

Curriculum Vitae

William C. Zamboni, Pharm.D., Ph.D.

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 Experimental Therapeutics
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Date of Birth: May 17, 1969

EDUCATION

2001 - 2005 Doctor of Philosophy, Clinical Pharmaceutical Scientist Program, Dept. of
 Pharmaceutical Sciences, University of Pittsburgh School of Pharmacy,
 Pittsburgh, PA. Dissertation was entitled "Preclinical and Clinical Pharmacologic
 Studies of 9-nitrocamptothecin and its 9-aminocamptothecin metabolite".

1995 -1997 Research Fellowship, Department of Pharmaceutical Sciences, St. Jude
 Children's Research Hospital, Memphis, TN.

1994 - 1995 Oncology Pharmacy Residency, Warren G. Magnuson Clinical Center, National
 Institutes of Health, Bethesda, MD.

1992 - 1994 Doctor of Pharmacy, University of Pittsburgh School of Pharmacy, Pittsburgh,
 PA.

1988 - 1992 Bachelor of Science in Pharmacy, University of Pittsburgh School of
 Pharmacy, Pittsburgh, PA.

APPOINTMENTS AND POSITIONS

ACADEMIC:

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- 2008 – Present Associate Professor, Division of Pharmacotherapy and Experimental Therapeutics, UNC Eshelman School of Pharmacy, University of North Carolina, Chapel Hill, NC.
- 2014 – Present Research Associate Professor, Department of Pharmacology, UNC School of Medicine, University of North Carolina, Chapel Hill, NC.
- 2008 – Present Director, Translational Oncology and Nanoparticle Drug Development Initiative (TOND₂I) Lab, UNC Eshelman School of Pharmacy and UNC Lineberger Comprehensive Cancer Center, University of North Carolina, Chapel Hill, NC.
- 2009 – 2015 Co-Director, Mouse Phase I Unit, UNC Lineberger Comprehensive Cancer Center, Chapel Hill, NC.
- 2009 – Present Co-Director, Oncology Research and Drug Development Fellowship Program, UNC Eshelman School of Pharmacy, University of North Carolina, Chapel Hill, NC.
- 2010 – Present Director, UNC Lineberger Comprehensive Center, Analytical Chemistry and Pharmacology Core Lab
- 2014 – Present Co-Faculty Director, Nanomedicines Characterizations Core, UNC Eshelman School of Pharmacy, University of North Carolina, Chapel Hill, NC.
- 2008 – Present Member, Molecular Therapeutics Program, UNC Lineberger Comprehensive Cancer Center, University of North Carolina, Chapel Hill, NC.
- 2008 – Present Member, Center for Pharmacogenomics and Individualized Therapy, University of North Carolina, Chapel Hill, NC.
- 2008 – Present Member, Carolina Center of Cancer Nanotechnology Excellence, University of North Carolina, Chapel Hill, NC.
- 2012 – Present Member, Carolina Institute of Nanomedicine, University of North Carolina, Chapel Hill, NC.
- 2014 – Present Member, Center for Nanotechnology in Drug Delivery, UNC Eshelman School of Pharmacy, University of North Carolina, Chapel Hill, NC.
- 2008 – 2014 Director, UNC GLP Bioanalytical Facility, UNC Eshelman School of Pharmacy and UNC Lineberger Comprehensive Cancer Center, University of North Carolina, Chapel Hill, NC.
- 2009 – 2012 Co-Director, NC Biomedical Innovation Network, Research Triangle Park, NC.
- 2008 – 2010 Member, Center for Experimental Therapeutics, University of North Carolina, Chapel Hill, NC.

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- 2001 – 2013 Adjunct Clinical Instructor, Department of Pharmacy Practice, School of Pharmacy, Duquesne University, Pittsburgh, PA.
- 1998 - 2008 Assistant Member, Molecular Therapeutics Drug Discovery Program, University of Pittsburgh Cancer Institute, University of Pittsburgh Health System, Pittsburgh, PA.
- 1998 - 2008 Assistant Professor, Department of Pharmaceutical Sciences, School of Pharmacy, University of Pittsburgh, Pittsburgh, PA.
- 1998 - 2008 Assistant Professor, Division of Hematology-Oncology, Department of Medicine, School of Medicine, University of Pittsburgh, Pittsburgh, PA.
- 2007 - 2008 Assistant Professor, Department of Obstetrics, Gynecology, and Reproductive Sciences, School of Medicine, University of Pittsburgh, Pittsburgh, PA.
- 1997 - 1998 Assistant Professor, Department of Developmental Therapeutics, Greenebaum Cancer Center, University of Maryland, Baltimore, MD.
- 1997 - 1998 Clinical Assistant Professor, Department of Pharmacy Practice and Science, School of Pharmacy, University of Maryland, Baltimore, MD.

NON-ACADEMIC:

- 2006 - 2008 Member, Petersen Institute of NanoScience and Engineering, University of Pittsburgh, Pittsburgh, PA.
- 1999 – 2006 Staff Pharmacist, Children's Hospital of Pittsburgh, Pittsburgh, PA.
- 1998 - 1998 Staff Pharmacist, Pharmacy Department., NIH, Bethesda, MD.
- 1993 - 1994 Staff Pharmacist, Veteran's Affairs Medical Center, Pittsburgh, PA.
- 1992 - 1994 Staff Pharmacist, PRS Consultants, Latrobe, PA.
- 1992 - 1994 Staff Pharmacist, Children's Hospital of Pittsburgh, Pittsburgh, PA.
- 1992 - 1992 Staff Pharmacist, Rinehart's Pharmacy, Nanty Glo, PA.

LICENSURE AND CERTIFICATION

- 1992 - Present Pennsylvania #RP039278L

PATENTS

1. Predictors of the Pharmacokinetic and Pharmacodynamic Disposition of Carrier-Mediated Agents. By William Zamboni and Whitney Caron. Patent Application No. 61/325,698 was filed on April 19, 2011. US National Phase Patent Application Serial No. 13/642,299 was filed on Jan 17, 2013.
2. System and Method for Hazardous Drug Surface Cleaning. By William Zamboni, Tom O'Neill, and Stephen Eckel. Patent Application No. 61/788,426 was filed on March 15, 2013.
3. Microbeam Radiation and Its Use to Enhance the Delivery of Drugs and Nanoparticles. By William Zamboni, Xiao Sha Chang, and Andrew Madden. Patent Application No. 62/153,115 was files on April 28, 2015.

HONORS AND AWARDS

1991	Rho Chi Pharmacy Honor Society
1991	University of Pittsburgh Honors Convocation Honoree
1992	University of Pittsburgh Honors Convocation Honoree
1992	Eli Lilly Achievement Award for Ethics, Scholarship and Leadership
1992	University of Pittsburgh University Scholar
1992	Magna Cum Laude, University of Pittsburgh School of Pharmacy
1992	University of Pittsburgh Student Leadership Honor Society
1992	Emma W. Locke Memorial Award Nominee
1992	Omicron Delta Kappa National Leadership Honor Society
1993	University of Pittsburgh Alumni Association Graduate Scholarship
1994	Magna Cum Laude, Doctor of Pharmacy Program, University of Pittsburgh
1996	American College of Clinical Oncology Rhone-Poulenc Rorer Oncology Fellowship entitled "Cerebrospinal Fluid (CSF) Disposition of Topoisomerase I Inhibitors in a Nonhuman Primate Model"
1996	American Society of Clinical Oncology 1996 Merit Award for the presentation entitled: "Pharmacokinetics (PK) of Topotecan (TPT) in Pediatric Patients with Normal and Altered Renal Function".
1997	American College of Clinical Pharmacy Rhone-Poulenc Rorer 1996-97 Oncology Fellowship Research Project entitled: "Cerebrospinal Fluid (CSF) Disposition of Topoisomerase I Inhibitors in the Nonhuman Primate Model"
1997	American Society of Clinical Oncology 1997 Merit Award for the presentation entitled: "Pharmacokinetically Guided Dose Adjustment Reduces Variability in Topotecan (TPT) Systemic Exposure in Children with Solid Tumors".
1999	Phi Delta Chi Distinguished Alumni Award
1999	American College of Clinical Pharmacy Rhone-Poulenc Rorer 1999 Oncology Research Award entitled "Disposition of Liposomal-Cisplatin (SPI-77) and Cisplatin in Solid Tumors"
2001	American College of Clinical Oncology Aventis Oncology Fellowship entitled "Evaluation of the Tumor Disposition of Cisplatin using Microdialysis in Patients with Melanoma"
2015	Triangle Business Journal BDO Life Sciences Award – Outstanding Biotech Company (ChemoGLO, LLC) from a Research University

MEMBERSHIPS IN PROFESSIONAL AND SCIENTIFIC SOCIETIES

1989 - 1992	Phi Delta Chi Fraternity
1991 - 1992	Rho Chi Pharmacy Honor Society, Secretary-Treasure
1992 - Present	University of Pittsburgh Alumni Association
1993 - 1995	American Society of Health-Related Pharmacy
1994 - 1998	University of Pittsburgh School of Pharmacy Alumni Association,
1994 - 2001	American College of Clinical Pharmacy, Associate Member
1995 - 1997	University of Pittsburgh Memphis Area Pitt Organization, Alumni Leader
1997 - Present	American Association of Cancer Research, Active Member
1997 - Present	University of Pittsburgh Alumni Association, Board of Directors
1997 - 2001	University of Pittsburgh Alumni Association, Pitt Club Representative
1998 - Present	American Society of Clinical Oncology, Active Member
1998 - Present	American Association for Cancer Research, Active Member
2000 - 2008	University of Pittsburgh Senate Athletics Committee, Co-Chair
2001 - 2008	University of Pittsburgh Athletics Compliance Committee
2001 - 2008	University of Pittsburgh Athletics Advisory Committee on Admission of Student Athletes
2001 - 2003	University of Pittsburgh Alumni Association, Regional Director
2001 - Present	American College of Clinical Pharmacy, Full Member
2003 - Present	University of Pittsburgh Alumni Association Board of Directors, Director-At-Large & Nominations Committee
2003 - 2008	University of Pittsburgh Board of Trustees, Athletics Committee, Faculty Representative
2004 - 2007	Pennsylvania Cancer Control Consortium, Research Committee
2004 - Present	American Society of Clinical Oncology, Development Therapeutics & Cytotoxic Chemotherapy, Member
2005	American Society of Clinical Oncology 2005 Annual Meeting, Development Therapeutics & Cytotoxic Chemotherapy, Co-Chair of Poster Discussion Section
2005 – Present	Eastern Cooperative Oncology Group, Developmental Therapeutics Committee, Member
2005 – Present	Gynecologic Oncology Group, Phase I and Pharmacology Committees, Member
2006	American Society of Clinical Oncology 2006 Annual Meeting, Development Therapeutics & Cytotoxic Chemotherapy, Co-Chair of Oral Discussion Session
2008 – Present	National Cancer Institute Development Therapeutics Study Section
2009 – Present	National Cancer Institute Nanotech Study Section
2009	Drug Information Association Regulatory Affairs: The IND Phase
2009 – 2011	University of Pittsburgh Alumni Association Board of Directors, Senior Advisor
2010 – 2015	NC Center of Innovation for Nanobiotechnology (COIN), Scientific Advisory Board
2011 – Present	NCI SBIR Special Emphasis Panel on Development of Cancer Therapeutics, Imaging Technologies, Interventional Devices, Diagnostics and Prognostics Toward Commercialization (R44)

TEACHING RESPONSIBILITIES

University of Pittsburgh School of Pharmacy: 1999 to 2008

University of North Carolina School of Pharmacy: 2008 to present

Doctoral Student Major Advisor or Committee Chair

2008 – 2010	Huali Wu, UNC Eshelman School of Pharmacy <ul style="list-style-type: none">- Primary Advisor- Dissertation entitled “Clinical Pharmacokinetics and Pharmacodynamics of Anticancer Agents Delivered via PEGylated Liposomes
2008 – 2010	Venita Gresham, UNC Eshelman School of Pharmacy <ul style="list-style-type: none">- Committee Chair
2009 – 2013	Whitney Caron, UNC Eshelman School of Pharmacy <ul style="list-style-type: none">- Primary Advisor- American Foundation for Pharmaceutical Education (AFPE) Pre-Doctoral Fellowship in Pharmaceutical Sciences 2011- 2013 St. Jude National Graduate Student Symposium (NGSS)
2009 – 2014	Gina Song, UNC Eshelman School of Pharmacy <ul style="list-style-type: none">- Primary Advisor- Royster Society of Fellows Fellowship- Globalization of Pharmaceutics Education Network (GPEN) 2012 Sponsored Graduate Student

Thesis/Dissertation Committee Member

2000 – 2002	Khalid Alkharfy, PhD Committee, University of Pittsburgh
2004 – 2007	Wesley Sivak, PhD Committee, University of Pittsburgh
2008 – 2012	Lamar Mair, PhD Committee, UNC Applied Sciences and Engineering
2010 – 2013	Dongyun Liu, PhD Committee, UNC Eshelman School of Pharmacy
2010 – 2011	Timothy Merkel, PhD Committee, UNC Chemistry Department
2011 – 2012	Kai Chen, PhD Committee, UNC Chemistry Department
2011 – 2013	Jessica Sorrentino, PhD Committee, UNC Pharmacology Department
2011 – 2013	Yong Zhang, PhD Committee, UNC Eshelman School of Pharmacy
2012 – 2013	Kevin Chu, PhD Committee, UNC Eshelman School of Pharmacy
2012 – 2014	Tammy Shen, PhD Committee, UNC Eshelman School of Pharmacy
2012 – 2014	James Huckle, PhD Committee, UNC Eshelman School of Pharmacy
2014 – 2015	Katherine Moga, PhD Committee, UNC Eshelman School of Pharmacy
2014 – Present	Hao Cai, PhD Committee, UNC Eshelman School of Pharmacy
2014 – Present	Matthew Haynes, PhD Committee, UNC Eshelman School of Pharmacy
2015 – Present	Xiaomeng Wan, PhD Committee, UNC Eshelman School of Pharmacy
2016 – Present	Christine Lee, PhD Committee, UNC Eshelman School of Pharmacy

Fellowship Advisor

2000 – 2003	Laura Jung, Hematology-Oncology Research Fellow, University of Pittsburgh Cancer Institute
2008 – 2010	Irene La, Hematology-Oncology Research Fellow, UNC Eshelman School of Pharmacy

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2008 – 2009	- 2009 Rho Chi Clinical Research Scholarship Awardee Angela Yu, Drug Dev. Fellow, UNC Eshelman School of Pharmacy
2009 – 2011	Mark Walsh, Hematology-Oncology Research Fellow, UNC Eshelman School of Pharmacy - 2011 ASCO Oncology Trainee Award for study entitled “Technetium-99m sulfur colloid (TSC) as a phenotypic probe for the pharmacokinetics (PK) and pharmacodynamics (PD) of PEGylated liposomal doxorubicin (PLD) in patients (pts) with recurrent epithelial ovarian cancer (EOC)”
2009 – 2010	Austin Combest, Drug Dev. Fellow UNC Eshelman School of Pharmacy - 2010 AACR Sanofi-Aventis Scholar-in-Training Award for study entitled “Plasma and Tumor Pharmacokinetics (PK) of Carboplatin in Genetically Engineered Mouse Models of Melanoma (GEMMs), Murine Melanoma, and in Patients with Cutaneous Melanoma” - 2010 ASCO Cancer Foundation Merit Award for study entitled “Pharmacokinetics (PK) of oxaliplatin (OX) after Intravenous (IV) and intraperitoneal (IP) administration in patients with gynecological malignancies
2010 – 2011	Jeff Huang, Drug Development Fellow UNC Eshelman School of Pharmacy
2011 – 2012	Summit Rawal, Hematology-Oncology Research Fellow, UNC Eshelman School of Pharmacy
2011 – 2012	Parag Kumar, Drug Development Fellow UNC Eshelman School of Pharmacy
2011 – 2014	Linsey Phillips, UNC SPIRE Postdoc Program funded by NIGMS
2012 – 2015	Andrew Madden, Hematology-Oncology Research Fellow, UNC Eshelman School of Pharmacy
2014 – Present	Andrew Lucas, Hematology-Oncology Research Fellow, UNC Eshelman School of Pharmacy

UNC ESOP Research Honor Students

2008 – 2010	Lakia Scoggins, Research Honors Student, UNC School of Pharmacy - Honors project entitled “Evaluating the effects of bortezomib on the pharmacokinetics (PK) of pegylated liposomal doxorubicin”
2009 – 2011	Katie Parise, Research Honors Student, UNC School of Pharmacy - Honors project entitled “Comparison of toxicity and study design issues of nanoparticle and small molecule anticancer agents in preclinical models and phase I clinical trials.”
2010 – 2012	Anthony Chhay, Research Honors Student, UNC School of Pharmacy - Honors project entitled “Development of methods to count the number of nanoparticles in a dose and how this affects the PK and PD of the nanoparticle”
2010 – 2012	Ryan Schell, Research Honors Student, UNC School of Pharmacy - Honors project entitled “Evaluation of inter-patient pharmacokinetic variability of liposomal and non-liposomal anticancer agents”
2010 – 2012	Hugh Giovinazzo, Research Honors Student, UNC School of Pharmacy - Honors project entitled “Technetium-99m sulfur colloid as a phenotypic probe for the pharmacokinetics and pharmacodynamics of PEGylated liposomal doxorubicin (PLD)”
2010 – 2013	Shane Moore, Research Honors Student, UNC School of Pharmacy

- 2010 – 2014 Andrew Lucas, Research Honors Student, UNC School of Pharmacy
 - Honors project entitled “Profiling the mononuclear phagocyte system (MPS) in solid tumors and the effects on nanoparticle tumor delivery”
- 2011 – 2014 Amanda Keeler, Research Honors Student, UNC School of Pharmacy
 - Honors project entitled “Sample processing and analytical methods to measure doxorubicin binding to DNA in biological samples”
- 2011 – 2014 Taylor White, Research Honors Student, UNC School of Pharmacy
 - Honors project entitled “Pharmacokinetic, biomarker and pharmacodynamic studies of nanoparticle formulations of platinum analogues in the treatment of solid tumors and brain tumors”
- 2012 – 2014 William McAdoo, Research Honors Students, UNC School of Pharmacy
 - Honors project entitled “Profiling mononuclear phagocyte system in tumors: effects on clearance and tumor delivery of nanoparticle agents”
- 2013 – Present Leah Herity, Research Honors Student, UNC School of Pharmacy
 - Honors project entitled “Modifying mononuclear phagocyte system in tumor to enhance the delivery of nanoparticle agents”
- 2013 – Present Leah Herity, Research Honors Student, UNC School of Pharmacy
 - Honors project entitled “A High Throughput Screening Platform to Evaluate the Interactions between Nanoparticle and Non-Nanoparticle Agents and the Mononuclear Phagocyte System (MPS) in Humans and Animal Models”
- 2013 – Present Brittney Roberts, Research Honors Student, UNC School of Pharmacy
 - Honors project entitled “Evaluation of Mediators of Mononuclear Phagocyte System (MPS) Function and Nanoparticle Pharmacology in Obese and Non-Obese Patients with Ovarian and Endometrial Cancer enrolled on the UNC Cancer Survivorship Cohort (CSC)”
- 2014 – Present Rachel Tyson, Research Honors Student, UNC School of Pharmacy
- 2014 – Present Jeffery Roth, Research Honors Student, UNC School of Pharmacy

Research Interns

- 2008 – 2009 Maureen Bottino, Research Intern, UNC School of Pharmacy
- 2008 – 2009 Elizabeth Neuffer, Research Intern, UNC School of Pharmacy
- 2008 – 2009 Xuefang Bai, Research Intern, UNC School of Pharmacy
- 2008 – 2011 Vinh Hoang, Research Intern, UNC School of Pharmacy
- 2009 – 2010 Ming Wu, Research Intern, UNC School of Pharmacy
- 2009 – 2010 Hiep C. Tu, Research Intern, UNC School of Pharmacy
- 2009 – 2010 Jeremy Sen, Research Intern, UNC School of Pharmacy
- 2009 – 2012 Katie Sandison, Research Intern, UNC School of Pharmacy
- 2010 – 2011 Elaine Yee-Ling, Research Intern, UNC School of Pharmacy
- 2010 – 2011 Whitney Davis, Research Intern, UNC School of Pharmacy
- 2011 Benjamin Guastrennec, Res Intern, University of Montpellier, France
 - Honors project entitled “Study of the Relationship between MPS Activity and the PK Disposition of Nanoparticle Formulations of Cisplatin in Tumors”
- 2011 Brian Sidone, Res Intern, Duquesne University School of Pharmacy, Pittsburgh
- 2011 – 2013 Jennifer Coleman, Research Intern, UNC School of Pharmacy
- 2011 Lavanya Rao, Research Intern, NC State University
- 2012 – 2014 Candice Sherwood, Research Intern, UNC School of Pharmacy
- 2013 Fatimah Bori, UNC- North Carolina Central University Partners in Basic Cancer Research Intern Program

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2013 – 2014	Bernard Roles, Research Intern, NC State University
2014 – Present	Zachary Kornblum, UNC Eshelman School of Pharmacy
2014 – Present	Sarah Montgomery, Northwood High School
2015 – Present	Joseph Piscitelli, UNC
2015 – Present	Leah Osaе, UNC Eshelman School of Pharmacy
2015 – Present	Amy Lin, UNC Eshelman School of Pharmacy

Graduate Courses

University of Pittsburgh

2001 - 2008	Phase I and Phase II Study Designs in Oncology, Clinical Scientist-Ph.D. Program: School of Pharmacy, University of Pittsburgh, Pittsburgh, PA.
2004 - 2008	Drug Development of Anticancer Agents, Elective Independent Study for P3 Students, School of Pharmacy, University of Pittsburgh

University of North Carolina

Course Coordinator:

2013 – Present	Co-Course Coordinator, Graduate Course in Science and Methods in Drug Development (DPET 841), UNC Eshelman School of Pharmacy
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Lectures:

2009 – 2010	Translational Development of Anticancer Agents, Lunch and Learn Lecture Series in the UNC Graduate Training Program in Translational Medicine, UNC School of Medicine
2009 – Present	Pharmacokinetics and Pharmacodynamics of Nanoparticle Agents, Nanomedicine Graduate Course (MOPH 738): UNC Eshelman School of Pharmacy, Chapel Hill, NC
2012 – Present	Confirmatory Animal Pharmacology Studies, Graduate Course in Science and Methods in Drug Development (DPET 841), UNC Eshelman School of Pharmacy
2013 – Present	Interspecies Scaling, Graduate Course in Pharmacokinetics (DPET 855), UNC Eshelman School of Pharmacy
2014 – Present	Non-clinical Safety Assessment of Drugs, Graduate Course in Science and Methods in Drug Development (DPET 841), UNC Eshelman School of Pharmacy
2015 – Present	Pharmacokinetics and Pharmacodynamics of Nanoparticles and Carrier-Mediated Agents in Preclinical Animal Models and in Patients, T32 Clinical Pharmacology Forum, UNC Duke Collaborative Clinical Pharmacology Postdoctoral NIH T32 Training Program.

Professional Courses

University of Tennessee

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1996 - 1997 Pharmacotherapeutics of Cancer Therapy, Department of Clinical Pharmacy, University of Tennessee College of Pharmacy, Memphis, TN.

University of Maryland

1998 – 1999 Clinical Pharmacokinetics of Chemotherapeutic Agents, Clinical Pharmacokinetics (PHMY-562), University of Maryland School of Pharmacy, Baltimore, MD.

University of Pittsburgh

1999 - 2008 Pharmacokinetics of Anticancer Agents, Pharmacotherapy: Oncology and Hematology (Pharm 5315): School of Pharmacy, University of Pittsburgh, Pittsburgh, PA.

1999 - 2008 Drug Development in Oncology, Pharmacotherapy: Oncology and Hematology (Pharm 5315): School of Pharmacy, University of Pittsburgh, Pittsburgh, PA.

1999 - 2002 Ovarian Cancer, Pharmacotherapy: Oncology and Hematology (Pharm 5315): School of Pharmacy, University of Pittsburgh, Pittsburgh, PA.

1999 - 2002 Comprehensive Chemotherapy Course: Plant Alkaloids: Taxanes, Vinca Alkaloids, and Epipodophyllotoxins. University of Pittsburgh Cancer Institute, Pittsburgh, PA.

2000 – 2001 Co-Course Coordinator, Principles of Clinical Pharmacology presented by National Institutes of Health, University of Pittsburgh, Pittsburgh, PA.

Duquesne University

2006 – 2008 Co-Course Coordinator, Pharmacotherapy: Hematology/Oncology, Duquesne University School of Pharmacy.

University of North Carolina

Course Coordinator:

2010 – 2012 Co-Course Coordinator, Advanced Hematology and Oncology (DPET 812), UNC Eshelman School of Pharmacy

2014 Coordinator, Pharmacotherapy: Hematology and Oncology (PHCY 447), UNC Eshelman School of Pharmacy

2015 - Present Co-Coordinator, Pharmacotherapy: Hematology and Oncology (PHCY 447), UNC Eshelman School of Pharmacy

Lectures:

2010 – Present Phases of Drug Development in Oncology, Advanced Hematology and Oncology (DPET 812), UNC Eshelman School of Pharmacy

2010 – Present Gynecologic Cancers, Pharmacotherapy: Hematology and Oncology (PHCY 447), UNC Eshelman School of Pharmacy

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2011 – 2013	Prostate Cancer, Pharmacotherapy: Hematology and Oncology (PHCY 447), UNC Eshelman School of Pharmacy
2011 – Present	Hematology and Oncology Recitation, Anemia Case, Hematology and Oncology (PHCY 447), UNC Eshelman School of Pharmacy
2011 – 2013	Hematology and Oncology Recitation, Breast Cancer Case, Hematology and Oncology (PHCY 447), UNC Eshelman School of Pharmacy
2013 – Present	Steps in the Preclinical and Clinical Development of Drugs, UNC Eshelman School of Pharmacy Honors Program
2014	Oncologic Emergencies, Recitation Case Review, Hematology and Oncology (PHCY 447), UNC Eshelman School of Pharmacy
2016 – Present	Foundations in Clinical Pharmacology (PHCY 510), UNC Eshelman School of Pharmacy, Strategies to Address the Narrow Therapeutic Index of Anticancer Agents
2016 – Present	Introduction to Pharmacy Innovation and Problem Solving (PHCY 520), Development of Novel and Entrepreneurial Activities Related to Nanoparticle Pharmacology and Hazardous Drug Contamination

Training Courses

University of Pittsburgh

2000 - 2001 Co-Course Coordinator, Principles of Clinical Pharmacology presented by National Institutes of Health.

University of North Carolina

2011 – 2014 Course Coordinator and Developer, Steps and Methodology for the Translational Development of Nanoparticle Agents, Carolina Center for Cancer Nanotechnology Excellence.

2016 Preclinical Characterization of ADME, PK, PD and toxicology of Nanoformulations; Use of nano agents in non-cancer diseases. Carolina Nanoformulations Workshop, UNC Eshelman School of Pharmacy. 2016.

2016 Factors affecting nano delivery to tumors in animal models and patients; Clinical PK and PD (efficacy and toxicity) aspects of nano agents. Carolina Nanoformulations Workshop, UNC Eshelman School of Pharmacy. 2016.

Course Development

University of Pittsburgh

2000 - 2001 Co-Course Coordinator, Principles of Clinical Pharmacology presented by National Institutes of Health, University of Pittsburgh.

Duquesne University

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2006 - 2008 Co-Course Coordinator, Pharmacotherapy: Hematology/Oncology, Duquesne University School of Pharmacy.

University of North Carolina

2010 – 2012 Co-Course Coordinator, Advanced Hematology and Oncology (DPET 812) UNC Eshelman School of Pharmacy

2011 – 2014 Course Coordinator, Steps and Methodology for the Translational Development of Nanoparticle Agents, Carolina Center for Cancer Nanotechnology Excellence.

Training Program/Residency/Fellowship Development and Involvement

University of Maryland

1998 - 1999 Program in Oncology Pharmacy Research, Greenebaum Cancer Center and School of Pharmacy, Co-Director

University of Pittsburgh

2000 – 2008 Co-Director of the Fellowship Program in Drug Development of Anticancer Agents in Program of Molecular Therapeutics/ Drug Discovery at University of Pittsburgh Cancer Institute.

University of North Carolina

2008 – Present Co-Director of the Fellowship Program in Drug Development in Hematology and Oncology, UNC Eshelman School of Pharmacy, University of North Carolina.

2015 – Present Preceptor, Eshelman Institute of Innovation (Eii) Young Innovation Program (YIP), UNC Eshelman School of Pharmacy.

Professional Appointments:

1999 - 2006 Staff Pharmacist, Children's Hospital of Pittsburgh, Pittsburgh, PA.

1998 - 1998 Staff Pharmacist, Pharmacy Department, NIH, Bethesda, MD.

1993 - 1994 Staff Pharmacist, Veteran's Affairs Medical Center, Pittsburgh, PA.

1992 - 1994 Staff Pharmacist, PRS Consultants, Latrobe, PA.

1992 - 1994 Staff Pharmacist, Children's Hospital of Pittsburgh, Pittsburgh, PA.

1992 - 1992 Staff Pharmacist, Rinehart's Pharmacy, Nanty Glo, PA.

SERVICE

NIH STUDY SECTION PARTICIPATION

2008 – Present National Cancer Institute Development Therapeutics Study Section

2009 – Present National Cancer Institute Nanotech Study Section

2010 – Present NCI SBIR Special Emphasis Panel on Development of Cancer Therapeutics, Imaging Technologies, Interventional Devices, Diagnostics and Prognostics Toward Commercialization (R44)

ADVISORY COMMITTEE APPOINTMENTS

1998 - 1999	SmithKline Beecham Regional Oncology Advisory Board
1998 - 2000	Optimized Analysis in Kinetics Consulting
1999 - Present	Supergen Advisory Board
2001 - 2005	Amgen Inc., Oncology Advisory Board
2002 - 2008	ALZA Inc., Oral Delivery Advisory Board
2002 - 2008	ALZA Inc., CDK602 Advisory Board
2004 - 2008	University Pharmacotherapy Associates
2006 - 2007	Neopharm, Inc., Liposomal Advisory Board
2008 – 2012	Yakult Pharmaceutical Advisory Board
2009	Environmentally Responsible Development of Nanotechnology NC Summit
2009	NCI Best Practices in Cancer Nanotechnology Workshop
2009	NCI Alliance for Nanotechnology in Cancer, Pharmacology Committee
2011	Controlled Release Society Educational Workshop entitled “Nanoparticle and Liposomal Regulatory and Pharmacology Issues”, Co-Chair
2010	NC Biomedical Innovation Network Symposium on Cutting-Edge Approaches to Drug and Device Development 2010, Co-Chair
2010 – 2013	NC Center of Innovation for Nanobiotechnology (COIN) Scientific Advisory Board
2011	Pharmacologic and Regulatory Issues for the Translational Development of Nanoparticle Agents Workshop, Controlled Release Society Meeting 2011, Co-Chair
2011	Nanomedicine Product Development Summit: Turning Nanoparticle Delivery Systems into Innovative Medicines. Controlled Release Society Meeting 2011
2011 - Present	NCI Alliance for Nanotechnology in Cancer: Pharmacology and Biodistribution Working Group
2012	NanoEngineering for Medicine and Biology (NEMB) Workshop on Challenges for Engineers in Biomedical and Clinical Sciences
2012 - Present	NCI Alliance for Nanotechnology in Cancer: Animal Models Working Group, Co-Chair
2012 - Present	NCI Alliance for Nanotechnology in Cancer, Nanomedicine Drug Delivery Clinical Trial Working Group (NDD CTWR)
2014 - Present	Advisor, Neuro Startup Challenge, The Center for Advancing Innovation.
2015 – Present	Advisor, Cancer Nanotechnology Challenge, The Center for Advancing Innovation and Translation Of Nanotechnology In Cancer (TONIC) Consortium

ELECTED OFFICES IN PROFESSIONAL ORGANIZATIONS

Not Applicable

COMMITTEES

PROFESSIONAL ORGANIZATIONS (Including offices held)

1989 - 1992	Phi Delta Chi Professional Fraternity, Alumni Officer
1991 - 1992	Rho Chi Pharmacy Honor Society, Secretary-Treasure
2004 - 2008	Pennsylvania Cancer Control Consortium, Research Committee
2004 - Present	American Association for Cancer Research, Member

2004 - Present	American Society of Clinical Oncology, Development Therapeutics & Cytotoxic Chemotherapy, Member
2005	American Society of Clinical Oncology 2005 Annual Meeting, Development Therapeutics & Cytotoxic Chemotherapy, Co-Chair of Poster Discussion Section
2005 - Present	Eastern Cooperative Oncology Group, Developmental Therapeutics Committee, Member
2005 - Present	Gynecologic Oncology Group, Phase I and Pharmacology Committees, Member
2006	American Society of Clinical Oncology 2006 Annual Meeting, Development Therapeutics & Cytotoxic Chemotherapy, Co-Chair of Oral Discussion Session
2009 – 2014	Southeastern Phase 2 Consortium (SEP2C), Pharmacology Committee
2010 – 2011	Hematology Oncology Pharmacist Association, Research Committee
2011	Pharmacologic and Regulatory Issues for the Translational Development of Nanoparticle Agents Workshop, Controlled Release Society Meeting, Co-Chair
2011	Symposium on Nanotechnology in Products: Pitfalls and Successes in the Path to a Commercial Product at the MANCEF/COMS Nanotechnology Meeting 2011, Greensboro, NC.
2012	Carolina Institute for NanoMedicine and Joint UNC-NC State BioMedical Engineering Dept. Conference, Core Development/Training Panel, Co-Chair
2014	American Association for Cancer Research Annual Meeting Program Committee

UNIVERSITY AND SCHOOL

1997 - 2001	University of Pittsburgh Alumni Association Board of Directors, Pitt Club Representative
1997 - Present	University of Pittsburgh Alumni Association Board of Directors, Scholarship Committee
	2001 - Present, Chair
2001 - 2003	University of Pittsburgh Alumni Association Board of Directors, Regional Director
2000 - 2008	University of Pittsburgh Faculty Senate Senate Athletics Committee, Co-Chair
2001 - 2008	University of Pittsburgh Advisory Committee for the Admission of Student Athletes
2002	University of Pittsburgh Athletic Department Committee for NCAA Interim Report on Academic Integrity
2002 - 2006	Pitt's Generation Next of the Metro Pitt Club, Chair
2003 - 2008	University of Pittsburgh Alumni Association Board of Directors, Director at Large
2003 - 2008	University of Pittsburgh Board of Trustees, Athletic Committee
2005 - 2008	Protocol Review Committee, University of Pittsburgh Cancer Institute
2006	University of Pittsburgh School of Pharmacy Admissions Committee
2008 – Present	Committee on Conflict of Interest, UNC Eshelman School of Pharmacy, University of North Carolina.
2008 – 2015	UNC Lineberger Comprehensive Cancer Center, Mouse Phase I Unit Program, Co-Director
2008 – Present	UNC Lineberger Comprehensive Cancer Center, Developmental Therapeutics Program, Clinical Pharmacology Co-Chair

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2008 – 2009	Committee on the Design and Implementation of the Phase I Unit of the UNC Lineberger Comprehensive Cancer Center in NCCH
2009 – 2010	Tgen / TD2 Drug Development Round Table
2010	UNC Eshelman School of Pharmacy ACPE Self-Study Committee on Administrative Relationships
2010 – 2014	Faculty Advisor for Dr. Carey Anders' K23 Grant
2010 – Present	UNC LCCC Animal Studies Core Advisory Committee
2010 – Present	UNC Eshelman School of Pharmacy Honors Program Committee
2010 – 2014	UNC Eshelman School of Pharmacy, DPET, PhD Qualifying Exam Committee
2010 – Present	UNC Lineberger Comprehensive Cancer Center, Analytical Chemistry and Pharmacology Core, Director
2012 – 2013	UNC Eshelman School of Pharmacy Educational Renaissance – Scholarship Committee
2013 – Present	UNC Eshelman School of Pharmacy Curriculum Design and Execution Committee on Inquiry, Innovation and Problem Solving
2014 – 2015	UNC Eshelman School of Pharmacy, Faculty Search Committee for Clinical Scientist, Chair.
2015	Carolina Nanoformulations Workshop, UNC Eshelman School of Pharmacy.
2015 – Present	Faculty Advisor for Dr. Eric Bachelder's KL2 Application
2016 – Present	Eshelman Institute of Innovation (Eii), Review Committee for Student and Trainee Grant Proposals

HOSPITAL

Not Applicable

CONSULTANT

1998 – 1999	Optimized Analysis in Kinetics Consulting
1998 – 1999	SmithKline Beecham Regional Oncology Advisory Board
2000 – 2008	Supergen Advisory Board
2001 – 2005	Amgen Inc. Oncology Advisory Board
2002 – 2008	Alza Corp.
2002 – Present	MediGLO Pharmaceutical Consulting, LLC, CEO
2006 – 2009	MEDACorp, Medical Consulting
2006 – 2009	Clinical Advisors, Network of Advisors Consulting
2006 – 2007	Neopharm, Inc.
2007 – 2009	Hana Biosciences
2008 – 2010	Yakult Pharmaceuticals
2008 – 2009	Labopharm
2008 – 2009	Enzon Pharmaceuticals
2008 – 2009	Genentech
2009 – 2010	Liquidia
2009 – 2012	Guide Point Global Consulting
2010 – 2011	Aura Biosciences
2010 – 2013	Covidien-Mallinkrodt
2010 – 2011	Endece
2009 – 2012	Carmel Pharma
2010 – 2012	Terumo Corporation

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2011 – 2012	AZAYA Therapeutics
2012 – Present	ChemoGLO, LLC, Co-Founder and Scientific Advisor
2012 – 2013	Nektar Therapeutics
2012 – Present	Nanovector, Scientific Advisory Board
2012 – 2015	Onyx Pharmaceuticals
2013 – Present	Merrimack Pharmaceuticals
2014 – 2015	Wildcat-Nanoglo, LLC, Co-Founder; Chair of Scientific Advisory Board
2015 – 2015	Mallinckrodt Pharmaceuticals, Scientific Advisory Board
2015 – Present	Cristal Therapeutics, Scientific Advisory Board
2016 – Present	Glytlys, LLC, Co-Founder and CSO
2016 – Present	NuVue

REVIEWER

Journal Reviewer

1996 - Present	Reviewer, Cancer Chemotherapy and Pharmacology
1998 - Present	Reviewer, Clinical Cancer Research
1999 - Present	Reviewer, Journal of Clinical Oncology
1999 - Present	Reviewer, Journal of Pharmacology and Experimental Therapeutics
2009 - Present	Reviewer, Journal of Liposomal Research
2012 - Present	Reviewer, International Journal of Pharmaceutics
2012 - Present	Reviewer, BBA Biomembranes
2012 - Present	Reviewer, Advanced Drug Delivery Reviews
2014 – Present	Reviewer, Journal of Oncology Pharmacy Practice
2015 – Present	Reviewer, PNAS

Editorial Advisory Board

2009 – Present	Editorial Board Member, Drugs of the Future
Pending	Specialty Editor for Nanoparticle Agents, Clinical Cancer Research

Other

1999 - 2001	Medical Writer for Oncology, Medscape, Inc.
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INVITED PRESENTATIONS

1. Clinical Applications of Gene Therapy to Genetic and HIV Diseases. First Annual Pharmacotherapy Frontiers Symposium. Warren G. Magnuson Clinical Center, National Institutes of Health, Bethesda, MD. May 1995.
2. Evaluation of Ondansetron and Granisetron Cross-Sensitivity and Systemic Exposure Responses. Eastern States Residency Conference. Baltimore, MD. April 1995.
3. Pharmacokinetic and Pharmacodynamic Research of Chemotherapeutic Agents. University of Pittsburgh School of Pharmacy, Pittsburgh, PA. October 1995.

4. Cerebrospinal Fluid Disposition of Topoisomerase I Inhibitors in the Nonhuman Primate Model. St. Jude Children's Research Hospital Postdoctoral Retreat. Memphis, TN. April 1996.
5. Pharmacokinetically Guided Dose Adjustment Reduces Variability in Topotecan Systemic Exposure in Children with Solid Tumors. St. Jude Children's Research Hospital Postdoctoral Retreat. Memphis, TN. April 1997.
6. Use of Microdialysis Methodology to Evaluate Anticancer Agent Disposition in Tumor Extracellular Fluid. Second Annual Invitational Oncology Pharmacy Research Conference. Newport Beach, CA. February 1998.
7. Pharmacokinetic Principles and Modeling, and Tumor Disposition of Anticancer Agents. The Sixth Annual Berlex Oncology Clinical Pharmacology of Anti-Cancer Drugs Course, Leesburg, VA. October, 1998.
8. Factors Affecting Platinum Exposure and Formation of Platinum-DNA Adducts in B16 Murine Melanoma Tumors after Cisplatin Administration. Third Annual Invitational Oncology Pharmacy Research Conference. Napa Valley, CA. February 1999.
9. Factors Affecting Platinum Exposure and Formation of Platinum-DNA Adducts in Solid Tumors. St. Jude Children's Research Hospital, Memphis, TN, May 1999.
10. Pharmacokinetic Principles and Modeling, Regional Chemotherapy and Tumor Disposition of Anticancer Agents. The Seventh Annual Berlex Oncology Clinical Pharmacology of Anti-Cancer Drugs Course, Leesburg, VA. October, 1999.
11. Plant Alkaloids. University of Pittsburgh Cancer Institute Comprehensive Chemotherapy Course. Pittsburgh, PA. October 1999.
12. Tumor Disposition of Platinum after Administration of Cisplatin and Liposomal-Cisplatin in Mice Bearing B16 Murine Melanoma Tumors. Fourth Annual Invitational Oncology Pharmacy Conference. St. Thomas, Virgin Islands.
13. Pharmacokinetic Principles and Modeling, Regional Chemotherapy and Tumor Disposition of Anticancer Agents. The Seventh Annual Berlex Oncology Clinical Pharmacology of Anti-Cancer Drugs Course, Leesburg, VA. November, 2000.
14. Use of PET Imaging in the Development of Anticancer Agents. Significant Papers in Pharmacotherapy. The Annual Meeting of the American College of Clinical Pharmacy, Los Angeles, CA. November 2000.
15. Use of Microdialysis in Pharmacodynamic Studies of Anticancer Agents. 4th International Symposium on the Pharmacodynamics of Anticancer Agents. Sea Island, GA. September 2001.
16. Systemic, Tissue, and Tumor Disposition of Stealth Liposomes. University of Pittsburgh School of Pharmacy Alumni Weekend. Seven Springs, PA. June 2002 and Children's Hospital of Philadelphia, March 2004.

17. Optimizing Outcomes in Chemotherapy-Induced Neutropenia: Synchronized CSF Innovation. University Pharmacotherapy Associates Program. July 2004 to January 2005.
18. Optimizing Erythropoietic Growth Factor Formulary Management: 2005 Interchange Opportunities. University Pharmacotherapy Associates Program. January 2005 to Present.
19. Novel Methods for Pharmacokinetic Sampling: Use of Microdialysis to Evaluate the Pharmacokinetics and Pharmacodynamics of Drugs. HOPA Annual Meeting, San Diego, CA, June 2005.
20. Preclinical and Clinical Development of Liposomal Anticancer Agents. FDA, Feb 2006.
21. Liposomal and Nanoparticle Anticancer Agents: Magic Bullets N'at. University of Pittsburgh Alumni Association Metro PITT Club Meeting, Pittsburgh, PA, May 2006.
22. Evaluation of the Reticuloendothelial System as Part of the Preclinical and Clinical Development of Liposomal and Nanoparticle Anticancer Agents. Moffitt Cancer Center, Tampa FL in Nov'06; Nanoparticle Characterization Laboratory, National Cancer Institute, Fredrick, MD in Feb 2007.
23. Factors Affecting the Pharmacokinetics and Pharmacodynamics of Nanosomal Anticancer Agents: Evaluation of the Reticuloendothelial System. Annual Meeting of the American Society for Clinical Pharmacology and Therapeutics in April 2008.
24. Influence of the Reticuloendothelial System on the Pharmacokinetics and Pharmacodynamics of Nanosomal and Nanoparticle Anticancer Agents, Philadelphia College of Pharmacy and Sciences, Pharmaceutical Sciences Dept, Grand Rounds, January 2009.
25. Translational Development of Nanosomal and Nanoparticle Anticancer Agents, UNC Gynecology Oncology Grand Rounds, January 2009.
26. Evaluation of the Reticuloendothelial System as Part of the Translational Development of Nanosomal Anticancer Agents, UNC Pathology and Laboratory Medicine Grand Rounds, February 2009.
27. Development of Phenotypic Probes of the Reticuloendothelial System as Part of the Translational Development of Nanosomal and Nanoparticle Anticancer Agents, UNC Institute for Pharmacogenetics and Individualized Therapy Seminar Series, Feb 2009.
28. Factors Affecting the Pharmacokinetics and Pharmacodynamics of Nanosomal Anticancer Agents: Evaluation of the Reticuloendothelial System, Chapel Hill Drug Conference, University of North Carolina, Chapel Hill, NC in May 2009.
29. Individualizing Pegylated Liposomal Doxorubicin (PLD) Treatment in Patients with Ovarian Cancer. UNC LCCC Board of Visitors Meeting. August 2009.
30. Factors Affecting the Pharmacology of PEGylated Liposomal Agents in Patients. Fourth Annual NCI Alliance for Nanotechnology in Cancer Investigators Meeting, October 2009.

31. Factors Affecting the Pharmacokinetics and Pharmacodynamics of PEGylated Liposomal Anticancer Agents. International Liposome Society Liposome Advances Conference, London, England, December 2009.
32. Factors Affecting the Pharmacokinetics and Pharmacodynamics of Liposomal and Nanoparticle Agents. AAPS Webinar, February 2010.
33. Age Related Effects on the Pharmacokinetic and Pharmacodynamics of Liposomal and Nanoparticle Anticancer Agents. UNC LCCC Geriatric Oncology Program. March 2010.
34. Evidence and Clinical Practice Experience of Pharmacokinetic Monitoring of 5-FU for Colorectal Cancer. HOPA Annual Meeting, March 2010.
35. Pharmacology and Toxicology Issues Affecting the Translational Development of Nanoparticle Agents. NCI Best Practices in Cancer Nanotechnology Workshop, June 2010.
36. Bi-Directional Pharmacokinetic and Pharmacodynamic Interaction between PEGylated Liposomal Anticancer Agents and the Reticuloendothelial System. International Liposome Research Days, August 2010.
37. Preclinical and translational pharmacology of nanoparticle therapeutics. American College of Toxicology Meeting, October 2010.
38. Factors affecting the pharmacokinetics (PK) and pharmacodynamics (PD) of nanoparticle and nanosomal anticancer agents. EORTC-AACR-NCI Meeting, November 2010.
39. How to improve the translational development of nanoparticle agents via pharmacologic methods. NC Society of Toxicology Meeting, March 2011.
40. Mechanistic PK-PD Modeling of the Bi-directional Interaction between PEGylated Liposomal Anticancer Agents and Monocytes. AAPS National Biotechnology Conference, April 2011.
41. Factors Affecting the Translational Development of Nanoparticle Agents. Department of Pharmacology, Wake Forest University, April 2011.
42. Pharmacologic methods to improve the translational development of nanoparticle agents. Department of Pharmacology, East Carolina University, May 2011.
43. Factors affecting the pharmacokinetics and pharmacodynamics of nanoparticle agents in animal models and in patients. Pharmacologic and Regulatory Issues for the Translational Development of Nanoparticle Agents Workshop, Controlled Release Society Meeting, July 2011, Co-Chair.
44. Lessons learned in the translation from animals to humans for pharmacokinetics and pharmacodynamics of nanoparticle agents. Nanomedicine Product Development Summit: Turning Nanoparticle Delivery Systems into Innovative Medicines. Controlled Release Society Meeting, July 2011. Panel Member.

45. Pharmacologic and animal model pitfalls for the translational development of nanoparticle agents as part of the symposium on Nanotechnology in Products: Pitfalls and Successes in the Path to a Commercial Product at the MANCEF/COMS Nanotechnology Meeting, August 2011. Panel Member.
46. Novel pharmacokinetic and pharmacodynamic metrics to profile the systemic, tumor and tissue disposition of nanoparticle agents. Nanoparticle Biodistribution: Physical and Biological Effects at the NCI Alliance for Nanotechnology in Cancer Investigators' Meeting, Boston, MA, September 2011.
47. Phenotypic probing of the bi-directional interaction between PEGylated liposomal agents and the mononuclear phagocyte system. International Liposome Society Liposome Advances Conference, London, England, December, December 2011.
48. Unique pharmacologic resources to evaluate and improve the preclinical and clinical development of carrier-mediated and nanoparticle agents. Center for Innovation for Nanobiotechnology(COIN) and NanoMedicine Partnering Mission of Medicon Valley of Denmark and Sweden Meeting, Chapel Hill, NC, January 2012.
49. Phenotypic probing of the bi-directional interaction between PEGylated liposomal agents and the mononuclear phagocyte system. Carolina Center of Cancer Nanotechnology Excellence Seminar, Chapel Hill, NC, February 2012.
50. Age related effects on the pharmacokinetics and pharmacodynamics of PEGylated-liposomal anticancer agents: Alterations in MPS function? UNC LCCC Geriatric Oncology Program, Chapel Hill, NC, February 2012.
51. Overview of nanoparticle anticancer agents and pharmacologic issues. UNC LCCC Phase I Program Seminar, Chapel Hill, NC, March 2012.
52. Phenotypic probing of the mononuclear phagocyte system as a method to individualize PEGylated liposomal doxorubicin (Doxil) therapy in patients with refractory ovarian cancer: Results of UNC LCCC clinical study. UNC LCCC Gynecologic Oncology Group, Chapel Hill, NC, March 2012.
53. PhenoGLO: Novel platforms to profile nanoparticle agents and individualize nanoparticle therapy. Nanotechnology Commercialization Conference, Durham, NC, April 2012.
54. Factors affecting the pharmacokinetics and pharmacodynamics of nanoparticle agents in preclinical models and in patients. ASME Early Stage Research Collaboration Nano Engineering for Medicine and Biology Workshop, Washington DC, April 2012.
55. Pharmacologic methods and resources to facilitate the translational development of carrier-mediated and nanoparticle agents. Northwestern University Center for Cancer Nanotechnology Excellence, Chicago, IL, April 2012.
56. Technetium-99m sulfur colloid (TSC) as a phenotypic probe for predicting the pharmacokinetics and pharmacodynamics of PEGylated liposomal doxorubicin (PLD; Doxil) in

patients with recurrent epithelial ovarian cancer. UNC Nuclear Medicine Division of Radiology Meeting, May 2012.

57. Phenotypic probing of the mononuclear phagocyte system as a method to individualize therapy with PEGylated liposomal doxorubicin (PLD) in patients with refractory ovarian cancer. Ovarian Cancer: Prevention, Detection and Treatment of the Disease and Its Recurrence – Molecular Mechanisms and Personalized Medicine. University of Pittsburgh Cancer Institute, Pittsburgh, PA 2012.
58. Influence of the MPS on the clearance and tumor delivery of nanoparticle agents. In the session on Pharmacokinetics of Nanoparticles – Understanding Interactions at the Nano/Bio Interface, AAPS National Biotechnology Conference, San Diego, CA, May 2012.
59. Profiling the biological factors modulating drug delivery in preclinical animal models and in patients. Invited speaker for the 2012 Drug Carriers in Medicine and Biology Gordon Research Conference, Waterville Valley Resort, NH, August 2012.
60. Factors affecting the bi-directional interaction between liposomal agents and the mononuclear phagocyte system. AAPS Webinar, September 2012.
61. Profiling the bi-directional interaction between nanoparticle agents and the mononuclear phagocyte system: effects on clearance and tumor delivery of nanoparticle agents. NIH/NCI TONIC / Alliance for Nanotechnology in Cancer / Industry Workshop on Enhanced Permeability and Retention (EPR) Effect and Nanomedicine Drug Targeting in Cancer, NIH, Bethesda, MD, October 2012.
62. Profiling the biological factors modulating nanoparticle clearance, biodistribution and tumor delivery in preclinical animal models and in patients. NCI Alliance for Nanotechnology in Cancer Annual Principal Investigator Meeting, Biodistribution Working Group Session, Houston, TX, November 2012.
63. Evaluation of the mononuclear phagocyte system (MPS) and effects on nanoparticle pharmacokinetics and pharmacodynamics in preclinical animal models and in patients. Nanomedicines Alliance Industry Symposium on Nanomedicines: Charting a Road to Commercialization. Rockville, MD, March 2013.
64. Phenotypically profiling the factors affecting the pharmacokinetics and pharmacodynamics of nanoparticle agents in preclinical models and in patients. Society of Toxicology Annual Meeting, San Antonio, TX, March 2013.
65. Novel pharmacologic and phenotypic methods to characterize carrier-mediated and nanoparticle agents as part of preclinical and clinical development. 2nd International Conference and Exhibition on Biowaivers and Biosimilars, Raleigh, NC, Sept 2013.
66. Novel Methods, Models and Pharmacologic Results to Guide the Translational Development of Nanoparticle and Carrier-Mediated Agent. Department of Pharmacology, UNC School of Medicine, Oct 2013.

67. Profiling the Factors affecting Nanoparticle Clearance and Delivery to Tumors and Tissues. Department of Pharmacology, Harvard University, Boston, MA, Oct 2013.
68. Evaluation of Factors Affecting Nanoparticle Pharmacokinetics and Pharmacodynamics in Preclinical Models and Patients: A focus on Patient Characteristics and the Mononuclear Phagocyte System. Pharmacoepidemiology Seminar Series, UNC School of Medicine, Chapel Hill, NC, Oct 2013.
69. Profiling the Factors affecting Nanoparticle and Carrier-Mediated Agent Clearance and Delivery to Tumors and Tissues. PKUK Meeting, Harrogate, North Yorkshire, UK, Oct 2013.
70. Profiling the Interaction between Nanoparticle and Carrier-Mediated Agents and the Mononuclear Phagocyte System in Blood, Tumors and Tissues. CT3N Symposium, University of Pennsylvania, Nov 2013.
71. Safety and ADMET Aspects of Nanotechnology in Parenteral Drug Products. US FDA and PQRI Workshop on Nanomaterial Drug Products: Current Experience and Management of Potential Risks, Silver Spring, MD, Jan 2014.
72. NIH/NIAID/DAIDS Workshop on Long-Acting / Extended Release Antiretroviral Drugs, Boston, MA, March 2014.
73. Pharmacokinetics and Pharmacodynamics of Nanoparticles and Carrier-Mediated Agents in Preclinical Animal Models and in Patients. CACO-PBSS Cancer Nanotherapeutics Workshop, San Francisco, CA. April 2014.
74. Factors Affecting the Pharmacokinetics and Pharmacodynamics of Nanoparticles, Carrier-Mediated Agents and Antibody Drug Conjugates: Similarities and Connections. World ADC Conference, San Diego, CA. Nov 2014.
75. Workshop: Profiling the Factors that Alter the Tumor Delivery of Carrier-Mediated Agents. World ADC Conference, San Diego, CA. Nov 2014.
76. Translational Studies Evaluating the Bi-directional Interaction between Carrier-Mediated Anticancer Agents and the Mononuclear Phagocyte System. 36th EORTC-PAMM Winter Meeting, Marseille Provence Metropole, France. January 2015.
77. Bi-directional interaction between the mononuclear phagocyte system and nanoparticle pharmacokinetics and pharmacodynamics: Influence on Accelerated Blood Clearance. Moderna Symposium on Accelerated Blood Clearance of Nanoparticles. Boston, MA. March 2015.
78. Bi-directional interaction between the mononuclear phagocyte system and nanoparticle pharmacokinetics and pharmacodynamics in preclinical models and patients. University of Kentucky, Lexington, KY. May 2015.

79. Translational studies evaluating the bi-directional interaction between the mononuclear phagocyte system and carrier-mediated agents. National Center for Toxicological Research. Jefferson, AK. May 2015.
80. Interactions between the mononuclear phagocyte system, carrier-mediated agents and antibody drug conjugates. Americas Antibody Congress 2015. San Diego, CA. May 2015.
81. Preclinical Characterization of ADME, PK, PD and toxicology of Nanoformulations; Use of nano agents in non-cancer diseases; Factors affecting nano delivery to tumors in animal models and patients; Clinical PK and PD (efficacy and toxicity) aspects of nano agents. Carolina Nanoformulations Workshop, UNC Eshelman School of Pharmacy. 2015.
82. Bi-directional interaction between the mononuclear phagocyte system and liposomal agents in preclinical models and patients. 24th Annual Southeast Lipid Research Conference. Stone Mountain, GA. Sept 2015.
83. Interactions between tumor microenvironmental factors and nanomedicines which influence tumor delivery and efficacy. American Society of Nanomedicine. Crystal City, VA. Oct 2015.
84. Bi-directional interaction between mononuclear phagocyte system and nanoparticles in blood, tumor and tissues. American Society of Nanomedicine. Crystal City, VA. Oct 2015.
85. Understanding the factors affecting the PK of nano agents in preclinical models and in patients as a method to improve the therapeutic index. Applied Pharmaceutical Nanotechnology (APN) meeting. Cambridge, MA. Nov 2015.
86. Factors affecting the clearance, distribution and tumor delivery of carrier-mediated agents. Barrow Neurological Institute. Phoenix, AZ. Feb 2016.
87. Evaluation of the Bi-Directional Interaction between the Mononuclear Phagocyte System (MPS) and the Pharmacokinetics and Pharmacodynamics of Carrier Mediated Agents and Antibody-Drug Conjugates. PEGS Boston – Antibody Drug Conjugates II: Advancing Towards the Clinic. April 2016.

RESEARCH INTERESTS

My research program is part of the Division of Pharmacotherapy and Experimental Therapeutics in the Eshelman School of Pharmacy at the University of North Carolina (UNC) and the UNC Lineberger Comprehensive Cancer Center. I have been involved in translational studies of anticancer agents for several years. My research interests focus on the application of pharmacokinetic, pharmacodynamic, phenotypic and pharmacogenetic principles in the optimization of the chemotherapeutic treatment of cancer. Information obtained from preclinical and clinical translational studies can greatly add to the understanding of the pharmacology of anticancer agents, permit individualization of chemotherapeutic treatment based on pharmacokinetic, pharmacodynamic, phenotypic and pharmacogenetic principles, and allow for the rational design of therapeutic regimens.

A second focus of my research is on the development of carrier-mediated agents (CMAs), such as nanoparticles, liposomes, conjugates and antibody drug conjugates (ADCs). As part of

these studies, our group has developed methods and technologies to differentiate between the inactive-encapsulate and active-released forms of the CMAs in blood, tumor and tissues and to evaluate the factors affecting the delivery of CMAs to tumors and tissues. I also focus on evaluating the bi-directional interaction between these agents and the mononuclear phagocyte system (MPS), which is the primary clearance pathway for CMAs. We have developed phenotypic probes which can be used to predict the pharmacokinetic and pharmacodynamic disposition of CMAs and are developing specific probes for ADCs. The clinical relevance of studies is underscored by the need to treat solid tumors with effective doses, anticancer agents that have high tumor penetration, develop methods to increase the tumor delivery of CMAs, and generate treatment regimens to enhance selective tumor uptake.

PUBLICATIONS

PEER REVIEWED ARTICLES

Students and fellows under my direction are indicated by an asterisk.

1. Stewart CF, **Zamboni WC**, Crom WR, Gajjar A, Heideman RL, Furman WL, Meyer WH, Houghton PJ, Pratt CB. Topoisomerase I interactive drugs in children with cancer. *Investigational New Drugs* 14:37-47; 1996. PubMed PMID: 8880392
2. Houghton PJ, Stewart CF, **Zamboni WC**, Thompson J, Danks MK, Houghton JA. Schedule dependent efficacy of camptothecins in models of human cancer. *Ann N Y Acad Sci* 803: 188-201, 1996. PubMed PMID: 8993512
3. Tubergen DG, Stewart CF, Pratt CB, **Zamboni WC**, Santana VM, Dryer ZA, Kurtzberg J, Bell B, Grier H, Vietti TJ. Phase I Trial and Pharmacokinetic (PK) and Pharmacodynamic (PD) Study of Topotecan Using a Five-Day Course in Children With Refractory Solid Tumors: A Pediatric Oncology Group Study. *J Pediatr Hematol Oncol* 18(4): 352-61, 1996. PubMed PMID: 8888741
4. Stewart CF, **Zamboni WC**, Crom WR, Houghton PJ. Disposition of Irinotecan and SN-38 Following Oral and Intravenous Irinotecan Dosing in Mice. *Cancer Chemother Pharmacol.* 40: 259-265; 1997. PubMed PMID: 9219511
5. Thompson J, Zamboni W, Cheshire P, Lutz L, Luo X, Houghton J, Stewart C, Houghton P. Efficacy of Systemic Administration of Irinotecan Against Neuroblastoma Xenografts. *Clinical Cancer Research.* 3(3):423-431:1998. PubMed PMID: 9815701
6. Thompson J, Zamboni W, Cheshire P, Richmond L, Luo X, Houghton J, Stewart C, Houghton P. Efficacy of Oral Irinotecan Against Neuroblastoma Xenografts. *Journal of Anti-Cancer Drugs.* 8:313-322;1997. PubMed PMID: 9180383
7. Thompson J, Pratt CB, Stewart CF, Avery L, Bowman L, **Zamboni WC**, Pappo A. Phase I Study of DMP-840 in Pediatric Patients with Refractory Solid Tumors. *Invest New Drugs.* 16(1):45-49:1998. PubMed PMID: 9740543

8. Saylor RL, Stewart CF, **Zamboni WC**, Wall D, Bell B, Vietti TJ. Phase I Study of Topotecan in Combination with Cyclophosphamide in Pediatric Patients with Malignant Solid Tumors: A Pediatric Oncology Group Study. *Journal of Clinical Oncology*, 16:945-952, 1998. PubMed PMID: 9508177
9. **Zamboni WC**, Houghton PJ, Johnson RK, Hulstein JL, Crom WR, Cheshire PJ, Stewart CF. Probenecid Alters Topotecan Systemic and Renal Disposition by Inhibiting Renal Tubular Secretion. *Journal of Pharmacology and Experimental Therapeutics*, 284(1):89-94; 1998. PubMed PMID: 9435165
10. **Zamboni WC**, Houghton PJ, Crom WR, Thompson J, Cheshire PJ, Richmond LB, Stewart CF. Altered Irinotecan and SN-38 Pharmacokinetic Disposition in Mice Bearing Human Neuroblastoma Xenografts. *Clinical Cancer Research*, 4:455-462; 1998. PubMed PMID: 9516936
11. **Zamboni WC**, Stewart CF, Thompson J, Santana V, Cheshire PJ, Richmond LB, Lui X, Houghton JA, Houghton PJ. The Relationship between Topotecan Systemic Exposure and Tumor Response in Human Neuroblastoma Xenografts. *Journal of National Cancer Institute*, 90(7):505-511, 1998. PubMed PMID: 9539245.
12. **Zamboni WC**, Bowman LC, Santana VM, Houghton PJ, Pratt CB, Gajjar AJ, Pappa AS, Stewart CF. Interpatient Variability in Bioavailability and Pharmacokinetics of Oral Topotecan in Children with Relapsed Solid Tumors. *Cancer Chemotherapy and Pharmacology*, 43(6):454-460; 1999. PubMed PMID: 10321504
13. **Zamboni WC**, Stewart CF, Cheshire PJ, Richmond L, Luo X, McGovern P, Houghton JA, Houghton PJ. Studies of the Efficacy and Pharmacology of Irinotecan Against Human Colon Tumor Xenograft Models. *Clinical Cancer Research*, 4:743-753; 1998. PubMed PMID: 9533544
14. **Zamboni WC**, Gajjar AJ, Heideman RL, Biejnen J, Rosing H, Houghton PJ, Stewart CF. Phenytoin alters the disposition of topotecan and N-desmethyl metabolite in a patient with medulloblastoma. *Clinical Cancer Research*, 4:783-789, 1998. PubMed PMID: 9533548
15. **Zamboni WC**, Houghton PJ, Danks MK, Hulstein JL, Kristein M, Walsh J, Cheshire PJ, Stewart CF. Relationship between tumor extracellular fluid exposure to topotecan and tumor response in human neuroblastoma xenografts and cells. *Journal of Cancer Chemotherapy and Pharmacology*, 43(4):269-276, 1999. PubMed PMID: 10071976
16. **Zamboni WC**, Gajjar AJ, Houghton PJ, Mandrell TD, Einhaus SL, Danks MK, Rogers WP, Heideman RL, Stewart CF. A topotecan 4-hour intravenous infusion achieves cytotoxic exposure throughout the neuraxis in the nonhuman primate model: implications for the treatment of children with metastatic medulloblastoma. *Clinical Cancer Research*, 4:2537-2544, 1998. PubMed PMID: 9796988
17. Furman WL, Stewart CF, Poquette CA, Pratt CB, Santana VM, **Zamboni WC**, Bowman LC, Ma MK, Hoffer FA, Meyer WH, Pappo AS, Walter AW, Houghton PJ. Direct translation of a protracted irinotecan schedule from xenograft model to phase I trial in children. *Journal of Clinical Oncology*, 17:1815-1824, 1999. PubMed PMID: 10561220

18. Ma M, **Zamboni WC**, Furman WL, Santana VM, Gajjar A, Houghton PJ, Stewart CF. Pharmacokinetics of Irinotecan and its active metabolite SN-38 in children with recurrent solid tumors after protracted low dose intravenous administration. *Clinical Cancer Research*, 6:813-819, 2000. PubMed PMID: 10741701
19. Delauter BJ*, Ramanathan RK, Stover LL, Zuhowski EG, Egorin MJ, Plunkett WK, **Zamboni WC**. Pharmacokinetics of gemcitabine and 2'-2'-difluorodeoxyuridine in a patient with ascites. *Pharmacotherapy*, 20(10):1204-1207, 2000. PubMed PMID: 11034044
20. **Zamboni WC**, Luftner D, Possinger D, Schweigert M, Sezer O, Dobson J, Egorin M. Increasing topotecan infusion from 30-minutes to 4-hours infusions prolongs the duration of exposure in the cerebrospinal fluid. *Annals of Oncology*, 12:119-122, 2001. PubMed PMID: 11249038
21. **Zamboni WC**, Egorin M, Van Echo D, Day R, Doyle LA, Nemieboka N, Dobson J, Tait N, Tkaczuk K. Pretreatment with topotecan decreases docetaxel clearance and increases toxicity. *Journal of Clinical Oncology*, 18(17):3288-3294, 2000.
22. Tkaczuk K, **Zamboni WC**, Tait N, Meisenbery B, Doyle LA, Hausner P, Egorin M, Van Echo D. Phase I study of docetaxel and topotecan in patients with solid tumor malignancies. *Cancer Chemotherapy and Pharmacology*, 46(6):442-8, 2000. PubMed PMID: 11138457
23. **Zamboni WC**, D'Argenio, D, Stewart CF, MacVittie T, Delauter B*, Potter DP, Farese AM, Kubat N*, Tubergen D, Egorin MJ. Pharmacodynamic model of topotecan induced time-course of neutropenia. *Clinical Cancer Research*, 7:2301-2308, 2001. PubMed PMID: 11489805
24. Herrington JD, Figueroa JA, Kirstein MN, **Zamboni WC**, Stewart CF. Effect of hemodialysis on topotecan disposition in a patient with severe renal dysfunction. *Cancer Chemotherapy and Pharmacology*, 47(1):89-93;2001. PubMed PMID: 11221968
25. **Zamboni WC**, Gervias AC, Egorin MJ, Schellens JHM, Hamburger DR, Delauter BJ, Grim A, Zuhowski EG, Joseph E, Pluim D, Potter DM, Eiseman JL. Inter- and intra-tumoral disposition of platinum in solid tumors after administration of cisplatin. *Clinical Cancer Research*, 8(9):2992-2999;2002. PubMed PMID: 12231546
26. **Zamboni WC**, Gervais AC*, Schellen JHM, Delauter BJ*, Egorin MJ, Zuhowski EG, Pluim D, Hamburger DR*, Working PK, Eiseman JL. Disposition of platinum in B16 murine melanoma tumors after administration of cisplatin & pegylated liposomal-cisplatin formulations (SPI-077 & SPI-077 B103). *Cancer Chemotherapy and Pharmacology*, 53:329-336;2004. PubMed PMID: 14673619
27. Parise RA, Ramanathan RK, **Zamboni WC**, Egorin MJ. A sensitive high-performance liquid chromatography-mass spectrometry assay for quantitation of docetaxel and paclitaxel in plasma. *J Chromatography, Analytical Technology, & Life Sci*, 783(1):231-236;2003. PubMed PMID: 12450543

28. Santana VM, **Zamboni WC**, Kirstein MN, Tan M, Liu T, Gajjar A, Houghton PJ, Stewart CF. A pilot study of protracted topotecan dosing using a pharmacokinetically guided dosing approach in children with solid tumors. *Clinical Cancer Res.* 9:633-640;2003. PubMed PMID: 12576429
29. Goel S, Bulgaru A, Hochster H, Wadler S, **Zamboni WC**, Egorin M, Ivy P, Leibes L, Muggia F, Lockwood G, Harvey E, Renshaw G, Mani S. Phase I clinical study of infusional 5-fluorouracil with oxaliplatin and gemcitabine (FOG regimen) in patients with solid tumors. *Ann Oncol.* 14(11):1682-7,2003. PubMed PMID: 14581279
30. Ramanathan RK, Hwang JJ, **Zamboni WC**, Sinicrope F, Finkelstein S, Safran H, Wong MK, Earle M, Brufsky A, Troetschel M, Walko C, Day R, Chen HX, Sydney F. Low over expression of HER-2/Neu in advanced colorectal cancer limits the usefulness of trastuzumab (Herceptin) and irinotecan as therapy: A phase II trial. *Cancer Invest.* 22(6):858-65, 2004. PubMed PMID: 15641483
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INVESTIGATIONAL NEW DRUG APPLICATION(S):

Not Applicable

ABSTRACTS AND SCIENTIFIC PRESENTATIONS AT MEETINGS

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 139. Caron W*, Song G*, Kumar P*, Lay J, Gehrig P, **Zamboni W**. Phenotypically profiling the factors affecting the pharmacokinetics and pharmacodynamics of nanoparticles in preclinical models and in patients. Society of Toxicology Annual Meeting, San Antonio, TX, March 2013.
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155. Wang H, Markman B, DeSouza P, Kefford R, Dees EC, Gangadhar T, Piha-Paul SA, **Zamboni WC**, Murphy C, Senderowicz A. A dose-escalation study of weekly intravenous CRLX301 in patients with advanced solid tumor malignancies. Submitted to ESMO 2016.

GRANT PROPOSALS FUNDED

Source of Support: NIH R01 (App ID: AN3592825)
Principal Investigators: A Kabanov, W Zamboni
Total Direct Funding: \$1,494,965
Total Period Support: 12/01/2014 – 11/31/2019
Percent Effort: 10% Effort/ 10% Salary
Project Title: Liposomal Doxorubicin and Pluronic Combination for Cancer Therapy

Source of Support: The Ben and Catherine Ivy Foundation – Ivy Brain Tumor Program
Principal Investigators: M Berens (PI of Pharmacology subcontract: W Zamboni)
Total Direct Funding: \$150,000
Total Period of Support: 07/01/14 – 06/30/16
Percent Effort: 5% Effort / 5% Salary
Project Title: Delivery of Targeted Drugs Across the Blood Brain Barrier to Treat Glioblastoma

Source of Support: 1U54CA198999-01 - CCNE
Principal Investigators: Huang (Contact PI) Project 4 PI: Kabanov
Total Direct Funding: Project 4 \$343,636
Total Period Support: 8/01/2015-7/31/2020
Co-Investigator: W Zamboni
Percent Effort: 7% effort/ 7% salary
Project Title: Nano Approaches to Modulate Host Cell Presponse for Cancer Therapy;
Project 4 Title: High Capacity Polymeric Micelle Therapeutics for Lung Cancer

Source of Support: 1U01CA198910-01
Principal Investigators: Kabanov, Bronich, Liu
Total Direct Funding: \$449,982
Total Period Support: 09/01/2015-8/31/2020
Co-Investigator: W Zamboni
Percent Effort: 10% effort/10% salary
Project Title: Targeted Core Shell Nanogels for Triple Negative Breast Cancer

Source of Support: NIH 1R21EB017938-01
Principal Investigators: S Lai
Total Direct Funding: \$125,000/yr x 2 yrs
Total Period of Support: 09/01/2014 – 08/31/16
Co-Investigator: W Zamboni
Percent Effort: 5% Effort / 5% Salary
Project Title: Prevalence and characteristics of anti-PEG antibodies in humans

Source of Support: NIH RO1 DA023690
Co-Principal Investigators: L Tarantino, T Wiltshire
Total Period of Support: 03/01/13 – 06/30/18
Co-Investigator: W Zamboni
Total Direct Funding: \$75,500/year
Percent Effort: 5% Effort / 5% Salary for Zamboni

Project Title: Organismal and Genetic Networks in Drug Reward and Reinforcement

Source of Support: NIH / NCI (2-P30-CA016086)
Principal Investigators: N Sharpless (PI of Pharmacology Core: W Zamboni)
Total Direct Funding: \$110,843/yr
Total Period of Support: 12/01/16 – 11/30/21
Percent Effort: 10% Effort / 10% Salary for Zamboni
Project Title: Cancer Center Support Grant

Source of Support: NIH/NCI Experimental Therapeutics-Clinical Trials Network with Phase 1 Emphasis (ET-CTN) (UM1).
Principal Investigators: C Dees, H Hurwitz
Total Direct Funding: TBD
Total Period of Support: 07/01/14 – 06/30/19
Co-Investigator: W Zamboni (Director of Pharmacology Core)
Percent Effort: 1% Effort / 1% Salary

Source of Support: UNC LCCC Developmental Research Awards 2014
Principal Investigators: W Zamboni
Total Direct Funding: \$50,000
Total Period of Support: 08/01/2014 – 07/31/2016
Percent Effort: 5% Effort / 0% Salary
Project Title: Evaluation of Mediators of Mononuclear Phagocyte System (MPS) Function and Nanoparticle Pharmacology in Obese and Non-Obese Patients with Ovarian and Endometrial Cancer enrolled on the UNC Cancer Survivorship Cohort (CSC)

Source of Support: UNC Eshelman Institute for Innovation
Principal Investigators: W Zamboni, S Chang
Total Direct Funding: \$50,000
Total Period of Support: 08/01/15 – 09/30/16
Percent Effort: 5% Effort / 0% Salary
Project Title: Enhancing Tumor Delivery of Nanoparticle Anticancer Agents using Microbeam Radiation Therapy

Source of Support: UNC Eshelman Institute for Innovation
Principal Investigators: D Carpenter, A Sage, W Zamboni
Total Direct Funding: \$50,000
Total Period of Support: 10/01/15 – 09/30/16
Percent Effort: 5% Effort / 0% Salary
Project Title: Creating the first non-invasive wearable technology to continuously monitor and improve patient medication adherence

Source of Support: 1U54CA198999-01 – CCNE – Pilot Grant Program
Principal Investigators: S Chang, W Zamboni
Total Direct Funding: \$50,000
Total Period of Support: 12/01/15 – 11/31/16
Percent Effort: 5% Effort / 0% Salary

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Project Title: Enhancing Tumor Delivery of Nanoparticle Anticancer Agents using Microbeam Radiation Therapy

Source of Support: NemuCore
Principal Investigators: W Zamboni
Total Direct Funding: \$75,000
Total Period of Support: 07/01/14 – 06/30/16
Percent Effort: 5% Effort / 5% Salary
Project Title: Development of Pt and Gd containing Nano-emulsions

Source of Support: NexImmune
Principal Investigators: W Zamboni
Total Direct Funding: \$61,672
Total Period of Support: 08/01/15 – 03/31/16
Percent Effort: 5% Effort / 5% Salary
Project Title: Assay Development and Validation for Quantitation of Kb-SIY-dimer and anti-CD28 ligands in Solution for CMC Studies by High Resolution Mass Spectrometry (HRAM)

Source of Support: NCSU College of Veterinary Medicine Pilot Grant
Principal Investigators: M Risselada, K Messenger, W Zamboni
Total Direct Funding: \$11,930
Total Period of Support: 04/24/15 – 12/31/15
Percent Effort: 2% Effort / 2% Salary
Project Title: Subcutaneous administration of carboplatin in pluronic F127 in a rodent model

Source of Support: UNC LCCC Pilot Study
Principal Investigators: D Darr, W Zamboni
Total Direct Funding: \$20,000
Total Period of Support: 10/01/15 – 09/30/16
Percent Effort: 0% Effort / 0% Salary
Project Title: Analytical and PK studies of S1 in mice

Source of Support: NIH / NCI T32-CA009156-35
Principal Investigators: J Pagano, B Weissman
Total Period of Support: 01/01/10 – 12/31/15
Co-Investigator: William C. Zamboni
Percent Effort: 0% Effort / 0% Salary
Project Title: T32 Training Grant in Cancer Research

GRANT PROPOSALS PENDING

Source of Support: NIH RO1 CA208049-01
Principal Investigators: W Zamboni, S Chang
Total Direct Funding: \$250,000/yr
Total Period of Support: 09/01/16 – 08/31/21
Percent Effort: 20% Effort / 20% Salary

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Project Title: Enhance Tumor Delivery of Carrier Mediated Agents by Microbeam Radiation Therapy

Source of Support: PAR-14-285 U01
Principal Investigators: T Coleman, W Zamboni
Total Direct Funding: \$173,052
Total Period Support: 3/01/2016-02/28/2021
Percent Effort: 17% effort/ 17% salary
Project Title: Regional Brain Delivery of Molecularly Targeted Therapies for GBM

Source of Support: NIH RO1 PAR-14-286
Principal Investigators: E Batrakova
Co-Investigator: W Zamboni
Total Direct Funding: \$250,000/yr
Total Period of Support: 07/01/15 – 06/30/18
Percent Effort: 5% Effort / 5% Salary
Project Title: Personalized medicine for therapy of Parkinson's Disease using living monocytes as drug carriers

Source of Support: FDA Broad Agency Announcement (FDABAA-13-00119)
Principal Investigators: W Zamboni
Total Direct Funding: \$275,000/yr x 5 yrs
Total Period Support: 09/01/2015 – 08/31/2020
Percent Effort: 10% Effort/ 10% Salary
Project Title: Effect of Body Habitus on the Pharmacokinetics and Pharmacodynamics of Nanoparticles and Liposomes

Source of Support: The FDA Office of Women's Health (OWH)
Principal Investigators: P Zou; W Zamboni
Total Direct Funding: \$150,000/yr x 1 yrs
Total Period Support: 01/01/2016 – 12/31/16
Percent Effort: 2% Effort/ 2% Salary
Project Title: The FDA Office of Women's Health FY2016 Intramural Scientific Research Funding Program – Population PK of Doxil and MPS Function Based on Sex

Source of Support: Guerbet Pharmaceuticals
Principal Investigators: R Semelka; W Zamboni
Total Direct Funding: \$415,026
Total Period of Support: 08/01/15 – 12/31/16
Percent Effort: 5% Effort / 5% Salary
Project Title: Evaluation of gadolinium (Gd) disposition in patients receiving gadolinium-based contrast agents (GBCAs)

Source of Support: Center for Translational Cancer Nanomedicine at Northeastern University
Principal Investigators: W Zamboni
Total Direct Funding: \$14,000
Total Period of Support: 02/01/16 – 05/31/16
Percent Effort: 2% Effort / 2% Salary

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Project Title: ICP-MS Analysis of Platinum (Pt) in Blood, Kidney, Liver, Lung, and Heart as Part of the Study of Pharmacokinetic Analysis of Platinum Derivatives Following Systemic Administration in Mice

Source of Support: UNC Eshelman Institute for Innovation – Student and Postdoctoral Fellow
Principal Investigators: A Lucas; W Zamboni (Advisor)
Total Direct Funding: \$25,000
Total Period of Support: 08/01/16 – 12/31/17
Percent Effort: 10% Effort / 0% Salary
Project Title: Phenotypic Probe to Individualize the Treatment of Monoclonal Antibodies and Antibody Drug Conjugates

Source of Support: NexImmune
Principal Investigators: W Zamboni
Total Direct Funding: \$110,000
Total Period of Support: 05/01/16 – 04/30/17
Percent Effort: 5% Effort / 5% Salary
Project Title: Assay Development and Validation for Quantitation of Kb-SIY-dimer and anti-CD28 ligands in Biological Solutions by High Resolution Mass Spectrometry (HRAM) as part of In Vivo Pharmacokinetic Studies in Mice

GRANT PROPOSALS PAST FUNDING

Source of Support: NIH / NCI (1 U54 CA151652-01)
Principal Investigators: J DeSimone (PI of Pharmacology Core: W Zamboni)
Total Direct Funding: \$99,701
Total Period of Support: 09/01/10 – 08/31/15
Percent Effort: 10% Effort / 10% Salary for Zamboni
Project Title: Carolina Center of Cancer Nanotechnology Excellence

Source of Support: NIH / SAIC S10-155
Principal Investigators: J Hrkach, WC Zamboni
Total Direct Funding: \$120,993
Total Period of Support: 09/01/10 – 08/31/11
Percent Effort: 5% Effort / 5% Salary
Project Title: Pharmacologic Studies of BIND-Vincristine in Non-human Primates

Source of Support: NIH / NCI 3U54CA119343-05S2
Principal Investigators: J DeSimone; W Zamboni
Total Direct Funding: \$74,500
Total Period of Support: 07/01/08 – 12/31/10
Percent Effort: 4% Effort / 4% Salary
Project Title: Characterization of PRINT Nanoparticles Using SKOV-3 Mouse Model

Source of Support: NIH / NIAID BAA-NIAID-DAIT-NIHAI2009060
Principal Investigators: M Jay, R Mumper, W Zamboni
Total Direct Funding: \$4,563,828 (Total Grant Funding)
Total Period of Support: 09/30/10 – 09/29/13

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Percent Effort: 10% Effort / 10% Salary for Zamboni
Project Title: Development of Improved DTPA for Radionuclide Chelation – Phase IV.

Source of Support: NIH / NIAID HHSN266200500045P
Co-Principal Investigators: M Jay; W Zamboni; R Mumper
Total Period of Support: 07/01/08 to 09/29/09
Total Direct Funding: \$100,115/yr
Percent Effort: 12.5% Effort / 12.5% Salary
Project Title: Development of Improved DTPA for Radionuclide Chelation

Source of Support: NCI SBIR Phase II Contract: Multifunctional Therapeutics Based on Nanotechnology (N44CO-17019-36)
Principal Investigators: B Oberhardt (PI of Pharmacology subcontract: W Zamboni)
Total Direct Funding: \$245,000
Total Period of Support: 09/28/12 – 09/27/14
Percent Effort: 5% Effort / 5% Salary
Project Title: NanoVector Phase II SBIR: Multifunctional Therapeutics using Engineered Plant Virus Nanoparticles

Source of Support: NIH / NCI (1 U54 CA151652-01) – Alliance Challenge Project (ACP)
Principal Investigators: W Zamboni, P Decuzzi
Total Direct Funding: \$40,000/yr
Total Period of Support: 07/01/12 – 06/30/13
Percent Effort: 5% Effort / 5% Salary for Zamboni
Project Title: A High Throughput Screening Platform with Mathematical Modeling to Evaluate the Interactions between Nanoparticle Agents and the Mononuclear Phagocyte System (MPS)

Source of Support: American Brain Tumor Association Discovery Grant
Principal Investigator: W Zamboni
Total Period of Support: 07/01/12 – 06/30/13
Total Direct Funding: \$50,000
Percent Effort: 2% Effort / 2% Salary for Zamboni
Project Title: Nanoparticle Agents for the Treatment of Metastatic Central Nervous System Malignancies

Source of Support: NIH RO1 EB008733-01
Principal Investigator: P Dayton
Total Period of Support: 03/01/11 – 02/28/14
Co-Investigator: WC Zamboni
Total Direct Funding: \$57,500/yr x 2 yrs
Percent Effort: 7.5% Effort / 7.5% Salary
Project Title: Precision Engineering of Ultrasonically-Targeted Drug Delivery Vehicles

Source of Support: NIH / NIDDKD: Nanoscience and Nanotechnology in Biology and Medicine
Principal Investigator: E Wiener
Total Period of Support: 07/01/07 to 08/30/12
Co-Investigator: W Zamboni

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Total Direct Funding: \$84,739/yr
Percent Effort: 10% Effort / 10% Salary
Project Title: A New Dimension in Renal Clearance Design Criteria for Dendrimer Nanostructures

Source of Support: NIH/NCI CA119343
Co-Principal Investigators: William C. Zamboni; Paola Gehrig
Total Direct Funding: \$50,000
Total Period of Support: 01/01/09 – 12/31/11
Percent Effort: 0% Effort / 0% Salary
Project Title: Carolina Center for Cancer Nanotechnology Excellence Pilot Grant: Study Evaluating Measures of the Reticuloendothelial System as Predictors of Doxil Pharmacokinetic and Pharmacodynamic Disposition in Patients with Refractory Ovarian Cancer

Source of Support: NIH / NCI (1 U54 CA151652-01) – Alliance Challenge Project (ACP)
Principal Investigators: W Zamboni, A Kabanov
Total Direct Funding: \$55,000/yr
Total Period of Support: 07/01/13 – 04/30/15
Percent Effort: 2% Effort / 2% Salary for Zamboni
Project Title: Pegylated Liposomal Doxorubicin (PLD) in Combination with Pluronic for Treatment of Ovarian and Breast Cancer

Source of Support: NC TraCS 10KR101122
Principal Investigator: W. Zamboni, G. Song
Total Direct Funding: \$10,000
Total Period of Support: 09/01/11 – 08/31/12
Percent Effort: 0% Effort / 0% Salary
Project Title: Relationship between Monocytes Phagocyte System (MPS) in Tumors and Tumor Delivery and Efficacy of Nanoparticle Anticancer Agents in Genetically Engineered Mouse Models of Breast Cancer

Source of Support: NIH RO1 DA023690
Co-Principal Investigators: L Tarantino, T Wiltshire
Total Period of Support: 07/01/09 – 06/30/11
Co-Investigator: W Zamboni
Total Direct Funding: \$75,554/yr x 2 yrs
Percent Effort: 5% Effort / 5% Salary for Zamboni
Project Title: Organismal and Genetic Networks in Drug Reward and Reinforcement

Source of Support: NIMH (1R01MH093372-01A1)
Principal Investigator: B Philpot
Total Direct Funding: \$8,700
Total Period of Support: 09/01/11 – 08/31/12
Co-Investigator/Mentor: W Zamboni
Percent Effort: 5% Effort / 5% Salary
Project Title: Epigenetic Regulation of Ube3a as a Treatment for Angelman Syndrome

Source of Support: NIH K23

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Principal Investigators: CK Anders
Total Direct Funding: \$TBD
Total Period of Support: 09/01/11 – 08/31/13
Co-Investigator/Mentor: W Zamboni
Percent Effort: 0% Effort / 0% Salary
Project Title: PARP Inhibition to Treat Triple-Negative Breast Cancer Brain Metastases

Source of Support: American Cancer Society Grant
Principal Investigators: CK Anders
Total Direct Funding: \$100,000
Total Period of Support: 07/01/12 – 08/31/14
Co-Investigator/Mentor: W Zamboni
Percent Effort: 2% Effort / 2% Salary
Project Title: PARP Inhibition to Treat Triple-Negative Breast Cancer Brain Metastases

Source of Support: NC TraCS Pilot Grant
Co-Principal Investigators: C Anders, R Miller
Total Period of Support: 07/01/12 – 06/30/14
Co-Investigator: W Zamboni
Total Direct Funding: \$50,000
Percent Effort: 0% Effort / 0% Salary for Zamboni
Project Title: Nanoparticle Anticancer agents for the Treatment of Metastatic Central Nervous System Malignancies

Source of Support: Lilly Research Awards Program (LRAP)
Principal Investigators: WC Zamboni
Total Direct Funding: \$98,000/yr x 1 yr
Total Period of Support: 06/01/13 – 05/31/15
Percent Effort: 10% Effort / 10% Salary
Project Title: A High Throughput Screening Platform to Evaluate the Interactions between Nanoparticle and Non-Nanoparticle Agents and the Mononuclear Phagocyte System (MPS) in Humans and Animal Models

Source of Support: Merrimack Pharmaceuticals
Principal Investigators: W Zamboni
Total Direct Funding: \$156,000
Total Period of Support: 06/01/2014 – 02/28/2015
Percent Effort: 10% Effort / 10% Salary
Project Title: Evaluation of Tumor Profiling, Imaging, Pharmacokinetics and Efficacy of Liposomal Anticancer Agents in Preclinical Tumor Models

Source of Support: Onyx Pharmaceuticals
Principal Investigators: W Zamboni
Total Direct Funding: \$125,820
Total Period of Support: 06/01/2014 – 05/31/15
Percent Effort: 5% Effort / 5% Salary
Project Title: Evaluation of the pharmacodynamics, pharmacokinetics and efficacy of PEGylated liposomal carfilzomib and non-liposomal carfilzomib in female

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nu/nu mice bearing orthotopic A549 NSCLC tumors. The A549 NSCLC cells are luciferase expressing cell lines.

Source of Support: Bayer HealthCare AG
Principal Investigators: R Goldberg; WC Zamboni
Total Direct Funding: \$129,134
Total Period of Support: 02/01/11 – 07/01/14
Percent Effort: 10% Effort / 10% Salary
Project Title: Pharmacokinetic Study of Irinotecan Alone and in Combination with Regorafenib as Part of the Placebo-Controlled Phase II Study of Regorafenib in Combination with FOLFIRI as Second-Line Therapy in Patients with K-RAS or BRAF Mutant Metastatic Colorectal Cancer

Source of Support: Hoffman-La Roche, Inc.
Principal Investigators: J Shields, WC Zamboni
Total Direct Funding: \$35,000 (\$17,500 for Zamboni)
Total Period of Support: 02/01/12 – 01/31/13
Percent Effort: 5% Effort / 5% Salary
Project Title: Assessment of RO5212054/PLX3603 to 1) radiosensitize B-Raf mutant melanoma cells in vitro and 2) radiosensitize and/or inhibit melanoma brain tumor growth in vivo

Source of Support: SciDose, LLC
Principal Investigators: WC Zamboni
Total Direct Funding: \$97,994
Total Period of Support: 09/01/11 – 08/30/12
Percent Effort: 5% Effort / 5% Salary
Project Title: Evaluation of the protein binding for novel formulations of Docetaxel

Source of Support: Mallinckrodt/Covidien
Principal Investigators: WC Zamboni
Total Direct Funding: \$196,910
Total Period of Support: 02/01/11 – 08/01/11
Percent Effort: 10% Effort / 10% Salary
Project Title: Pharmacokinetic Screening of PEGylated Liposomal Formulations of Cisplatin in nu/nu Female Mice Bearing KB Human Nasopharyngeal Xenografts

Source of Support: NC TraCS Institute
Principal Investigator: W Caron
Total Direct Funding: \$10,000
Total Period of Support: 07/01/10 – 06/31/11
Co-Investigator/Mentor: W Zamboni
Percent Effort: 0% Effort / 0% Salary
Project Title: Development of an *Ex Vivo* Phenotypic Probe to Guide Pegylated Liposomal Doxorubicin (Doxil) Therapy in Patients

Source of Support: Mallinckrodt/Covidien
Principal Investigators: WC Zamboni

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Total Direct Funding: \$275,910
Total Period of Support: 07/01/10 – 05/30/11
Percent Effort: 10% Effort / 10% Salary
Project Title: Efficacy and Pharmacology Studies of Folr1 Ab-SPI-077 compared with SPI-077 in Mice Bearing KB Human Nasopharyngeal Xenografts

Source of Support: SciDose, LLC
Principal Investigators: WC Zamboni
Total Direct Funding: \$252,994
Total Period of Support: 10/01/10 – 09/30/11
Percent Effort: 7.5% Effort / 7.5% Salary
Project Title: Pharmacology Studies of Curcumin-Succinate-PEG400 Conjugate compared with Curcumin In Vitro Systems and Tumor Models

Source of Support: Mersana Therapeutics, Inc.
Principal Investigators: WC Zamboni
Total Direct Funding: \$221,332
Total Period of Support: 05/01/09 – 08/30/10
Percent Effort: 10% Effort / 10% Salary for Zamboni
Project Title: Assay Development and LC-MS/MS Analysis as part of the Study Evaluating Plasma, Tissue, and Tumor PK of XMT-1001 and CPT-11 in Mice Bearing HT-29 Human Colon Carcinoma Xenografts

Source of Support: University Cancer Research Fund
Co-Principal Investigators: W Zamboni; P Gehrig
Total Direct Funding: \$125,000
Total Period of Support: 01/01/09 – 12/31/10
Percent Effort: 5% Effort / 5% Salary
Project Title: Study Evaluating Measures of the Reticuloendothelial System as Predictors of Doxil Pharmacokinetic and Pharmacodynamic Disposition in Patients with Refractory Ovarian Cancer

Source of Support: Carmel Pharma
Principal Investigators: W Zamboni
Total Direct Funding: \$40,500/year
Total Period of Support: 05/01/10 – 04/30-15
Percent Effort: 2% Effort / 2% Salary
Project Title: ChemoGLO Kits and Reference Laboratory for Chemotherapy Environmental Contamination in Pharmacies and Healthcare Areas

Source of Support: Sanofi-Aventis Oncology
Principal Investigators: R Edwards, K Zorn, WC Zamboni
Total Direct Funding: \$125,000
Total Period of Support: 07/01/07 – 10/01/10
Percent Effort: 8% Effort / 8% Salary
Project Title: Parallel Phase I Studies of Docetaxel IV in combination with Oxaliplatin IP and Docetaxel IP in combination with Oxaliplatin IV in patients with Persistent or Recurrent Ovarian Cancer

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Source of Support: NIH / NCI P42 Grant
Principal Investigator: Jon Serody
Total Direct Funding: \$250,000
Total Period of Support: 12/01/08 – 12/01/10
Co-Investigator: William C. Zamboni, Pharm.D., Ph.D.
Percent Effort: 0% Effort / 0% Salary
Project Title: STTR Phase II Grant: Blockage of NF-Kappa B for Prevention/Treatment of GVHD

Source of Support: PA-06-134 / NIAID Advanced Technology SBIR
Co-Principal Investigators: N Sharpless
Total Direct Funding: \$65,384
Total Period of Support: 04/01/09 – 03/31/10
Co-Investigator: WC Zamboni
Percent Effort: 0% Effort / 0% Salary for Zamboni
Project Title: G-Zero Therapeutics

Source of Support: Carmel Pharma
Principal Investigators: WC Zamboni
Total Direct Funding: \$68,279
Total Period of Support: 05/01/09 – 04/30-10
Percent Effort: 2.5% Effort / 2.5% Salary for Zamboni
Project Title: Development of Wipe Sampling Kits, Methods, and Analytical Assays for Paclitaxel and Docetaxel as Related to Environmental Contamination in Pharmacies and Healthcares Areas

Source of Support: Hana Biosciences, Inc.
Principal Investigator: William C. Zamboni, PharmD, PhD
Total Direction Funding: \$72,000
Total Period of Support: 05/01/08 – 5/01/10
Percent Effort: 15% Effort / 15% Salary Support
Project Title: Analytical Studies of Encapsulated, Released, and Sum Total Topotecan in Plasma as part of the Phase I Study of TLI

Source of Support: Hana Biosciences, Inc.
Principal Investigator: William C. Zamboni
Total Direction Funding: \$84,441
Total Period of Support: 05/01/07 – 5/01/08
Percent Effort: 10% Effort / 10% Salary Support
Project Title: Development of Sample Processing Methods and LC-MS Assay for the Measurement of Liposomal Encapsulated and Released Drug for Liposomal Topotecan in Human Plasma

Source of Support: Sanofi-Aventis Pharmaceuticals, Inc. (Grant PI: Dr. Levi Downs, Univ. of Minnesota)
Principal Investigator: W.C. Zamboni, Pharm.D., Ph.D.
Total Direct Funding: \$35,658
Total Period of Support: 07/01/07 – 10/01/09
Percent Effort: 5% Effort / 5% Salary

Project Title: LC-MS and Pharmacokinetics of Docetaxel as Part of Phase I Trial of Docetaxel as a Continuous IV infusion in Patients with Advanced Ovarian Cancer

Source of Support: Sanofi-Aventis Pharmaceuticals, Inc.

Principal Investigator: Joe Kelly, M.D.

Co-Principal Investigator: W.C. Zamboni, Pharm.D., Ph.D.

Total Direct Funding: \$66,850

Total Period of Funding: 07/01/04 – 06/30/09

Percent Effort: 15% Effort / 15% Salary

Project Title: The use of MDR1 and CYP Pharmacogenetic Variables in Designing Individualized Therapy for the Treatment of Ovarian Cancer

Source of Support: Scaife Foundation Grant for Ovarian Cancer Research

Principal Investigator: William C. Zamboni

Total Direct Funding: \$50,000

Total Period of Support: 09/01/06 – 05/01/08

Percent Effort: 5% Effort / 5% Salary

Project Title: Pilot Study Evaluating Phenotypic Measures of the Reticuloendothelial System as Predictors of Doxil Pharmacokinetic and Pharmacodynamic Disposition in Patients with Refractory Ovarian Cancer

Source of Support: Aventis Pharmaceuticals, Inc. (Grant PI: Kunle Odunsi, Roswell Cancer Center, Buffalo, NY)

Principal Investigator: W.C. Zamboni

Total Direct Funding: \$42,500

Total Period of Support: 04/01/02 – 08/31/07

Percent Effort: 7.5% Effort / 7.5% Salary

Project Title: Pharmacogenetic, Pharmacologic, and Pharmacokinetic Study of Docetaxel as Part of Phase II Study of Weekly Docetaxel in Patients with Relapsed Ovarian Cancer

Source of Support: Aventis Pharmaceuticals, Inc. (Grant PI: Dr. Yuhchayou Chen, Univ. of Rochester Medical Center)

Principal Investigator: W.C. Zamboni

Total Direct Funding: \$30,000

Total Period of Support: 04/01/02 – 08/31/07

Percent Effort: 5% Effort / 5% Salary

Project Title: HPLC and Pharmacokinetics of Docetaxel as Part of Phase II Study of Triple-Agent Chemotherapy Followed by Pulsed Radiosensitizing Docetaxel and Radiation for NSCLC

Source of Support: ALZA Pharmaceuticals, Inc.

Principal Investigator: W.C. Zamboni

Total Direct Funding: \$245,000

Total Period of Support: 04/01/03 – 08/01/07

Percent Effort: 25% Effort / 25% Salary

Project Title: Plasma, tissue, and tumor disposition of STEALTH liposomal and non-liposomal CKD602 in preclinical models

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Source of Support: ALZA Pharmaceuticals, Inc.
Principal Investigator: W.C. Zamboni
Total Direct Funding: \$68,898
Total Period of Support: 04/01/03 – 07/01/07
Percent Effort: 12.5% Effort / 12.5% Salary
Project Title: Phase I and pharmacokinetic study of STEALTH liposomal CKD602 in patients with refractory solid tumors

Source of Support: GlaxoSmithKline
Principal Investigator: William C. Zamboni
Total Direct Funding: \$55,576
Total Period of Support: 10/01/06 – 10/01/07
Percent Effort: 15% Effort / 15% Salary
Project Title: Pharmacokinetic Studies of Carboplatin Alone and In Combination with Lapatinib

Source of Support: ALZA Pharmaceuticals, Inc.
Principal Investigator: W.C. Zamboni
Total Direct Funding: \$65,000
Total Period of Support: 04/01/06 – 04/01/07
Percent Effort: 10% Effort / 10% Salary
Project Title: Evaluation between the disposition of STEALTH liposomal CKD-602 (S-CKD602) and the Reticuloendothelial System in Preclinical Tumor Models

Source of Support: ALZA Pharmaceuticals, Inc.
Principal Investigator: W.C. Zamboni
Total Direct Funding: \$50,000
Total Period of Support: 04/01/06 – 04/01/07
Percent Effort: 30% Effort / 30% Salary
Project Title: Pharmacokinetic Analysis of STEALTH liposomal CKD-602 (S-CKD602) as part of a Phase I Study

Source of Support: Aventis Pharmaceuticals, Inc.
Principal Investigator: W.C. Zamboni
Total Direct Funding: \$134,599
Total Period of Support: 03/01/03 – 08/01/07
Percent Effort: 15% Effort / 15% Salary
Project Title: Plasma and tumor pharmacokinetics of EGFR AS oligonucleotide and docetaxel as part of the optimization of EGFR antisense oligonucleotides plus docetaxel for treatment of head and neck cancer

Source of Support: Aventis and Sanofi Pharmaceuticals, Inc. (Grant PI: Jimmy Wong, MD, Georgetown University Cancer Ctr, Washington, DC)
Principal Investigator: W.C. Zamboni
Total Direct Funding: \$85,600
Total Period of Support: 08/01/04 – 10/31/07
Percent Effort: 5% Effort / 5% Salary

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Project Title: Phase I and Pharmacokinetic study of docetaxel and oxaliplatin

Source of Support: Aventis Pharmaceuticals, Inc. (Grant PI: Marwan Fakih, MD Roswell Cancer Center, Buffalo, NY)

Principal Investigator: W.C. Zamboni

Total Direct Funding: \$40,000

Total Period of Support: 04/01/03 – 10/01/07

Percent Effort: 5% Effort / 5% Salary

Project Title: Phase I and Pharmacokinetic study of docetaxel, oxaliplatin, and cisplatin

Source of Support: NIH

Principal Investigator: Chandra Belani

Total Direct Funding: \$480,382

Total Period of Support: 12/01/01 – 11/30/06

Percent Effort: 2.5% Effort / 2.5% Salary

Project Title: Phase I Clinical Trials of Novel Anticancer Agents

Source of Support:: Pittsburgh Foundation

Co-Investigator: W.C. Zamboni

Total Direct Funding: \$24,319

Total Period of Funding: 07/01/04 – 06/30/06

Project Title: The Role of Pharmacogenetics in Development of Individualized Chemotherapy for Women with Advanced Ovarian Cancer

Source of Support: NIH (Grant PI: Jennifer Grandis)

Co-Investigator: W.C. Zamboni

Total Direct Funding: \$197,020

Total Period of Funding: 07/01/04 – 12/31/06

Percent Effort: 10% Effort / 10% Salary

Project Title: RO1: Stat3 as a Therapeutic Target in Head and Neck Cancer

Source of Support: Aventis Pharmaceuticals, Inc.

Principal Investigator: W.C. Zamboni

Total Direct Funding: \$32,000

Total Period of Support: 04/01/03 – 10/01/05

Percent Effort: 5% Effort / 5% Salary

Project Title: HPLC and Pharmacokinetics of Docetaxel as Part of Phase I Study of Docetaxel and Capecitabine in Patients with Solid Tumors

Source of Support: Rhone-Poulenc Rorer Pharmaceutical Inc.

Principal Investigator: W.C. Zamboni

Total Direct Funding: \$156,863

Total Period of Support: 10/1/99 to 12/01/05

Percent Effort: 5% Effort / 5% Salary

Project Title: Evaluating the Response and Pharmacokinetics of the Combination of Docetaxel and 9-NC in Mice Bearing Tumor Xenografts

Source of Support: SuperGen Pharmaceuticals, Inc.

Co-Investigator: W.C. Zamboni

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Total Direct Funding: \$57,404
Total Period of Funding: 02/01/04 – 01/31/05
Percent Effort: 5% Effort / 5% Salary
Project Title: PK Analysis of 9NC and 9AC as Part of the Study Evaluating the Effect of Food on the Oral Absorption of Rubitecan

Source of Support: SuperGen Pharmaceuticals, Inc.
Co-Investigator: W.C. Zamboni
Total Direct Funding: \$22,250
Total Period of Funding: 10/01/04 – 07/01/05
Percent Effort: 5% Effort / 5% Salary
Project Title: Disposition of 9NC and 9AC in Relation to ABC Genotypes

Source of Support: SuperGen Pharmaceuticals, Inc.
Co-Investigator: W.C. Zamboni
Total Direct Funding: \$32,780
Total Period of Funding: 10/01/03 – 07/01/05
Percent Effort: 5% Effort / 5% Salary
Project Title: Bioequivalent Study of Two formulations of Rubitecan

Source of Support: NIH / NCI
Identification No.: RFP NCI N01-CM-97019-58
Principal Investigator: M.J. Egorin
Total Direct Funding: \$1,159,960
Total Period of Support: 12/1/99 to 12/01/04
Percent Effort: 10% Effort / 10% Salary
Project Title: Preclinical Pharmacologic Studies of Antitumor Agents

Source of Support: NIH, NCI
Principal Investigator: W.C. Zamboni
Total Direct Funding: \$47,061
Total Period of Support: 04/01/01 - 03/30/02
Percent Effort: 5% Effort / 0% Salary
Project Title: STTR Phase I Grant R41-CA91700: Potent Topoisomerase I inhibition by the Silatecan, DB-67

Source of Support: Eli Lilly Pharmaceuticals, Inc. (Grant PI: Dr. Sridhar Mani, Montefiore University Hospital, NY, NY)
Principal Investigator: W.C. Zamboni
Total Direct Funding: \$10,000
Total Period of Support: 04/01/02 – 03/31/02
Percent Effort: 5% Effort / 5% Salary
Project Title: HPLC and Pharmacokinetics of Gemcitabine as Part of the Phase I Trial of Gemcitabine, Oxaliplatin, and 5FU in Patients with Solid Tumors

Source of Support: ACCP– Aventis Oncology Fellowship
Principal Investigator: William C. Zamboni
Total Direct Funding: \$30,000
Total Period of Support: 07/01/01 – 07/01/02

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Percent Effort: 10% Effort / 0% Salary
Project Title: Evaluation of Cisplatin Tumor Disposition Using Microdialysis in Patients with Melanoma.

Source of Support: Supergen Pharmaceutical Inc.
Principal Investigator: W.C. Zamboni
Total Direct Funding: \$33,508
Total Period of Support: 11/1/99 to 11/30/01
Percent Effort: 5% Effort / 5% Salary
Project Title: HPLC and Pharmacokinetic Analysis of 9-NC as Part of the Study Evaluating the Effect of Food on 9-NC Oral Absorption

Source of Support: Supergen Pharmaceutical Inc.
Principal Investigator: W.C. Zamboni
Total Direct Funding: \$60,616
Total Period of Support: 10/1/99 to 10/30/01
Percent Effort: 5% Effort / 5% Salary
Project Title: HPLC and Pharmacokinetic Analysis of RFS2000 and its 9-AC Metabolite as Part of a Phase I Trial of RFS2000 in Patients with Refractory Solid Tumors

Source of Support: Supergen Pharmaceutical Inc.
Principal Investigator: W.C. Zamboni
Total Direct Funding: \$58,900
Total Period of Support: 7/1/99 to 6/30/01
Percent Effort: 10% Effort / 10% Salary
Project Title: HPLC and Pharmacokinetic Analysis of RFS2000 and its 9-AC Metabolite as Part of a Phase II Trial of RFS2000 in Patients with Advanced Colo-Rectal Cancer

Source of Support: Supergen Pharmaceutical Inc.
Principal Investigator: W.C. Zamboni
Total Direct Funding: \$87,510
Total Period of Support: 7/1/99 to 6/30/00
Percent Effort: 15% Effort / 15% Salary
Project Title: Evaluating the Relationship between Plasma Exposure of RFS2000 in Mice Bearing Human Colon Xenografts

Source of Support: Papa John's / V Foundation
Principal Investigator: W.C. Zamboni
Total Direct Funding: \$5,000
Total Period of Support: 07/01/00 to 06/30/01
Percent Effort: 0% Effort / 0% Salary
Project Title: Factors Affecting the Tumor Disposition of Anticancer

Source of Support: The American Academy of Otolaryngology-Head and Neck Surgery Foundation
Principal Investigator: Paul L. Leong
Total Direct Funding: \$6,000

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Percent Effort: 5% Effort / 0% Salary
Project Title: Targeting Activated Stat3 in HNSCC

Source of Support: American College of Clinical Pharmacy and Rhone-Poulenc Rorer
Pharmaceuticals Inc.

Principal Investigator: W.C. Zamboni
Total Direct Funding: \$10,000
Total Period of Support: 7/1/99 to 6/30/00
Percent Effort: 10% Effort / 0% Salary
Project Title: Disposition of Liposomal-Cisplatin (SPI-77) and Cisplatin in Solid Tumors

Source of Support: Sequus Pharmaceutical Inc.
Principal Investigator: W.C. Zamboni
Total Direct Funding: \$47,061
Total Period of Support: 3/1/99 to 2/28/00
Percent Effort: 10% Effort / 0% Salary
Project Title: SPI-77 Tumor Extracellular Fluid and Systemic Disposition in Mice
Bearing B16 Murine Melanoma Tumors

Source of Support: Sequus Pharmaceutical Inc.
Principal Investigator: W.C. Zamboni
Total Direct Funding: \$47,061
Total Period of Support: 3/15/99 to 3/14/00
Percent Effort: 10% Effort / 0% Salary
Project Title: Tumor Extracellular Fluid and Systemic Disposition of SPI-77 Alternative in
Mice Bearing B16 Murine Melanoma Tumors

Source of Support: NIH, NCI
Identification No.: REP NCI-CM-57199-12
Principal Investigator: M.J. Egorin
Annual Total Direct Cost: \$172,429
Total Direct Funding: \$938,279
Total Period of Support: 3/1/98 to 11/30/99
Percent Effort: 20% Effort / 10% Salary
Project Title: Preclinical Pharmacological Studies of Antitumor and
Anti-HIV Agents

Source of Support: NIH, NCI
Identification No.: 1U01CA69854
Principal Investigator: D. Van Echo
Annual Total Direct Cost: \$271,551
Total Period of Support: 3/1/98 to 2/28/03
Percent Effort: 15% Effort / 15% Salary
Project Title: Phase I Trials of Anticancer Agents

Source of Support: ACCP, Rhone-Poulenc Rorer
Principal Investigator: C. F. Stewart
Total Direct Funding: \$22,000
Total Period of Support: 7/1/97 to 6/30/98

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Percent Effort: 80% Effort / 75% Salary
Project Title: Cerebrospinal Fluid Disposition of Topoisomerase I Inhibitors in the
Nonhuman Primate Model