####  Curriculum Vitae

Raimar Löbenberg, PhD

Director, Drug Development and Innovation Centre

<http://pharm.ualberta.ca/research/drug-development-and-innovation-centre>

Professor, Faculty of Pharmacy and Pharmaceutical Sciences
Katz Group-Rexall Centre for Pharmacy & Health Research
University of Alberta
11361 – 87 Avenue, Room 3-142-K
Edmonton, AB T6G 2E1
Phone: 780 492 1255
Fax: 780 492 1217

Email: raimar@ualberta.ca
Skype: raimarloebenberg

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Submitted Publications 18

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Other Publications 33

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Oral Presentations 46

# Citizenship

German, Canadian

# Education

Nov 1996 Doctor of Philosophy in Pharmaceutical Technology,

 Johann Wolfgang Goethe-University, Frankfurt,

 title of the dissertation: Nanoparticles as carriers for AZT

Apr 1990 University degree in Pharmacy,

 Johannes Gutenberg-University, Mainz

Jun 1986 Abitur, Eleonoren Schule, Darmstadt

# Post Doctoral Fellow Ship

Jan 96 – Jun 97 FDA-Project on dissolution behavior of Case I and II compounds and *in vitro/in vivo* correlations, under Prof. Dr. J.B. Dressman

# Sabbaticals

Jul 07 – Jun 08 International Liaison Officer to the USP:

 Development of Global Drug Performance Standards using Biowaivers.

Jul 97 – Jun 99 Two-year sabbatical performing in vivo studies on drug absorption and BCS classification, at the University of Michigan, Ann Arbor, USA, Prof. Dr. G.L. Amidon.

# Positions held

Jul 2012 – present Professor at the University of Alberta, Faculty of Pharmacy and Pharmaceutical Sciences

Nov 2009 – Aug 2013 Division Chair, Pharmaceutical Sciences

Jul 2009 – present Director of the Drug Development and Innovation Centre

Jul 2005 – Jun 2012 Associate Professor at the University of Alberta, Faculty of Pharmacy and Pharmaceutical Sciences

Dec 2001 – present President of JRC Pharmaceuticals Inc.

Jan 2000 – Jun 2005 Assistant Professor at the University of Alberta, Faculty of Pharmacy and Pharmaceutical Sciences.

Jul 1997 – Jan 2000 Hochschul Assistant, Department of Pharmaceutical Technology, Frankfurt University

# Service

* Division Chair, 2009 – 2013
* Senate of the University of Alberta; 2008 - 2013
* Associate Editor: Journal of Biomedical Nanotechnology; 2007-2011
* Editorial Advisory Board: Dissolution Technologies; ongoing
* Editorial Advisory Board: Archives of Pharmacal Research; ongoing
* Editorial Advisory Board: The Open Drug Delivery Journal; ongoing
* Editorial Advisory Board: Current Traditional Medicine; 2014 ongoing
* Graduate Studies committee 2000 – 2004, 2008 - 2010
* AFPC Representative to the USP Convention 2005, 2010, 2015
* Academic Appeals committee 2005 / 2006
* Member of the General Faculty Council, 2001-04, 05-13, 14-15
* Curriculum development: Member of the Dermatology Module
* Faculty representative to the University Library
* University Communications Advisory Committee 2013-ongoing
* University Chemical Safety Committee
* Assessment committee 2010 - 2014
* Curriculum committee 2013 - 2104
* New Pharm D Committee 2009 – ongoing
* Pre-Clinical Trial Committee, Cross Cancer Institute 2014- ongoing
* Communication advisory committee, 2013 ongoing

# Consultancies

* Canna Bunker Development
* Tyrelest
* GSK
* Expert and Chair of reconsideration panels of Health Canada
* Expert witness in patent disputes
* Vertex Inc. Boston
* Merck Frosst, Krikland
* Portsystems LLC, Ann Arbor
* Kinetana Group, Hong Kong
* Biopack Inc, Edmonton
* AltaChem Pharma, Edmonton
* Health Canada, Medical Marijuana Research Program
* QLT Inc. Vancouver
* Novokin Inc. Edmonton
* Cannasat Therapeutics, Toronto
* Cevena Bioproducts Inc. Edmonton
* Sinoveda Canada Inc.

# National and International Professional Activities

2018 – 2022 Vice Chair of the Specialty Committee of Traditional Chinese Medicine in Pharmaceutics;
World Foundation of Chinese Medicine Societies

2018 – 2020 Member USP Expert Committee Dietary Supplements None-Botanicals

2015 - 2017 Vice Chair USP Expert Committee Dietary Supplements None-Botanicals

2016 - 2017 Past President Canadian Society for Pharmaceutical Sciences

2014 - 2015 **President Canadian Society for Pharmaceutical Sciences**

2012 - 2013 President Elect Canadian Society for Pharmaceutical Sciences

2012 - 2018 Health Canada: Scientific Advisory Committee on Pharmaceutical Sciences and Clinical Pharmacology

2011 - 2018 Scientific Advisory Panel on Opioid Analgesic Abuse (SAP-OAA)

2006 - 2016 AAPS Steering Committee for In Vitro Release and Dissolution

2006 - 2018 Vice Chair of the Specialty Committee of Traditional Chinese Medicine in Pharmaceutics;
World Foundation of Chinese Medicine Societies

2014 - 2015 Dietary Supplements Compendium Advisory Committee

2010 - 2015 USP Extended-Release Dietary Supplements Expert Panel

2010 - 2015 Chair USP Committee Performance testing of Dietary Dosage Forms

2010 - 2015 USP Expert Committee Dietary Supplements and Botanical Medicines

2010 - 2015 USP Expert Committee General Chapters; Dosage Forms Subcommittee

2005 - 2010 USP Expert Committee Dietary Supplements, Bioavailability

2005 - 2010 USP Membership Committee

# Qualifications

Jun 2009 Director Drug Development and Innovation Centre – holds a Health Canada site license

Dec 2005 Narcotic license for handling cannabis possession, production, packing, sale , transprotaion

Apr 1994 Qualification to be production and quality control manager in the pharmaceutical industry in Germany (AMG §15)

May 1993 State appointed examiner at the school for Pharmaceutical Technical Assistants

Jul 1991 Approbation als Apotheker

# Association Memberships (past and current)

* International Association for Pharmaceutical Technology, APV
* Controlled Release Society, CRS
* International Pharmaceutical Federation, FIP
* Association de Pharmacie Galénique Industrielle, APGI
* **American Association of Pharmaceutical Scientists, AAPS**
* Michigan Mass Spec Discussion Group
* Deutsche Pharmazeutische Gesellschaft, DPhG
* European Association of Pharma Biotechnology
* **Canadian Society of Pharmaceutical Sciences, CSPS**
* Alberta Lung Association
* NHP Research Society of Canada

# Awards and Recognitions

* 2018 CSPS Fellow
* 2018 Visiting Scientist University of Michigan
* 2017 Visiting Scientist University of Michigan
* 2016 Visiting Scientist University of Michigan
* 2014 Special Scholar University of Sao Paulo, Neglected Diseases
* 2013 Award of Merit 2013 Faculty of Pharmacy and Pharmaceutical Sciences
* 2012 Guest Professor at the Jiangxi University of TCM, China
* 2012 University of Alberta **President’s Achievement Award** “Connecting Communities”
* 2011 Hugh Kelly Fellowship, Rhodes University, South Africa
* 2010 Premier's **Gold Award of Excellence**
* 2010 **Canada Awards of Excellence**
* 2010 ASTech 2010 Award; Alberta Science and Technology Leadership Foundation
* 2006 Second Best Article, Bundesverband der Pharmazeutischen Industrie in Deutschland
* 2004 **Most Cited Paper Award** International Journal of Pharmaceutics
* 2004 Senate community service recognition
* 2003 Senate community service recognition
* 2002 Senate community service recognition
* 2001 Senate community service recognition
* 2001 ACCP New Investigator Award

# Publications and h-Index

Google Scholar (h-Index) (please see current scores at:)

URL: http://scholar.google.com/citations?user=wP6VNfMAAAAJ

## Peer Reviewed Publications **(bold PI**, trainee**)**

### Book Chapter

6 BOU-CHACRA, N.A.; CURTIVO, C.P.D.; TAVARES, G.D.; LÖBENBERG, R. Fundamentos da Qualidade por Design. In: Terezinha de Jesus Andreoli Pinto; Natalia Bellan. (Org.). Diretrizes no processo de regulamentação sanitária dos medicamentos no Brasil. 1 ed. São Paulo: Manole, 2014, p. 1-34.

5 Book Title: Rhodiola Rosea

Editors: Alain Cuerrier, Kwesi Ampong-Nyarko

Chapter Title: Commercialization of Rhodiola Rosea

Authors: Nav Sharma and Raimar Loebenberg

4 Book Title: Generic Drug Product Development

Editors: Isadore Kanfer, Leon Shargel

Chapter Title: Experimental Formulation Development

Authors: Isadore Kanfer, Roderick B. Walker, Raimar Löbenberg and Nádia Araci Bou-Chacra

3 Book Title: Therapeutic Delivery Solutions

Editors: Chung Chan; Kwok Chow; Bill McKay; Michelle Fung

ISBN: 978-1-118- 11126-0

Chapter Title: Biorelevant Dissolution Testing

Authors: May Almukainzi, Nadia Bou-Chacra and Raimar Löbenberg

2 Book Title: Therapeutic delivery methods: concise overview of emerging areas

Editors: Beom-Jin Lee

Chapter Title: Mechanism of gastrointestinal drug absorption and application in therapeutic drug delivery

Authors: Raimar Löbenberg, Humberto Ferraz, Nadia A Bou-Chacra, Gordon L Amidon,

1 Book Title: Methods for Assessing Oral Absorption

Editors: J.B. Dressman, H. Lennernäs

Chapter Title: Solubility as a Limiting Factor to Drug Absorption : p. 137-154

Authors: Löbenberg R, Vieira M, and Amidon GL

Marcel Dekker, New York, 2000 ISBN: 0-8247-0272-7

Submitted book chapters or review papers:

Book Title: In Vitro Drug Release Testing of Special Dosage Forms

Editors: Dr. Nikoletta Fotaki,   Prof. Dr. Sandra Klein

Chapter Title: Orally disintegrating dosage forms

Authors: May Almukainzi, Gabriel Aruajo and Raimar Löbenberg

### Review Articles

18 Summary of the In Vivo Predictive Dissolution (iPD)–Oral Drug Delivery (ODD) Conference 2018

B Hens, J Al-Gousous, K Wang, N Salehi, RM Ziff, Y Tsume, M Bermejo, ...

Dissolution Technologies 25 (2), 50-53 2018

17 Nadia Bou Chacra, Katherine Jasmine Curo Melo, Ivan Andrés Cordova Morales, Erika S Stippler, Filippos Kesisoglou, Mehran Yazdanian, Raimar Löbenberg

Evolution of choice of solubility and dissolution media after two decades of Biopharmaceutical Classification System

AAPS Journal May 2017

16 Development of An algorithm to identify Mass Production Candidate Molecules to Develop Children’s Oral Medicines: A North American perspective Varsha Bhatt-Mehta; Robert B. MacArthur; Raimar Löbenberg; Jeffrey J. Cies; Ibolja Cernak; and Richard H. Parrish II AAPS Open access December 2016

15 Challenges and Future Prospects of Nanoemulsion as a Drug Delivery System

Megumi Nishitani Yukuyamaa, Edna Tomiko Myiake Katoa , Raimar Löbenbergb and Nadia Araci Bou-Chacra

Current Pharmaceutical Design, 2017, 23, 1-14

14 An Algorithm to Identify Compounded Non-Sterile Products that Can Be Formulated on a Commercial Scale or Imported to Promote Safer Medication Use in Children

Varsha Bhatt-Mehta, Robert B. MacArthur, Raimar Löbenberg, Jeffrey J. Cies,
Ibolja Cernak and Richard H. Parrish II

 Pharmacy 3 (4), 284-294

13 Liposomal Drug Delivery: A Versatile Platform for Challenging Clinical Applications

Asadullah Madni, Muhammad Sarfraz, Mubashar Rehman, Mahmood Ahmad, Naveed Akhtar, Saeed Ahmad, Nayab Tahir, Shakeel Ijaz, Raida Al-Kassas, Raimar Löbenberg

Journal of Pharmacy & Pharmaceutical Sciences 2014

12 Overview of the preparation of organic polymeric nanoparticles for
drug delivery based on gelatine, chitosan, poly(D,L-lactide-co-glycolic
acid) and polyalkylcyanoacrylate

Patrick Lai, Weiam Daear, Raimar Loebenberg and **Elmar J Prenner**
Colloids and Surfaces B: Biointerfaces (accepted 2014 March)

11 Dengue Diagnostics: Current Scenario

Advaita Ganguly, Ravindra B Malabadi, Raimar Loebenberg, Mavanur R Suresh and **Hoon H Sunwoo**

Research in Biotechnology, 4(2): 19-25, 2013

10 A Mini-review of Dengue Vaccine Development

Advaita Ganguly, Ravindra B Malabadi, Raimar Loebenberg, Mavanur R Suresh and **Hoon H Sunwoo**

Research in Pharmacy 3(2): 18-25, 2013

9 Al-Hallak, M.K., Sarfraz, M.K., Azarmi, S., Roa, W.H., Finlay, W.H., **Löbenberg, R**., 2011
Pulmonary delivery of inhalable nanoparticles: Dry powder inhalers, Therapeutic Delivery 2012 (10) , pp. 1313-1324

8 **Margareth R. C. Marques**, Raimar Löbenberg, and May Almukainzi
Simulated Biological Fluids with Possible Application in Dissolution Testing

Dissolution Technology, August 2011 p 15- 28

7 Cheng Tong, Ruben Lazano, Yun Mao Tarhseen Mirza, Raimar Loebenberg, Beverly Nickerson, Vivian Gray, **Qingxi Wang**

The Value of Dissolution in the Drug Development Continuum

Pharmaceutical Technology 2009, Volume 33, Issue 4, pp. 52-64

6 Azarmi, S., Roa, W.H., **Löbenberg, R.**

Targeted delivery of nanoparticles for the treatment of lung diseases

(2008) Advanced Drug Delivery Reviews, 60 (8), pp. 863-875.

5 Donauer, N., **Löbenberg, R.**

A mini review of scientific and pharmacopeial requirements for the disintegration test

(2007) International Journal of Pharmaceutics, 345 (1-2), pp. 2-8..

4 Gill, S., Löbenberg, R., Ku, T., Azarmi, S., Roa, W., **Prenner, E.J.**

Nanoparticles: Characteristics, mechanisms of action, and toxicity in pulmonary drug delivery - A review

(2007) Journal of Biomedical Nanotechnology, 3 (2), pp. 107-119.

3 Azarmi, S., Roa, W**., Löbenberg, R**.

Current perspectives in dissolution testing of conventional and novel dosage forms

(2007) International Journal of Pharmaceutics, 328 (1 SPEC. ISS.), pp. 12-21.

 (ranked No 1 downloaded article)

2 Fung, P., Jung, J., Au, D., Huynh, S., Yeung, A.A., **Löbenberg, R**.

West Nile virus in Canada

(2006) Canadian Pharmacists Journal, 139 (3), pp. 50-56.

1 Löbenberg, R., **Amidon, G.L.**

Modern bioavailability, bioequivalence and biopharmaceutics classification system. New scientific approaches to international regulatory standards

(2000) European Journal of Pharmaceutics and Biopharmaceutics, 50 (1), pp. 3-12.

### Research Publications

### Submitted:

### Published

114 Megumi Nishitani Yukuyama, Pedro Leonidas Oseliero Filho, Edna Tomiko Myiake Kato, Raimar Lobenberg, Cristiano Luis Pinto de Oliveira, Gabriel Lima Barros de Araujo, Nadia Araci Bou-Chacra

High internal vegetable oil nanoemulsion: D-phase emulsification as a unique low energy process

Colloids and Surfaces A: Physicochemical and Engineering Aspects 2018

113 Aline de Souza, Débora Soares Souza Marins, Samir Leite Mathias, Lis Marie Monteiro, Megumi Nishitani Yukuyama, Cauê Benito Scarim, Raimar Löbenberg, Nádia Araci Bou-Chacra

Promising Nanotherapy in Treating Leishmaniasis

International journal of pharmaceutics 2018

112 Paulo Paixão, Marival Bermejo, Bart Hens, Yasuhiro Tsume, Joseph Dickens, Kerby Shedden, Niloufar Salehi, Mark J Koenigsknecht, Jason R Baker, William L Hasler, Robert Lionberger, Jianghong Fan, Jeffrey Wysocki, Bo Wen, Allen Lee, Ann Frances, Gregory E Amidon, Alex Yu, Gail Benninghoff, Raimar Löbenberg, Arjang Talattof, Duxin Sun, Gordon L Amidon

Gastric Emptying and Intestinal Appearance of Nonabsorbable Drugs Phenol Red and Paromomycin in Human Subjects: A Multi-Compartment Stomach Approach

European Journal of Pharmaceutics and Biopharmaceutics 2018

111 Behzad Sharif Makhmalzadeh, Ommoleila Molavi, Mohammad Reza Vakili, Hai-Feng Zhang, Amir Solimani, Hoda Soleymani Abyaneh, Raimar Loebenberg, Raymond Lai, Afsaneh Lavasanifar

Functionalized Caprolactone-Polyethylene Glycol Based Thermo-Responsive Hydrogels of Silibinin for the Treatment of Malignant Melanoma

Journal of Pharmacy & Pharmaceutical Sciences 21 (1), 143-159 2018

110 DA Silva, **R Löbenberg**, N Davies

Are Excipients Inert? Phenytoin Pharmaceutical Investigations with New Incompatibility Insights

Journal of Pharmacy & Pharmaceutical Sciences 21 (1s), 19-31s 2018

109 Bart Hens, Arjang Talattof, Paulo Paixão, Marival Bermejo, Yasuhiro Tsume, Raimar Löbenberg, Gordon L Amidon

Measuring the Impact of Gastrointestinal Variables on the Systemic Outcome of Two Suspensions of Posaconazole by a PBPK Model

The AAPS Journal 20 (3), 57 2018

108 GLB de Araujo, FF Ferreira, CES Bernardes, JAP Sato, OM Gil, ...

A New Thermodynamically Favored Flubendazole/Maleic Acid Binary Crystal Form: Structure, Energetics and In Silico PBPK Model-based Investigation

Crystal Growth & Design 2018

107 DDM Ghisleni, IS Kikuchi, AM Saviano, NA Bou-Chacra, R Lobenberg
In Vitro Therapeutic Equivalence of Cephalexin 500 mg Tablets Commercialized in Brazil

LATIN AMERICAN JOURNAL OF PHARMACY 37 (1), 7-11 2018

106 MF Dario, FF Oliveira, DSS Marins, AR Baby, MVR Velasco, R Löbenberg, ...

Synergistic photoprotective activity of nanocarrier containing oil of Acrocomia aculeata (Jacq.) Lodd. Ex. Martius—Arecaceae

Industrial Crops and Products 112, 305-312, 2018

105 S Alrushaid, **NM Davies**, JE Anderson, T Le, JA Yáñez, ZH Maayah, ...

Pharmaceutical Characterization of MyoNovin, a Novel Skeletal Muscle Regenerator: in silico, in vitro and in vivo Studies

Journal of Pharmacy & Pharmaceutical Sciences 21 (1s), 1-18s, 2018

104 J Zuo, H He, Z Zuo, N Bou‐Chacra, **R Löbenberg**
Erding Formula in hyperuricaemia treatment: unfolding traditional Chinese herbal compatibility using modern pharmaceutical approaches

Journal of Pharmacy and Pharmacology 70 (1), 124-132, 2018

103 Z Fasihi, P Zakeri-Milani, A Nokhodchi, J Akbari, M Barzegar-Jalali, ...
Thermodynamic approaches for the prediction of oral drug absorption

Journal of Thermal Analysis and Calorimetry 130 (3), 1371-1382, 2017

102 MB Parmar, DNM Sundaram, RB KC, R Maranchuk, HM Aliabadi, ...

Combinational siRNA delivery using hyaluronic acid modified amphiphilic polyplexes against cell cycle and phosphatase proteins to inhibit growth and migration of t...

Acta biomaterialia, 2017

101 B Hens, Y Tsume, M Bermejo, P Paixão, M Koenigsknecht, R Baker,
Dynamic Change in pH by Low Buffer Capacity of Gastrointestinal Fluids Along The Human Gastrointestinal Tract: Implications For In Vivo Dissolution and Absorptio...

2017 Mol Pharm

100 MD Duque, MG Issa, DA Silva, BA Sakamoto, LNCR Kakuda, ...

Intrinsic dissolution simulation of highly and poorly soluble drugs for BCS solubility classification

DISSOLUTION TECHNOLOGIES 24 (4), 6-11

99 Samaa Alrushaid, Casey L. Sayre, Jaime A. Yáñez, M. Laird Forrest,
Sanjeewa N. Senadheera, Frank J. Burczynski, Raimar Löbenberg, Neal M.
Davies

Pharmacokinetic and Toxicodynamic Characterization of a Novel
Doxorubicin Derivative

Pharmaceutics 9 (3), 35

98 Mosab Arafat,Cathrin Kirchhoefer, Momir Mikov, Muhammad Sarfraz, Raimar Löbenberg

Nanosized Liposomes Containing Bile Salt: A Vesicular Nanocarrier for

Enhancing Oral Bioavailability of BCS Class III Drug

J PharmPharmSci 20, 305 - 318, Aug 2017

97 B Hens, Y Tsume, M Bermejo, P Paixao, M Koenigsknecht, JR Baker, ...

Low Buffer Capacity and Alternating Motility along the Human Gastrointestinal Tract: Implications for in Vivo Dissolution and Absorption of Ionizable Drugs

Molecular Pharmaceutics Aug 2017

96 LM Monteiro, R Löbenberg, EI Ferreira, PC Cotrim, E Kanashiro, M Rocha, ...

Targeting Leishmania amazonensis amastigotes through macrophage internalisation of a hydroxymethylnitrofurazone nanostructured polymeric system

International Journal of Antimicrobial Agents Jul 2017

95 **Ghada Bachour**, Nadia Araci Bou-Chacra, and Raimar Lőbenberg

Evaluation of the Rupture Test for Stability Studies of Soft-Shell Capsules

Dissolution Technol. 2017 Nov.

94 Nayab KHALID, Nisar U. RAHMAN, Raimar LÖBENBERG,

**Muhammad AKHTAR**, Muhammad K. SARFARAZ, Bra’a M. HAJJAR

Design and Evaluation of SMEDDS to Enhance Solubility and

Dissolution of Anticancer Drug Using Modified Cylinder Method

 Lat. Am. J. Pharm. 36 (4): 647-57 (2017)

93 Roger K. Verbeeck, Isadore Kanfer, **Raimar Löbenberg**\*, Bertil Abrahamsson, Rodrigo Cristofoletti , D.W. Groot, Peter Langguth, James E. Polli, Alan Parr, Vinod P. Shah Mehul Mehta, and **Jennifer B. Dressman**

BIOWAIVER MONOGRAPHS FOR IMMEDIATE RELEASE SOLID ORAL DOSAGE FORMS:
ENALAPRIL"

 Journal of Pharmaceutical Sciences April 2017

92 Braa Hajjar, Kira-Isabel Zier, Nayab Khalid, Shirzad Azarmi, Raimar Löbenberg

Evaluation of a microemulsion-based gel formulation for topical drug delivery of diclofenac sodium

Journal of Pharmaceutical Investigation (2017)

91 May Almukainzi · Ranih Gabr · Ghada Abdelhamid · Raimar Löbenberg

Mechanistic understanding of the effect of renal impairment on metformin oral absorption using computer simulations

Journal of Pharmaceutical Investigation (2017) 47:151–161

90 Lukas Uebbing, Lukas Klumpp, Gregory K. Webster, Raimar Löbenberg

Justification of disintegration testing beyond current FDA criteria using in vitro and in silico models

Drug Design, Development and Therapy, April 2017

89 Lis Monteiro, Raimar Löbenberg, Paulo C. Cotrim, Gabriel Lima Barros de Araújo and **Nádia Bou-Chacra**

Buparvaquone nanostructure lipid carrier: development of an affordable delivery system for the treatment of leishmaniases"

Acepted Jan 2017 BioMed Research International

88 SS Yoo, L Guo, X Sun, AR Shaw, Z Yuan, R Löbenberg, WH Roa

Fabrication and in vitro characterization of gadolinium-based nanoclusters for simultaneous drug delivery and radiation enhancement

Nanotechnology 27 (38), 385104, 2016

87 J Zuo, Q Zheng, H Jian, T Porttin, C Willson, F Misquita, J Capicio, ...

Traditional Chinese Medicine for Managing Inflammatory Pain of Arthritis with Herbal Medicines

Current Traditional Medicine 2 (2), 80-93

86 MB Parmar, BE Arteaga Ballesteros, T Fu, RB KC, H Montazeri Aliabadi, Hugh JC, Löbenberg R, Uludağ H

Multiple siRNA delivery against cell cycle and anti‐apoptosis proteins using lipid‐substituted polyethylenimine in triple‐negative breast cancer and nonmalignant cells

Journal of Biomedical Materials Research Part A July 2016 doi: 10.1002/jbm.a.35846

84 **Moghimipour E,** Sajadi Tabassi S, Ramezani M, Handali S, Löbenberg R

Absorption enhancing effect of total saponins derived from Acanthopyllum squarrusom and Quillaja saponaria on nasal permeation of gentamicin sulfate and carboxyfluorescein

Research Journal of Pharmaceutical, Biological and Chemical Sciences, vol. 7, issue 3 (2016) pp. 285-291

83 **E Moghimipour**, SAS Tabassi, M Ramezani, S Handali, R Löbenberg

Brush border membrane vesicle and Caco-2 cell line: Two experimental models for evaluation of absorption enhancing effects of saponins, bile salts, and some synthetic surfactants

Journal of Advanced Pharmaceutical Technology & Research 7 (3), 75

82 Parvin Zakeri-Milani, Zohreh Fasihi, Jafar Akbari, Ensieh Jannatabadi, Mohammad Barzegar-Jalali , Raimar Loebenberg, Hadi Valizadeh

Crystal-liquid Fugacity Ratio as a Surrogate Parameter for Intestinal Permeability

JPPS 2016 Aug Vol 19 (3)

81 M Sarfraz, W Roa, N Bou-Chacra, **R Löbenberg**

Inflammation caused by Nano-sized delivery Systems: is there a benefit?

Molecular Pharmaceutics, August 2016

80 M Sarfraz, W Shi, Y Gao, SD Clas, W Roa, N Bou-Chacra, **R Löbenberg**,

Immune response to antituberculosis drug-loaded gelatin and polyisobutyl-cyanoacrylate nanoparticles in macrophages

Therapeutic Delivery 7 (4), 213-228

79 M Almukainzi, F Jamali, A Aghazadeh-Habashi, **R Löbenberg**

Disease specific modeling: Simulation of the pharmacokinetics of meloxicam and ibuprofen in disease state vs. healthy conditions

European Journal of Pharmaceutics and Biopharmaceutics 100, 77-84

78 S Khiljee, NU Rehman, T Khiljee, R Loebenberg, **RS Ahmad**

Formulation and clinical evaluation of topical dosage forms of Indian Penny Wort, walnut and turmeric in eczema.

Pakistan journal of pharmaceutical sciences 1 (28), 2001-2007

77 Felipe Rebello Lourenço, Fabiane Lacerda Francisco, Márcia Regina Spuri Ferreira, Terezinha de Jesus Andreoli, Raimar Löbenberg, **Nádia Bou-Chacra**

Design Space Approach for Preservative System Optimization of an Anti-Aging Eye Fluid Emulsion

Journal of Pharmacy & Pharmaceutical Sciences 18 (3), 551-561

76 Lis Marie Monteiro, Guilherme Diniz Tavares, Elizabeth Igne Ferreira, Vladi Olga Consiglieri, **Nadia Araci Bou-Chacra**, Raimar Löbenberg

Reverse phase high-performance liquid chromatography for quantification of hydroxymethylnitrofurazone in polymeric nanoparticles

Brazilian Journal of Pharmaceutical Sciences 51 (3), 561-567

75 **Mhammad Naeem, Nisar**, UR Rahman, GUILHERME TAVARES, Savio F Barbosa, Nadia B Chacra, Raimar Loebenberg, Muhammad K Sarfraz

Physicochemical, in vitro and in vivo evaluation of flurbiprofen microemulsion

Anais da Academia Brasileira de Ciências 87 (3), 1823-1831

74 Sávio Fujita Barbosa, Takayuki Takatsuka, Guilherme Diniz Tavares, Gabriel Lima Barros Araújo, Hui Wang, Reinhard Vehring, Raimar Löbenberg, **Nádia Araci Bou-Chacra**

Physical–chemical properties of furosemide nanocrystals developed using rotation revolution mixer

Pharmaceutical Development and Technology, 1-11

73 L Endrenyi, F Jamali, R Loebenberg

Subsequent Entry Biologics in Canada: Current State of the Science

Journal of Pharmacy & Pharmaceutical Sciences 18 (2), 177-183

72 Physicochemical, in vitro and in vivo evaluation of flurbiprofen microemulsion Naeem, M., Rahman, N.U., Tavares, G.D., Barbosa, S.F., **Chacra, N.B**., Löbenberg, R., Sarfraz, M.K.

Anais da Academia Brasileira de Ciencias,2015 87 (3), pp. 1823-1831

71 Investigating the Dissolution Profiles of Amoxicillin, Metronidazole,

and Zidovudine Formulations used in Trinidad and Tobago, West Indies

Arlene Villarroel Stuart, Jieyu Zuo, and **Raimar Löbenberg**

AAPS PharmSciTech, Vol. 15, No. 5, October 2014

70 Physicochemical, in vitro and in vivo evaluation of flurbiprofen microemulsion

Muhammad Naeem · **Nisar Ur Rahman** · Guilherme D Tavares · Sávio F Barbosa · Nádia B Chacra · Raimar Löbenberg · Muhammad K Sarfraz

Annals of the Brazilian Academy of Sciences (2015) 87(3): 1823-1831

69 Comparing the dissolution profiles of seven metformin formulations in Simulated Intestinal Fluid

A Villarroel Stuart, Y Clement, P Sealy1, R Löbenberg, L Montane-Jaime, RG Maharaj, A Maxwell

Dissolutiontechnologies Feb 2015

68 Simulation of In Vitro Dissolution Behavior Using DDDplusTM

May Almukainzi, Arthur Okumu, Hai Wei, **Raimar Löbenberg**.

 AAPS PharmSciTech. 2015 Feb;16(1):217-21. doi: 10.1208/s12249-014-0241-5. Epub 2014 Nov 20

67 Hyaluronic Acid-Tocopherol Succinate-Based Self-Assembling Micelles for Targeted Delivery of Rifampicin to Alveolar Macrophages

Yuan Gao, Muhammad Khan Sarfraz, Sophie-Dorothee Clas, Wilson Roa, and **Raimar Löbenberg**

Journal of Biomedical Nanotechnology, Vol. 11, 1–18, 2015

66 Antiulcerogenic Potential Activity of Free and Nanoencapsulated Passiflora serratodigitata L. Extracts,

Marc Strasser, Peky Noriega, Raimar Löbenberg, **Nadia Bou-Chacra** and Elfriede Marianne Bacchi

Research International, Accepted June 2014

65 In Vitro Dissolution of Generic Immediate-Release Solid Oral Dosage Forms Containing BCS Class I Drugs: Comparative Assessment of Metronidazole, Zidovudine, and Amoxicillin Versus Relevant Comparator Pharmaceutical Products in South Africa and India

NHS Reddy, S Patnala, R Löbenberg, **I Kanfer**

AAPS PharmSciTech, 1-11, 2014

64 Investigating the Dissolution Profiles of Amoxicillin, Metronidazole, and Zidovudine Formulations used in Trinidad and Tobago, West Indies

AV Stuart, J Zuo, **R Löbenberg**

AAPS PharmSciTech, 2014

63 Challenges and Opportunities to Use Biowaivers to Compare Generics in China

J Zuo, Y Gao, N Bou-Chacra, **R Löbenberg**

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### Submitted Publications

### Submitted Abstracts

### Published Abstracts

Dual Effect Of Bile Salts In Nanocarriers: Counteracting Gastrointestinal Lysis And Enhancing The Oral Bioavailability Of BCS Class III Drug

Muhammad Sarfaz, Raimar Loebenberg

2017 AAPS November 12-15, 2017 in San Diego, CA.

185 Disintegration or Dissolution for Immediate Release Tablets – How to Decide on a Quality Control Method in a QbD Environment

Lukas Uebbing, Leandro Santoro Hernandes, Juliet Obianuju Njoku, Gregory K. Wbster, Raimar Löbenberg

AAPS November 12-15, 2017 in San Diego, CA.

Utilization of Simulation Software in Early Drug Development

Lukas Uebbing, Leandro Santoro Hernandes, Juliet Obianuju Njoku, Gregory K. Wbster, Raimar Löbenberg

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Nanostructured Lipid Carrier Containing Hydroxymethylnitrofurazone (NFOH) for the Treatment of Leishmaniasis: A Rational Approach to Select the Proper Liquid Lipid

Aline de Souza, Gabriel Araújo, Raimar Löbenberg, Nadia Bou-Chacra

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Cationic Ocular Nanoemulsion for the Treatment of Ocular Tuberculosis

Mirla Bazan Henostroza, Nadia Bou-Chacra, Gabriel Araujo, Raimar Lobenberg
AAPS November 12-15, 2017 in San Diego, CA

Olive Oil Nanoemulsion: A Rational Approach Preparation Using High and Low Energy Processes

Megumi Yukuyama, Raimar Löbenberg, Nadia Bou-Chacra
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180 Development of Flubendazole Nanocrystals Using High-Pressure Microfluidization: effect of stabilizers and microfluidization time on particle size reduction

Debora Gonçalves, Nadia Bou-Chacra, Raimar Löbenberg, Gabriel de Araujo
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Hydroxymethylnitrofurazone Nanocrystals (NFOH): A Promising Therapeutic Approach in the Treatment of Leishmaniasis Debora Marins, Gabriel Araújo, Raimar Löbenberg, Nadia Bou-Chacra
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Esculetin Nanocrystal: Toward an Innovative Approach for the Treatment of Hyperuricemia

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The application of Simulation Software in Early Drug Development

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CSPS annual meeting Montreal

Disintegration or Dissolution as quality control method for immediate release tablets – How to decide in a QbD environment?

Lukas Uebbing, Leandro Santoro Hernandes, Juliet Obianuju Njoku, Gregory K. Wbster, Raimar Löbenberg

CSPS annual meeting Montreal

175 Pharmacokinetic and Toxicodynamic Characterization of a Novel Doxorubicin Derivative

Samaa Alrushaid, Casey L. Sayre, Jaime A. Yáñez, M. Laird Forrest, Sanjeewa N. Senadheera, Frank J. Burczynski, Raimar

Löbenberg, and Neal M. Davies

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In-silico Physicochemical and Biopharmaceutical Characterization of MyoNovin, a Novel Skeletal Muscle Regenerating Agent

Samaa Alrushaid, Neal M. Davies, Jaime A. Yáñez, Ousama Rachid, Casey L. Sayre, Raimar Löbenberg, Frank J. Burczynski

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Disintegration or Dissolution as Quality Control Method for Immediate ReleaseTablets – How to Decide in a QbD Environment

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The Application of Simulation Software in Early Drug Development

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Lukas Klumpp, Gregoy Webster, **Raimar Loebenberg**
How to Justify Disintegration Testing as a Suitable Quality Control Method Using Simulations and Model Fitting

AAPS annual meeting Denver November 2016

170 Jieyu Zuo, **Raimar Loebenberg**
Compatibility Effects of Herb Composition in Reducing Uric Acid Level in Hyperuricemic Mice

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Muhammad Sarfraz, Wilson Roa, Nadia Bou Chacra, **Raimar Loebenberg**
Inflammation Caused by Nano-Sized Delivery Systems: Is There a Benefit?
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Ivan Cordova Morales, Nadia Bou Chacra, **Raimar Loebenberg**
Artemether Nanocrystals: An Innovative Anti-malarial Therapy

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Zhipeng Yuan, Linghong Guo, Shannon Yoo, Raimar Loebenberg, **Wilson Roa**
A Gadolinium-Doxorubicin Nanoparticle Complex as a Novel Drug-Delivery System

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Nayab Khalid, Nisar Rehman, Bra’a Hajjar, Muhammad Sarfraz , **Raimar Löbenberg**

Development and Evaluation of SMEDDS of Anticancer Drug Etoposide and Its In Vitro Release by Using a Modified Cylinder Method

AAPS annual meeting Denver November 2016

165 Jieyu Zuo, Hui Jian, Zhengyun Zuo, Shilin Yang, **Raimar Löbenberg**

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Jieyu Zuo,Hui Jian, Zhengyun Zuo, Shilin Yang, Raimar Löbenberg

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Bra’a M. Hajjar, Kira-Isabel Zier, Shirzad Azarmi, and **R. Löbenberg**

Evaluation of Carbopol 934P NF Microemulsion-Based Gel Formulations for Topical Drug Delivery of Diclofenac Sodium

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Zhipeng Yuan, Linghong Guo, Shannon Yoo, **Raimar Loebenberg** and Wilson Roa

A Gadolinium-Doxorubicin Nanocomplex as a Novel Targeted Drug-Delivery System

CSPS annual meeting Vancouver

Sarfraz, Muhammad, Roa, **Loebenberg**

Is Secondary Toxicity Beneficial for Nano-sized Delivery Systems?

Toxicolgy symposium Edmton May 2016

160 *L. M. Monteiro, R. Loebenberg, P. C. Cotrim, E. Kanashiro, M. Rocha, E.I. Ferreira, N. A. Bou-Cracha*

Burpavaquone Loaded NLCs, Nano-Based Drug Delivery System for Leishmaniases Treatment

May 2-3, 2016, Telus Centre, Edmonton, AB; Infectious Diseases: Scientific Responses to Economic Challenges and Opportunities

Ivan C. Morales 1, Nadia Bou-Chacra 1, Raimar Löbenberg

Artemether Nanocrystals: an innovative antimalarial therapy

May 2-3, 2016, Telus Centre, Edmonton, AB; Infectious Diseases: Scientific Responses to Economic Challenges and Opportunities

Katherine C. Melo, Natalia V. Souza, Humberto G. Ferraz, **Nadia Bou-Chacra**, Raimar Löbenberg

Rifampicin nanocrystal: towards improved antituberculosis therapy

May 2-3, 2016, Telus Centre, Edmonton, AB; Infectious Diseases: Scientific Responses to Economic Challenges and Opportunities

Muhammad Sarfraz, Joyce Macwan, May Almukainzi, Michael B Bolger, **Raimar Loebenberg**
The Importance of Lysosomal Trapping for Setting Clinically Relevant Product Specifications for Dextromethorphan Immediate Release Dosage Forms

AAPS Annual Meeting 2015 Orlando

Lis Monteiro, Raimar Loebenberg, Paulo Cotrim, Nikoleta Fotaki, Nadia Bou-Cracha
A Potential Nanotechnology Based Drug Delivery for the Treatment of Leishmaniases

AAPS Annual Meeting 2015 Orlando

155 Katherine Jasmine Melo, Natalia Souza, Humberto Ferraz, Nikoletta Fotaki, Raimar Lobenberg, Nadia Bou-Chacra
Formulation with Povacoat® to Prevent Aggregation of Rifampin Nanocrystal Using High-Pressure Homogenization

AAPS Annual Meeting 2015 Orlando

May Almukainzi, Raniah Gabr, Ghada Abdelhamid, **Raimar Loebenberg**
Mechanistic Understanding of the Effect of Renal Impairment on the Oral Absorption and Elimination of Metformin Using a PBPK Model

AAPS Annual Meeting 2015 Orlando

Jessica Compri, Veni Felli, Humberto Ferraz, Eduardo Barbosa, Felipe Fernandes, Takayuki Takatsuka, Shunji Uramatsu, Raimar Loebenberg, Nadia Bou-Chacra
Orotic Acid Nanocrystals Stabilized with Povacoat®: Toward an Innovative Treatment of Malaria

AAPS Annual Meeting 2015 Orlando

PBPK Modeling of Dextromethorphan and its Application in Developing Drug Delivery Systems

Muhammad Sarfraz, M. Almukainzi**, R. Löbenberg**

CSPS Annual Meeting May 2015 Toronto

Transdermal Delivery of Bone-Targeting Peptide Hormone Conjugates for Treatment of Tibial Bone Stress Fractures Using Liposomal Cream Base

Ali Aghazadeh-Habashi, Yang Yang, Kathy Tang, Raimar Loebenberg, Michael R. Doschak

CSPS Annual Meeting May 2015 Toronto

150 Reduction-Responsive Micelles Self-assembled from Amphiphilic Hyaluronic Tocopheryl Succinate Conjugates for Targeted Delivery of Curcumin in Therapy against Breast Cancer

Yuan Gao, Xiaoyu Wang, Wilson Roa, Shen Gao, **Raimar Löbenberg**

AAPS Annual meeting, San Diego, November 2014

Inhalable nanoparticle enhances TNF-α and potentiates TH-1 type innate immune response in murine alveolar macrophage model against Tuberculosis

Muhammad K Sarfraz, Yuan Gao, and **R. Löbenberg**

AAPS Annual meeting, San Diego, November 2014

Challenges and Opportunities to Use in Vitro Dissolution Behavior to Compare BCS Class I Generics in China

Jieyu Zuo, Yuan Gao, Nadia Bou-Chacra, **Raimar Löbenberg**

AAPS Annual meeting, San Diego, November 2014

Evaluation of the DDSolver Software Applications

Jieyu Zuo, Yuan Gao, Nadia Bou-Chacra, **Raimar Löbenberg**

AAPS Annual meeting, San Diego, November 2014

Development of Rifampin Nanocrystals Using High Energy Milling: Physical Aspects

K. C. Melo, **N. Bou-Chacra**, G. L. Araujo, T. Takatsuka, R. Loebenberg

AAPS Annual meeting, San Diego, November 2014

145 Orotic Acid Nanocrystals: A Promising Candidate for Novel Anti-malarial Chemotherapy

J. Z. Compri, V. A. Felli, S. F. Barbosa, G. L. Araujo, T. Takatsuka, R. Loebenberg, **N. A. Bou-Chacra**

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Challenges and opportunities to use biowaivers to compare generics in China

Jieyu Zuo, Yuan Gao, Nadia Bou-Chacra, **Raimar Löbenberg**

CSPS meeting Montreal June 10-14, 2014

Evaluation of the DDSolver software applications

Jieyu Zuo, Yuan Gao, Nadia Bou-Chacra, **Raimar Löbenberg**

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Reduction-responsive micelles self-assembled from amphiphilic hyaluronic tocopheryl succinate conjugates for targeted delivery of curcumin in therapy against breast cancer

Yuan Gao, Xiaoyu Wang, Wilson Roa, Shen Gao, **Raimar Löbenberg**

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Modeling the absorption of Metformin in patients with post gastric bypass surgery

May Almukainzi,Viera Lukacova, and **Raimar Löbenberg**

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140 In Silco modelling (Gastroplus™) to overcome pharmacogenomic variation in humans using different Dextromethophan dosage forms

Muhammad Sarfaz, May Almukainzi,and **Raimar Löbenberg**

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Modeling the Absorption of Metformin in Patients Post Gastric Bypass Surgery

Almukainzi, May, **Loebenberg, Raimar**

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Comparative Dissolution Studies between Innovator and Selected Immediate Release Oral Dosage Forms containing BCS Class I Drugs, Metronidazole, Zidovudine and Amoxicillin Marketed in South Africa and India

**Kanfer, Isadore**, Nallagundla-Reddy, Hemasundar, Patnala, Srinivas, Loebenberg, Raimar

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Investigation of a Nanostructured Polymeric Drug Delivery System containing Hidroxymethynitrofurazone:

Preparation, Physicochemical Characterization and In Vitro Evaluation of Potential Leishmanicidal Activity

Monteiro, Lis, Loebenberg, Raimar, Kanashiro, Edite, Rocha, Mussya, Ferreira, Elizabeth, Cotrim, Paulo, **Bou-Chacra, Nadia**

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Nanoencapsulated and Free Passiflora serratodigitata L. Extracts: an Innovative Strategy for Anti-Ulcer Therapy

Strasser,Marc, Noriega, Peky, Netto, Alberto, Funghi, Nathalia, Lobenberg, Raimar, Bou-Chacra, Nadia, **Bacchi, Elfriede**

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135 Development of Furosemide Nanocrystals Using High Energy Milling: Physical-Chemical Aspects

Savio F. Barbosa, Bruna R. D. Barbosa, Takayuki Takatsuka, Guilherme. D. Tavares, Gabriel L. B. Araujo, Hui Wang, Reinhard Vehring, Raimar Löbenberg, **Nádia A. B. Chacra**.

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 Cationic nanostructured system: towards an innovative ophthalmic drug delivery Platform

T Nathália B Funghi, Juliana D Conte, Raimar Löbenberg and **Nádia A Bou-Chacra**

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Cross-linked hyaluronic acid-lipoic acid micelles for enhanced solubility, stability and targeted delivery of curcumin to breast cancer cells.

Y. Gao, M. Sarfraz, W. Roa, S-D. Clas**, R. Loebenberg**

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Rifampicin loaded in hyaluronic acid-tocopherol succinate micelles for targeted delivery to macrophages: intracellular uptake, behavior and cytokines activity.

Y. Gao, M. Sarfraz, W. Roa**, R. Loebenberg**

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In Silco modelling (Gastroplus™) to overcome pharmacogenomic variation in humans using different Dextromethophan dosage forms

Muhammad K Sarfraz, M. Almukainzi, and **R. Löbenberg**

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130 The behaviour of rifampicin loaded hyaluronic acid α-tocopherol succinate micelles in alveolar macrophages

Yuan Gao, Muhammad Khan Sarfraz, Sophie-Dorothee Clas, Wilson Roa, **Raimar Löbenberg**

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Synthesis and in vitro characterization of hyaluronic acid α-tocopherol succinate based self- assembling micelles for targeted delivery of Rifampicin to macrophages

Yuan Gao, Muhammad Khan Sarfraz, Sophie-Dorothee Clas, Wilson Roa, **Raimar Löbenberg**

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Cross-lined Hyaloranic acid lipoic Acid micelles for enhanced solubility, stability and targeted delivery of curcumin to breast cancer cells

Yuan Gao, Muhammad Khan Sarfraz, Wilson Roa, **Raimar Löbenberg**

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Distribution of effervescent inhalable nanoparticles after pulmonary delivery; in vivo study.

A-H. Kamal , M. Sarfraz, S. Azarmi, W. Roa, W. Finlay**, R. Loebenberg**

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Hyaluronic acid–tocopheryl succinate micelles containing rifampicin for active targeting to macrophages.

Y. Gao, M. Sarfraz**,** W. Roa, S-D. Clas**, R. Loebenberg**

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125 A new dissolution method to assess the in vitro release of nanoparticles.

Y. Gao, Z. Jieyu, N. Bou-Chacra, T. Andreoli Pinto, S-D. Clas, **R. Loebenberg**

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Lipid Nanocarriers containing Nystatin Nanocrystal for the Treat the Oral Mucosa

M Barao, R Loebenberg, **NAB Chara**

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LM Montei, R Loebenberg, **NAB Chara**

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S Babosa, R Loebenberg, **NAB Chacra**

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Modeling different Dextromethophan dosage forms using Gastro Plus
Muhammad Sarfraz, May Alkmkainzi, M.H.D Kamal Al-Hallak, Raimar Loebenberg

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120 Nanoparticles loaded with Rifampicin and Moxifloxacin induced variable levels of Activation in Murine Alveolar Macrophages.
Wenjun Shi, Muhammad Sarfraz, Wilson Roa, **Raimar Loebenberg**

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Y. Gao, M. Sarfraz, W. Roa, S-D. Clas, **R. Loebenberg**

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A new dissolution method to assess the in vitro release of nanoparticles
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115 Simulations of the in vivo release of meloxicam and ibuprofen in pain

May Almukainzi, Fakhreddin Jamali, Raimar Löbenberg

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Simulations of the in vitro dissolution using DDDplus

May Almukainzi, Arthur Okumu, Hai Wei, Raimar Löbenberg

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110 Impact of the Harmonized Specifications on the Performance of the Disintegration Test

May Almukainzi, Mahnor Salehi, Nadia Araci Bou Chacra, Raimar Löbenberg

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The Rupture Test as a Performance Test for Soft Shell Capsules

May Almukainzi, Mahnor Salehi, Nadia Araci Bou Chacra , Raimar Löbenberg,

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In Vitro Similarity: Towards Global Performance Standards for Generics

R. Löbenberg, N. A. Chacra, E. Stippler, V. P. Shah, R. L. Williams

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Distribution of inhalable doxorubicin-loaded nanoparticle after pulmonary delivery

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 Inhalable nanoparticles, a non-invasive approach to treat lung cancer

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105 Pulmonary Toxicity of Polysorbate-80-coated Inhalable NPs; in vitro and in vivo Evaluation

MHD Kamal Al-Hallak, Shirzad Azarmi, Chris Sun, Patrick Lai, Elamr J Prenner, Wilson H Roa and Raimar Löbenberg

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Isothermal Microcalorimetry as a Quality by Design Tool to Determine Optimal Blending Sequences

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Microcalorimetric Method to Assess Macrophage-Nanoparticle Interaction; Phagocytosis

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Impact of the Harmonized Specifications on the Performance of the Disintegration Test Introduction

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 The Rupture Test as a Performance Test for Soft Shell Capsules

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100 In vivo evaluation of inhalable effervescent nanoparticles in the treatment of lung cancer

Wilson Roa, Shirzad Azarmi, Kamal Al-Hallak, Tony Magliocco, Warren Finlay, Raimar Loebenberg

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Garlic against MRSA- The antibacterial effect of Allicin in different formulations

S. Waldmann, R. Soudy, K.Kaur, M.Keelan, K. Alagiakrishnan, C. Sadowski, R. Loebenberg

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Pulmonary toxicity of polysorbate-80 coated inhalable NPs; in vitro and in vivo study

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Raimar Löbenberg, Warren H Finlay, Wilson H Roa, Shirzad Azarmi

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R Löbenberg, E Rodgers, A Li wan Po and J Kreuter

Influence of Nanoparticles on the Body Bistribution of AZT

Proceed. Inter. Symp. Control. Rel. Bioact. Mater. 22 (1995)

1 R Löbenberg, L Araujo and J Kreuter

Influence of Nanoparticles on the Body Distribution of AZT

Proceed. 1st Word Meeting APGI/APV, Budapest (1995)

### Other Publications

Guidance Document: Biopharmaceutics Classification System Based Biowaiver

Health Canada, May 30th 2014

Draft Guidance Document: Biopharmaceutics Classification System Based Biowaiver

Health Canada, August 21, 2012, File number: 12-113709-926

Comment: I organized the workshop in 2011 which was used to develop the guidance document and consulted Health Canada on the development and content of the guidance, the guidance is based on my research over the past 15 years.

Pharmaceutical Science Group

Quarterly News Letter Sep 2011

What do we have to consider about In vitro / In vivo correlations for solid oral dosage forms

Interview Toronto Sun: “Generic drugs” 2012

Scientific opinion to the request of Alberta Health Services to evaluate PLO gel based prescriptions

PharmaQbD interview

Viewing Dissolution Testing Through a QbD Lens

Link: <http://www.pharmaqbd.com/node/344>

SciTopic

Dissolution Testing and Quality by Design (QbD)

<http://www.scitopics.com/Dissolution_Testing_and_Quality_by_Design_QbD.html>

Comments to the Alberta College of Pharmacists: Professional Standards

Comments to the Alberta College of Pharmacists: Beyond Use Dates for Compounding Practice

Comments to Alberta Blue Cross on the equivalence of semisolid formulations.

Comments on the proposed regulations for Natural Health Products

Canada Gazette Part I, December 22, 2001) to the

Natural Health Products Directorate posted January 3, 2002.

Comments on the proposed regulations for Natural Health Products

Proposed Standards of Evidence March 2002

# Symposia, Workshops and CE Events

Canadian Society for Pharmaceutical Sciences, Workshop: Bioequivalence and Biowaivers for

Immediate and Modified Release Dosage Forms

November 19th 2015, Ottawa

Canadian Society for Pharmaceutical Sciences, Annual meeting

May 2015, Toronto

Subsequent Entry Biologics (SEBs) in Canada: Current State of the Science

December 10th 2014 Ottawa

CSPS Workshop: "Managing Quality in the Product Lifecycle: Pre-and Post-approval Changes”

March 2014 – Toronto

Sindusfarma Workshop

Practical Aspects of QbD Implementation in the Pharmaceutical Industry

March 24-25th 2014 Sao Paulo, Brazil

AAPS Outreach Workshop

March 7-8th 2013 Argentina member of the organizing committee

Statistical Methods in Quality by Design

Workshop USP Sao Paulo, Brazil member of the organizing committee

March 5th 2013

Quality By Design

CSPS Workshop

June 2012 Toronto (chair of the organizing committee)

The new Canadian BCS workshop

June 2012 Toronto (co-chair of the organizing committee)

Biopharmaceutics Classification System

CSPS and Health Canada Workshop

June 2011 Ottawa (member of the organizing committee)

Graduate Course: Introduction to nanotechnology-base drug delivery systems and drug targeting

(Co-moderator and presenter)

USP April 2011 Sao Paulo

The BCS and Dissolution testing

USP / SINDUSFARMA Brazil workshop (member of the organizing committee

April 2011 Sao Paulo

The BCS and Quality by Design

USP / SINDUSFARMA Brazil workshop

April 2011 Sao Paulo (member of the organizing committee)

Performance Standards for Essential Drugs

Co-organizer, Moderator and Presenter

AAPS Meeting New Orleans 2010

Alcohol Dose Dumping

Co-organizer; Round Table

AAPS Meeting, 2009 Los Angeles

Current performance testing for pharmaceuticals and TCM dosage forms

Hands on workshop (co-organizer and presenter)

Shanghai University for Traditional Chinese Medicine October 2008

12th World Congress of Clinical Nutrition

Co-Chair of the organizing committee for Natural Health Products

Edmonton 2007

First Summer School in Nanotechnology

NIPER, India (presenter and evaluator)

May 2007

AAPS Steering Committee for In Vitro Release and Dissolution

Co-moderator for Phase II IVIVC and Dissolution Development

Durham, NC April 2007

Dissolution testing in pharmaceutical and nutraceutical industry

CSPS Workshop organizer

June 2005 Toronto

ICMENS special session: Pharmaceutical NanoEngineering Conference

W. H. Finlay and R Löbenberg (co organizer)

International Conference on MEMS, NANO and Smart Systems (ICMENS) July 2005 Banff

ICMENS special session: Medical and Pharmaceutical NanoEngineering Conference 2004

R Löbenberg, W. H. Finlay and W. Roa (organizers)

Banff 2004

Co organizer of the Canada-Japan Nanopharmaeutical Symposium both are part of the:

International Conference on MEMS, NANO and Smart Systems (ICMENS)

Banff August 2004

Open House October 2003

2 hours sterile compounding techniques lecture

3 hours sterile compounding techniques lab exercises

Open house October 2002 Faculty of Pharmacy University of Alberta

2 hour seminar on contemporary compounding practice

3 hour lab exercises on modern compounding techniques.

Organizer of the symposium:

Nutraceuticals: the importance of herbal medicine.

December 14th 2001, Faculty of Pharmacy, University of Alberta.

Open house October 2001 Faculty of Pharmacy University of Alberta

2 hours seminar and plenary discussion on modern compounding practices

# Presentations

### Invited Presentations

123 The dosage form – GI interface: Mechanistic Key for Bioavailability and Interchangeability,

 World federation of TCM,

 China August 2017

122 Biowiavers a Global overview

 PQRI – FDA conference

 Rocklville March 2017

121 Scientific and regulatory issues for Traditional Medicines

 World Congress of Clinical Nutrition

 Plenary talk, Bangkok, Thailand, December 2016

120 Quality by Design for the Pharmaceutcal Industry - From the Biopharmaceutcs Drug

Classificatons System to Physiological Based Pharmacokinetc Models

Gilead, Edmonton Alberta October 2016

119 Biowaivers – A global overview

 Jiangxi University of TCM

Nanchang China, September 28th 2016

118 Biowaivers – A Global overview

Guangxi University of Chinese Medicine

 Guangxi China Sep 27 2016

117 Scientific and regulatory Issues with Traditional Medicines

 World Federation of TCM, annual conference

 Guilin China September 26

116 Inhalable Nanoparticles – the impact of the route of administration

 College of Pharmacy

The University of Michigan, Ann Arbor, Aug 26th

115 How to answer reviewer’s comments

 December 3rd

University of Sao Paulo

114 Biowaivers, A Global overview

CPS Workshop

Nov 2015, Ottawa

113 IVIVC in a QbD environment

Eatern Analytical Symposium

Sumerset NJ Nov 2015

112 Clinical relevant product specifications

BMS – scientific seminar

New Brunswick NJ

November 2015

111 Computer Simulations in Pharmaceutical Research and Development: an Industrial Perspective

18th Pharmaceutical Congress of São Paulo

 October 11th 2015 Sao Paulo

110 *The Next Generation of the Modern and Innovative Drug Development: The Use of Pharmaceutical Software*

18th Pharmaceutical Congress of São Paulo

 October 11th 2015 Sao Paulo

109 Dissolution Testing in Quality Control in Nanostructured System Development

 18th Pharmaceutical Congress of São Paulo

 October 11th 2015

108 Pulmonary Delivery systems applied to TB drugs

 Simpósio "Nanotecnologia Aplicada a Fármacos para Doenças Negligenciadas"

Oct 8th Sao Paulo

107 How to Establish Therapeutic Equivalence in vitro?

 Federal University of Ceará, Brazil

 June 24th 2015

106 How to Develop Clinically Relevant Dissolution Methods

 CSPS Annual meeting May 2015

105 The BCS and Biowaivers

 Pharmaceutical Science Group

 May 12th 2015 Toronto

104 In vitro / in vivo Correlations in a QbD environment

LabCQ - Laboratório de Controle de Qualidade de Fármacos e Medicamentos

Departamento de Medicamentos - Universidade Federal do Rio de Janeiro

April 2015

103 Performance Testing of Conventional and Novel Dosage Forms

 Workshop for Nonelected Diseases

USP December 2nd 2014, Sao Paulo, Brazil

102 Research Methodologies 2 – Think outside the box

Hunan University of Traditional Chinese Medicine

November 13th, Changsha, China

101 Research Methodologies 1 – How to prepare research publication?

Hunan University of Traditional Chinese Medicine

November 12th, Changsha, China

100 Inhalable Nanoparticles a None-Invasive Route of Administration to Treat Lung Cancer

 World Federation of TCM, annual meeting

 November, 7th Guangzhou, China

99 Performance Testing of Conventional and Novel Dosage Forms

 Research Week

University Sao Paulo, October 22nd 2014, Sao Paulo, Brazil

98 Bioavailability Profile as Predicted by Simulation and Modeling Approaches

Bioequivalence summit

September 15-16th 2014 Boston

97 Pharmacopeial Performance testing

In vivo Predictive Dissoltuion Conference

The University of Michigan, Ann Abor

August 2014

96 QbD in an ICH environment

Sindusfarma, Workshop Sao Paulo, Brazil

March 24-25, 2014

95 Establishing IVIVC in a QbD environment

Sindusfarma, Workshop Sao Paulo, Brazil

March 24-25, 2014

94 DDSolver, introduction into the software application in drug development

Sindusfarma, Workshop Sao Paulo, Brazil

March 24-25, 2014

93 Inhalable Nanoparticles

 Alberta Nanotechnology Symposium

Feb 7th 2014, Edmonton

92 Inhalable Nanoparticles

 PHARMA TRANSPIRE 2014 International conference on Advances in Biopolymer Drug Delivery Systems

Jan 31st 2014, Kurnool-518218 A.P, India

91 Predicting Food-Effects using Dissolution Testing

 AAPS / CSPS Outreach Workshop

 December 2/3 201 Grahams Town South Africa 3

90 Inhalable Nanoparticles: Does the route of Administration matter?

 Central South Hunan University

 31 October, Changsha, China 2013

89 Inhalable Nanoparticles to treat Lung cancer

 Hunan University of TCM

 October 28, Changsha, China 2013

88 What should the Pharmaceutical Scientist know about USP Performance testing?

 World Federation of TCM, annual meeting

 October 26th, Chengdu, China 2013

87 Inhalable Nanoparticles: Does the route of administration matter?

 Beijing University of Chemical Technology

 October 24 2013

86 Bioavailability Profile as Predicted by Simulation and Modeling Approaches

ACCP annual meeting

Bethesda, MD

September 2013

85 Recent Advances in Therapy of Lung Diseases using Nanoparticles

Raimar Löbenberg

International Society for Aerosol Medicine, Nanotoxicology work shop

Chapel Hill, NC, April 6, 2013

84 Bioequivalence in the Americas using the WHO guidelines; an overview.

Raimar Löbenberg

AAPS Workshop, La Plata, Argentina, March 7-8 2013

83 Computer simulations to predict oral drug performance to establish IVIVC

Raimar Löbenberg

AAPS Workshop, La Plata, Argentina, March 7-8 2013

82 USP Performance testing for Natural Health Products

AFDP Functional Ingredients Workshop –

Edmonton, Alberta, February 22, 2013

81 Integrative Approach to Pharmaceuticals and Natural Medicines

Global Heath community lecture series on TCM

February 13th 2013 Roots on White

80 Celebrate Chinese New Year “Scientific Methods to understand TCM”

Scott Library University of Alberta February 11th 2013

79 Inhalable Nanoparticles

Raimar Loebenberg

Ajou Unversity, Korea, Nov 2012

78 The Use of Biowaivers: an overview of generic drugs in the Americas

 Raimar Loebenberg

 Korean Society of Pharmaceutical Sciences and Technology, Nov 2012

77 Performance testing of Traditional Medicines

Raimar Loebenberg

Hunan University of Traditional Chinese Medicine

76 Scientific methods to modernize TCM

Raimar Loebenberg

World Federation of TCM, Nov 2012, Nanchang, China

75 USP Performance testing for Dietary Supplements

Raimar Loebenberg

AAPS annual meeting Chicago, Oct 2012

74 The BCS an Introduction

Raimar Loebenberg

 USP Conference, Sao Paulo, August Brazil 2012

73 BCS and Permeability

Raimar Loebenberg

 USP Conference, Buenos Ares, August Argentina 2012

72 BCS and Solubility

Raimar Loebenberg

 USP Conference, Buenos Ares, August Argentina 2012

71 The BCS an Introduction

Raimar Loebenberg

 USP Conference, Buenos Ares, August Argentina 2012

70 Pulmonary Toxicity of Ploysorbate-80 Coated Inhalable Nanoparticles: In Vitro and In Vivo Study

Raimar Loebenberg, Elmar Prenner

CSC annual meeting Calgary May 2012

69 The Role of Biowaivers in Drug Development

Raimar Loebenberg

CSPS Workshop June 2012 Toronto

68 Bioavailability Profile as Predicted by Simulation Approaches

Raimar Loebenberg

CSPS Workshop June 2012 Toronto

67 Principles of the Biopharmaceutical Drug Classification System in Quality by Design
Raimar Loebenberg

CSPS Workshop June 2012 Toronto

66 Dissolution testing for bio-prediction, waivers of BA/BE and special applications
Speaker : Dr. Raimar Löbenberg,

Grahams Town South Africa 2011

65 Development of in vitro performance testing methods for herbal drugs and nutritional supplements
Dr. Raimar Löbenberg,

Grahams Town South Africa 2011

64 Theory of  Dissolution Testing with regard to the Bio-performance of Drugs
Dr. Raimar Löbenberg,

Grahams Town South Africa 2011

63 Inhalable Nanoparticles

Student’s Union University of Alberta

November 2011

62 The BCS and Biowaivers an Overview

 CSPS/Health Canada workshop

June 2011 Ottawa

61 The Value of Dissolution Testing

Pharmaceutical Science Group annual meeting 2011

May 2011 Toronto

60 Inhalable Effervescent Nanoparticles a new Dosage Form

Introduction to nanotechnology-base drug delivery systems and drug targeting

USP May 2011 Sao Paulo

59 The Biopharmaceutical Drug Classification System and Quality by Design

USP / SINDUSFARMA Brazil workshop

April 2011 Sao Paulo

58 Dissolution testing an industrial perspective

USP / SINDUSFARMA Brazil workshop

April 2011 Sao Paulo

57 In vitro / In Vivo Correlations: Current Knowledge

USP / SINDUSFARMA Brazil workshop

April 2011 Sao Paulo

56 The BCS and Biowaivers

USP / SINDUSFARMA Brazil workshop

April 2011 Sao Paulo

55 Biowaivers

CSPS Webinar

March 2011

54 The Value of Dissolution Testing

Symposium: Performance Standards for Essential Drugs

AAPS Meeting 2010 New Orleans

53 Dissolution Testing and Isothermal Microcalorimetry in QbD

Fudan University

October 2010 Shanghai

52 Applying the Biopharmaceutics Drug Classification System to
Traditional Medicines

Specialty Committee for Pharmaceutical Quality of Traditional Chinese Medicines

WFCMS, Suzhou, China, October 2010

51 New non-invasive treatment options of lung cancer

Luye Pharmaceuticals

Yantai, China, October 2010

50 Performance standards for Generics

Luye Pharmaceuticals

Yantai, China, October 2010

49 Scientific and regulatory aspects of nano-medicines

10th Annual Symposium, CSPS

Vancouver 2010

48 Inhalable nanoparticles to treat lung cancer

8th International Conference and Workshop on Biological Barriers - in vitro Tools, Nanotoxicology, and Nanomedicine Saarbrucken, Germany, March 2010

47 In Vitro Similarity as Surrogate for Therapeutic Equivalence
An investigation on the South American Markets
AAPS Outreach Workshop Grahamstown, South Africa Dec 2009

46 Alcohol Dose Dumping

Symposium

AAPS Meeting Los Angeles 2009

45 Importance of Dissolution testing for Herbal Formulations

Symposium

AAPS Meeting Los Angeles 2009

44 Quality By Design and Traditional Medicines

Shanghai University of Traditional Chinese Medicine

October 2009

43 Inhalable Nanoparticles

Yabao Pharmaceuticals, Xian China

Oct 2009

42 Modern Biopharmaceutics

Yabao Pharmaceuticals, Xian China

Oct 2009

41 Dissolution Testing and Microcalorimetry in Quality by Design

International Conference of the Korean Pharmaceutical Society.

Seoul Oct 2009

40 Nano-Sized Drug Delivery Systems

SINDUSFARMA Brazil (Brazilian Pharmaceutical Association)

Sao Paulo, Brazil, July 2009

39 In vitro and in vivo testing of inhalable nanoparticles

SINDUSFARMA Brazil (Brazilian Pharmaceutical Association)

Sao Paulo, Brazil, July 2009

38 Dynamic dissolution testing

SOTAX user meeting

June 2009 Horsham, PA

37 In vitro/in vivo Correlations for TCM

Shanghai University for Traditional Chinese Medicine

Shanghai, China, October 2008

36 Applying the BCS to Traditional Medicines

World Foundation for Traditional Chinese Medicine

Shanghai, China 2008

35 Dynamic Dissolution Testing

AAPS Short course

Atlanta, November 2008

34 Developing IVIVC using Dynamic Dissolution and Computer Simulations with Gastro Plus™

SAPS/FDA Dissolution workshop

Arlington, April 2008

33 The Biopharmaceutics Drug Classification System and Quality by Design

Raimar Löbenberg, CSPS meeting,

Banff, 2008

32 Nanotechnology Approaches in Drug Delivery

Raimar Löbenberg, Wilson H Roa, Warren H Finlay and Elmar J Prenner

Merck Frosst Research Day November 2007

31 The Value of Dissolution Testing in Pharmaceutical Development

Raimar Löbenberg

Merck Frosst November 2007

30 Regulatory Aspects of Herbal Medicines in Europe and North America

Raimar Löbenberg

World Federation for TCM, Second annual Meeting, Nanjing China, October 2007

29 Challenges for Chinese Manufacturers on the North America Market

Raimar Löbenberg

Hunan Greenland Plant Resource Development Co Ltd

Changsha, China, October 2007

28 Development of Inhalable Nanoparticles

Raimar Löbenberg, Wilson H Roa, Warren H Finlay and Elmar J Prenner

AAAR Conference, Reno NV September 2007

27 Nanoparticles in Pulmonary Drug Delivery

Raimar Löbenberg, Wilson H Roa, Warren H Finlay and Elmar J Prenner

CIMA Labs, Minneapolis, MN, September 2007

26 Inhalable Nanoparticles as drug delivery system

Raimar Löbenberg, Wilson H Roa, Warren H Finlay and Elmar J Prenner

Merck Frosst, (Webinar) August 2007

25 In vitro/in vivo correlations based on the Biopharmaceutics Drug Classification System

Raimar Löbenberg

Vertex Inc. (Webinar), August, 2007

24 In vitro / In vivo Correlations

Raimar Löbenberg

CRS Conference June 2007

Long Beach, CA

23 Nanotechnology Approaches in Drug Delivery

Raimar Löbenberg, Wilson H Roa, Warren H Finlay and Elmar J Prenner

First Summer School, NIPER, India, May 2007

22 Nanotechnology Approaches in Drug Delivery

Raimar Löbenberg, Wilson H Roa, Warren H Finlay and Elmar J Prenner

Annual conference of the Korean Society of Pharmaceutical Sciences and Technology

November 30th 2006 Korea

21 Inhalable Nanoparticles – What do we need to know?

Raimar Löbenberg

Chosun University Korea, November 28th 2006

20 The Biopharmaceutics Drug Classification System: How can it be used to establish in vitro in vivo correlations?
Raimar Löbenberg, Chosun University Korea, November 28th 2006

19 Canada’s *Natural Health Products Regulations*

Raimar Löbenberg

USP Annual Scientific Meeting, September 2006, Denver, CO

18 Scientific Approaches for the Quality Control of Dietary Supplements

Raimar Löbenberg

USP Annual Scientific Meeting, September 2006, Denver, CO

17 Nanoparticles as Drug Delivery Platform

Raimar Löbenberg

Shanghai Institute for Pharmaceutical Technology, 2006

16 Modern Standardization Methods for Traditional Medicines

Raimar Löbenberg

Shanghai Institute for Pharmaceutical Technology, 2006

15 Modern Standardization Methods for Traditional Medicines

Raimar Löbenberg

World Federation of Traditional Medicines: Founding Conference for The Specialty Committee of Traditional Chinese Medicine on Pharmaceutical Products of Traditional Chinese Herbal Drugs

Nanjing, China August 27th 20006

14 Computer Aided Formulation Design What is available and what has to be developed

Raimar Löbenberg

May 25th Merck Frosst Kirkland, QC, 2006

13 Effusivity and isothermal microcalorimetry in product development

Raimar Löbenberg

Patheon Inc. Mississauga Seminar series February 21st 2006

12 Nanoparticles as Drug Delivery Platform

Raimar Löbenberg

Patheon Inc. Mississauga, Seminar series February 21st 2006

11 Dissolution Testing and Computer simulations to Predict Oral Absorption

Raimar Löbenberg

Patheon Inc. Mississauga Seminar series February 21st 2006

10 Inhalable Nanoparticles as drug delivery platform

Raimar Löbenberg

Department of Biochemistry, University of Calgary, July 2005

9 The Biopharmaceutics Drug Classification System applied to Natural Health Products

Raimar Löbenberg

CSPS Workshop on Dissolution technologies, June 2005

8 Formulation development and performance tests for Natural Heath Products, what can we learn form the pharmaceutical industry?

Raimar Löbenberg

NHP Conference, February 2005 Vancouver

7 Medical Marijuana Formulations and the FDA Drug Approval Process

Raimar Löbenberg

Cannasat Inc, Toronto December 2004

6 Assessing Bioequivalence using the BCS

Raimar Löbenberg

Global IQ, Edmonton December 2004

5 Modern Pharmaceutics: *Drug delivery strategies in vitro models and formulation aspects*

Raimar Löbenberg

Atachem Pharma, November 2004

4 Modern Biopharmaceutics: *In vitro* and *in silico* tools to establish *in vitro/in vivo* correlations

Raimar Löbenberg

Merck Frosst Canada April 2004

3 Smart Materials: Applications of Nanotechnology in Drug Delivery and Drug Targeting

Raimar Löbenberg

MEMS, NANO and Smart Systems (ICMENS 2003) in July 2003 in Banff

2 Biopharmaceutical Classification of Herbal Extracts

Raimar Löbenberg

University of Florida, Department of Pharmaceutical Sciences,August 2002

1 Biopharmaceutics Drug Classification System –Model for Nutraceuticals?

Raimar Löbenberg

Symposium: Nutraceuticals: the importance of herbal medicine.

December 14th 2001, Faculty of Pharmacy, University of Alberta.

### Oral Presentations

Inhalable Nanopaticles the roule of macrophages

USP Faculty of Chemistry

Oct 2017

The dosage form – GI interface: Mechanistic Key for Bioavailability and Interchangeability

UAlberta, April 2017

Pharmacy in the 21st Century

Jiangxi University of TCM

Nanchang China Sep 28th 2016

How to write a scientific publication?

University of Sao Paulo

August 2nd 2016

Inhalable Nanoparticles

University of Sao Paulo

August 3rd 2016

How to answer Reviewer’s Questions

University of Sao Paulo

December 2nd 2015

How to write a Scientific Paper

University of Sao Paulo

June 19th 2015

Pharmacy in the 21st Century

Hunan University of Traditional Chinese Medicine

November 11th Changsha, China

Modernizing Traditional Chinese Medicine

Northern Alberta Health Libraries Association

May 2nd 2014, Northern Alberta Library Association

25 Why Research?

Undergraduate Research Initiative, University of Alberta

Jan 2014

Johannes Kraemer and Raimar Löbenberg

Interchangeability of Multisource Products - How to use In vitro - Methodology

AAPS Workshop, La Plata, Argentina, March 7-8 2013

Raimar Löbenberg

Nanotechnology in drug delivery
Canadian University Woman Association

April 2012

Raimar Löbenberg

Nano-sized drug delivery systems
CCI-Research Group Seminar December 2009

Raimar Löbenberg

The Future of Biowaivers
Faculty Seminar May 2009

20 Raimar Löbenberg, Wilson H Roa, Warren H Finlay and Elmar J Prenner

Blowing-up Lung Cancer

Nano-Alberta meeting November 2008

R. Löbenberg

Issues with the Quality of Dietary Supplements

CARE Network June 20th 2006 University of Alberta

Raimar Löbenberg

Nanoparticles as Drug Delivery Platform

NINT, US Army workshop, March 2006

R. Löbenberg

The Biopharmaceutical Drug Classification System:
Evaluation of the Pharmaceutical Quality of Natural Health Products

Faculty seminar Oct. 2003 University of Alberta

R. Löbenberg

Faculty seminar: Teaching Pharmaceutics

Faculty seminar Apr. 2002 University of Alberta

15 R. Löbenberg, J.S. Kim, J. Crison, G.L. Amidon

Controlled Release of Metoprolol: Influence of Motility and Food

CRS, annual meeting 2000 Paris

Gastrointestinal Drug Absorption

9 September 1999

University of Alberta, Edmonton Canada

*In vitro* and *in vivo* testing of class I and II drugs

17 May 1999 University of Kiel, Germany

*In vitro*/*in vivo* correlations of class I and II drugs

6 May 1999 St. Johns University, NY

Drug delivery and drug targeting

20 April 1999, College of Pharmacy, University of Utah

10 Colloidal drug carriers

6 March 1999, Health Science Center, Kuwait University

Oral drug absorption

5 October 1998, Midwestern University, Chicago IL

Set-up and conditions for permeability and motility studies

14 June 1998 ULAM, The University of Michigan, MI

Nanoparticles as carriers for AZT

5 June 1998 Rutgers University, NJ

Visualizing of AZT-nanoparticles using radioluminography

Makrotage 23.4.1997, Leica Instruments, Bensheim

5 Macrophage targeting of AZT using nanoparticles in vivo

4th meeting of the Frankfurt AIDS Research Association 20.11.1996

Colloidal drug carriers

Open house October 2003 Faculty of Pharmacy University of Alberta

5 hour sterile working exercises with technique validation

Open house October 2002 Faculty of Pharmacy University of Alberta

3 hour hands on laboratory exercise on contemporary compounding of different dosage forms

Autoradiography and Radioluminography

2nd Meeting of the CRS/Local Chapter Germany 25 April 1997, Frankfurt

1 ZL Work Shop on Dissolution testing

1997 Bad Soden a. T.