAECKE, K. DE SMET, S. BEKEN, M. PAUWELS, A. VERCRUYSSE AND V. ROGIERS. Primary cultures and co_cultures of rat hepatocytes in "Cytochrome P450 Protocols", Vol. 107 in series "Methods in Molecular Biology", Eds. I. Phillips and E. Shephard, Humana Press, Totowa, pp. 311_317, 1998. ISBN 0_89603_519_0.

K. DE SMET, S. BEKEN, T. VANHAECKE, M. PAUWELS, A. VERCRUYSSE AND V. ROGIERS. Isolation of rat hepatocytes in "Cytochrome P450 Protocols", Vol. 107 in series "Methods in Molecular Biology", Eds. I. Phillips and E. Shephard, Humana Press, Totowa, pp. 295_301, 1998. ISBN 0_89603_519_0.

V. ROGIERS AND S. BEKEN. Alternative Methods to Animal Experiments. Actual status, development and approach in Belgium. VUBPress, Brussels. 2000. ISBN 90_5487_2640.

S. BEKEN EN V. ROGIERS. Alternatieven voor experimenten op levende dieren. De actuele situatie in Europa. In: Mensen en andere dieren: een interdisciplinaire benadering (Cazaux; Ed.). GARANT, Leuven. Pp. 199_226. 2000. ISBN 90_441_1071_3.

M. VINKEN; G. ELAUT, T. HENKENS, P. PAPELEU, S. SNYKERS, S. BEKEN, T. VANHAECKE AND V. ROGIERS. Rat hepatocytes cultures: collagen gel sandwich and immobilisation cultures. in "Methods in Molecular Biology", Eds. I. Phillips and E. Shephard, Humana Press, Totowa, pp 247_254, 2006.

S. Beken. In: 20th anniversary of the European Medicines Agency, Eds Sir Kent Woods & Noel Wathion, 2015.

S. Beken, P. Kasper & J._W. van der Laan. Regulatory acceptance of alternative methods in the development an dapproval of pharmaceuticals In: Validation of alternative methods for toxicity testing, Eds. M. Whelan and C. Eskes, Springer, in process.

Projects

2008_2015: coordinator of the domain of excellence Oncology at the Federal Agency for medicines and Health Products, Belgium

Since 2012:

Member of the HESI DART 2nd Species Workgroup, concerned with assessing the value of rat versus rabbit embryofoetal development testing

Member NIH/AIMBE Steering Committee on the Validation and Qualification of new in vitro tools and models for the preclinical drug discovery process, US. Project concerned with the development of guidelines for qualification of human_on_a_chip technologies

Member of NC3Rs projects on Microsampling for toxicokinetics and Use of human Tissues (for safety pharmacology testing)

Member of the EPAA Stem Cell Forum

Research Experience Geno_toxicological research was carried out in order to obtain the degree of Licensee (Master) in the Biological Sciences. This work was concerned with the validation of a genotoxic test, the in vitro micronucleus test using primary cultures of human epidermal keratinocytes treated with various chemical mutagens and known skin carcinogens.

Biochemical _ Toxicological research From 01/10/1993 _ 30/11/1993 a study was undertaken at the VUB for the firm SPADEL in order to investigate the effect of Spa water, used in cosmetics, and the eventual toxic effect of added parabens on human keratinocyte growth in vitro.

From 01/12/1993 – 31/08/2000 biochemical_toxicological research has been carried out at the Department of

Toxicology at the VUB under the promotership of Prof. Dr. V. Rogiers and Prof. Dr. A. Vercruysse, in order to obtain the degree of doctor in the Pharmaceutical Sciences. This project has been concerned with the long_term maintenance of hepatocytes in culture for pharmaco_toxicological purposes.

From 01/09/2000 – 16/11/2000 dermato_cosmetic research has been carried out at the Department of Toxicology at the VUB. This consisted of analysing the microrelief of the skin of the forearm and the crow's feet as a function of age in women for the company Pierre Fabre, France

Memberships

Current:

Non_Clinical Working Party (NCWP) of the European Committee on Human Medicinal Products (CHMP) at the European Medicines Agency (EMA), Amsterdam, NL (Member)

3Rs Working Party (3RsWP) at the European Medicines Agency (EMA), Amsterdam, NL (Chair)

Belgian Toxicology and Ecotoxicology Society (BelTOX), Steering Committee (Member)

European Registered Toxicologist (ERT)

EUROoCs, Regulatory Advisory Board (Member)

The European Partnership for Alternative Approaches to Animal Testing (EPAA), Project Platform (Member)

Vlaamse Proefdierencommissie, Belgium (Member).

ILSI HESI DART (Member)

Past:

Safety Working Party (SWP) of the European Committee on Human Medicinal Products (CHMP) at the European Medicines Agency (EMA), London, UK (Member, Vice-Chair).

CVMP/CHMP Joint Ad Hoc Expert Group on 3R's/ Joint 3R's Working Group at the European Medicines Agency (EMA), London, UK (Chair, Member).

NIH/AIMBE Steering Committee on the Validation and Qualification of new in vitro tools and models for the preclinical drug discovery process, US (Member).

ILSI HESI DART 2nd species Workgroup (Member)

ILSI HESI DART Daston Project HESI Board of Trustees (Member)

Evidence_based Toxicology Collaboration (EBTC) Europe, Steering Committee (Member)

European Society of Toxicology In Vitro (ESTIV) (Member)

ECVAM's Scientific Advisory Committee (ESAC), European Centre for the Validation of Alternative Methods (ECVAM), Joint Research Centre (JRC), Ispra, Italy (Member 2003 _ 2009)

Other Relevant Information

Author of >350 critical assessment reports on the non_clinical aspects of new and existing medicinal products in national, mutual recognition, decentralised and centralised procedures

(Co_)author of 3 European guidelines:

1. Points to consider on non_clinical safety of homeopathic medicinal products of non_biological and botanical origin for human and veterinary use

2. Guideline/Reflection Paper: Detection of early signals of hepatotoxicity from non_clinical data

3. Guideline on Regulatory Acceptance of 3R Testing Approaches

Pedagogic experience:

From 2007_current: Université Libre de Bruxelles (ULB), Brussels : DES Interuniversitaire de Pharmacien d'Industrie: "Le Dossier Pharmaco_toxicologique" (9h).

From 2007_current : Facultés Universitaires Notre Dame de la Paix (FUNDP), Namur: Etapes du Développement des médicaments : CS4 : les études non cliniques : _Evaluation non clinique des produits pharmaceutiques (4h).

From 2006_2011: Centre d'Enseignement et de Recherches des Industries alimentaires et chimiques (CERIA), Institut Arthur Haulot, Haute Ecole Lucia de Brouckère, Brussels : Bachelor Dietetics : Basic Principles of Applied Toxicology – Food Toxicology (6 hrs)

2003_2004 :

OFO courses on Communication, Management, Europese Instellingen, Ontwikkelingscirkels, Change Management

The Development and Use of Drugs in Pregnancy, Management Forum: Pharmaceutical and Life Sciences, London, UK, 22/4/2002.

PHARMED Seminar 6: Drug Safety Evaluation, Pharmacoepidemiology, Pharmacoeconomics, ULB, Brussels, 23_27/4/2001.

Training Course on the Validation of In Vitro Toxicological Test Methods (22 hrs.), ESTIV/ECVAM, Ispra, Italy, 09 –11/06/1998.

Seminar on Contamination Prevention in CO2 Incubators (4hrs.), Vanderheyden Group, Brussels, 28/04/1997.

Course on Laboratory Animal Science (80 hrs.), Belgian Council for Laboratory Animal Science, Ministry of Agriculture, Brussels, 20/05 _ 01/06/1996.

Workshop on Biotransformation of Drugs (6.5 hrs.), Interuniversitaire Doctoraatsopleiding, Ghent, 05/12/1996.

Chemometrics Course on Statistics applied in Method Validation and Experimental Design (20 hrs.), Prof. Dr. D. L. Massart & Prof. Dr. J. Smeyers_Verbeke, Pharmaceutical Institute (VUB), March 1995.