Claudia Gottstein

4755B 8th Street • Carpinteria, CA, 93013 • Phone: (805) 452-6717 • E-Mail: c_gottstein@gmx.de • Web: claudiagottstein.org

CURRICULUM VITAE

EDUCATION

Doctor of Medicine, *summa cum laude*

Albertus Magnus University, Cologne, Germany
Thesis: Immunotoxins Against Neuroblastoma: Generation of Ricin-A chain Immunotoxins directed against GD2 and gp190 and their Evaluation *in vitro* and *in vivo*.
Mentors: Professor Volker Diehl, Professor Andreas Engert

Bachelor of Science in Education

German Sports University, Cologne, Germany
Major: Cardiovascular Prevention and Rehabilitation
Thesis: Epidemiologic Data on the Most Frequent Cancer Types
Mentor: Professor Klaus Schüle

Certificate in Fundamentals of Clinical Trials, Score 100%

Harvard Medical School, Boston, MA
Online Education Program

SELECTED CLASSES OF CONTINUING EDUCATION

- Tumor Microcirculation, Angiogenesis and Metastasis
  Harvard Medical School, Boston, MA
- Monoclonal Antibody Libraries and Phage Display
  CSH Laboratories, Cold Spring Harbor, NY
- Antibody Engineering
  International Business Communications, La Jolla, CA
- Targeting of Drugs: The challenge of peptides and proteins
  NATO Advanced Study Institute, Cape Sounion, Greece
- Display Technologies
  International Business Communications, Boston, MA
- Molecular Targets for Cancer Therapy and Prevention
  MD Anderson Cancer Center, Houston, TX
- Teaching Introductory Biology
  Massachusetts Institute of Technology, Boston, MA

PROFESSIONAL HISTORY

2009 - present Adjct. Asst. Professor
University of California Santa Barbara, CA
Department of Molecular, Cellular and Developmental Biology and Biomolecular Science and Engineering Program

2008 - present Asst. Professional Researcher
University of California Santa Barbara, CA
California NanoSystems Institute and Neuroscience Research Institute

2008 - 2013 Director, Biological Nanostructures Laboratory
California NanoSystems Institute at Santa Barbara

2005 - 2008 Asst. Project Scientist
University of California Santa Barbara, CA
Department of Chemical Engineering

1999 - 2005 Independent Investigator, Head of Experimental Oncology and Vascular Biology Laboratory
Albertus Magnus University, Cologne, Germany
Department of Hematology / Oncology

1997 - 1998 Assistant Instructor
University of Texas Southwestern Medical Center at Dallas, TX
Department of Pharmacology

1995 - 1997 Postdoctoral Fellow
University of Texas Southwestern Medical Center at Dallas, TX
Department of Pharmacology
Mentor: Professor Philip E. Thorpe

HONORS AND AWARDS

- Postdoctoral Fellowship, awarded by the German Research Council / Deutsche Forschungsgemeinschaft (DFG)
- Innovation award: 1st prize in patent contest "Innovation Cologne", sponsored by the Ministry of Science and Research

PROFESSIONAL AFFILIATIONS

- American Association for Cancer Research
- German Cancer Society
- European Association for Cancer Research
- American Institute of Chemical Engineers
- Society of Biological Engineering
- Cold Spring Harbor Alumni Association
- California NanoSystems Institute
- Neuroscience Research Institute at University of California Santa Barbara
- Center for Stem Cell Biology and Engineering Santa Barbara
- American Physiological Society
- Project Management Institute

RESEARCH AND TEACHING INTERESTS

Discovery and validation of drug targets for cancer and pulmonary diseases; dynamic phenotypes of circulating and metastasizing tumor cells; "cancer stem cells"; design, development and analysis of antibody-targeted drugs and fusion proteins; pharmacokinetics and pharmacodynamics of targeted drugs; mechanisms of action of "smart" drugs; cancer biology; vascular biology; nanomedicine.

RESEARCH EXPERIENCE

University of California Santa Barbara

- Adjct. Asst. Professor / Senior Scientist

  Target validation of a GPCR, which evolved from a genomic screen on breast cancer cell lines (⇨Presentation: Gordon Conference "Drug Carriers in Medicine & Biology" 2014)

  Generation of an advanced immune antibody library, displayed on bacteriophage, for the

identification of breast cancer stem cell antigens; the library was constructed from blood samples donated by breast cancer patients in the Santa Barbara area in collaboration with A. Wallace, Moores Cancer Center at UCSD; (⇨Presentations: California Breast Cancer Research Program 2010, 2012; Gordon Conference "Drug Carriers in Medicine & Biology" 2012)

Design and prototype development of a microfluidic device for the separation of rare cell populations, in collaboration with A. Cleland, UC Santa Barbara (⇨Pub. 1)

Established generic method for quantification of nanoparticle internalization into cells (⇨Pub. 2)

Utilized bacterial phage display technology to select peptides binding to antigens of interest on cancer cells and viruses (⇨Pub. 3)

Cloning, expression, characterization and translational application of recombinant antibodies for the therapy of cancer, stroke, and pulmonary diseases; collaboration with V. Muzykantov, University of Pennsylvania (⇨Pub. 4, 5, 33)

Albertus Magnus University Cologne

- Independent Investigator

  Design and engineering of Vascular Targeting Agents (VTAs) for the therapy of cancer; first detailed analysis of VTA effects on the coagulation system, first evaluation of VTAs in a human angiogenesis model in mice, in collaboration with J. Nor, University of Michigan (⇨Pub. 8, 11)

  Elucidation of molecular mechanisms of coagulation induction by soluble tissue factor and its fusion proteins; developed strategy to use sensitizers for coagulation induction (⇨Pub. 13)

  Provided proof of principle for first site directed, endothelial targeted, preventive fibrinolytica; collaboration with V. Muzykantov, University of Pennsylvania (⇨Pub. 9, 34, 35)

  Designed a new improved method to clone monoclonal antibodies from hybridoma cell lines; applied the method to clone scFv antibodies against mouse and human vascular surface antigens (⇨Pub. 4, 5, 7, 8, 9)

  Design of an animal model with human vasculature, using stem cells purified from human blood

  Generation and analysis of nanoparticles targeted to cancer vasculature via specific antibodies (⇨Pub. 6, 10)

  Generated new antibodies against activated vascular endothelium (⇨Pub. 36)

  Designed instrument for biomedical research: system for quantitation of locomotoric activity in laboratory animals (⇨Pub. 37); this system won the innovation award of the Cell Center Cologne, a patent contest sponsored by the Ministry of Science and Research

- Graduate Student

  Biochemical conjugation of immunotoxins, which are conjugates of antibodies and cell toxins for targeted therapy of cancer; analysis of immunotoxin effects on cells and in animal models for cancer (⇨Pub. 20, 21, 23, 24)

  Development and characterization of advanced animal models for Hodgkin's lymphoma and neuroblastoma (⇨Pub. 22, 31)

University of Texas Southwestern Medical Center Dallas

- Asst. Instructor, Postdoctoral Fellow

  Design, generation and characterization of recombinant immunotoxins and VTAs; developed the first recombinant, functionally active tissue factor-based coaguligands (⇨Pub. 17)

  Pharmakokinetic measurements of prospective cancer targeting agents (⇨Pub. 18)

  Binding analyses of vascular endothelial growth factor to its receptor (⇨Pub. 19)

  Designed instrument for biomedical research: simple system for highly parallel affinity chromatography (⇨Pub. 14, 44);

TEACHING EXPERIENCE

University of California Santa Barbara

Teaching in the Pharmacology Program of the Molecular, Cellular and Developmental Biology Department (MCDB), in the Biomolecular Science and Engineering Program (BMSE), the Mechanical Engineering Department (ME) and the California NanoSystems Institute (CNSI)

- Developed new catalog graduate course
  BMSE/MCDB238 “Angiogenesis in Health and Disease”
- Developed “Mammalian Cell Culture” course at California NanoSystems Institute
- Taught catalog graduate and undergraduate courses:
  MCDB229 “Protein Structure”
  MCDB103L “Cell Biology Laboratory, upper division”
- Faculty Mentor or Guest Lecturer in catalog courses:
  ME128: “Design of Biomedical Devices“
  ME153 “Capstone Student Design Projects“
  MCDB199 “Independent studies“
  MCDB99 “Independent studies, Honors Program lower division“
  MCDB187: “Pharmacology Colloquium“
  MCDB133L: “Molecular and Cellular Immunobiology Lab“
  MCDB146/246 “Stem Cell Biology“
- Guest Lecturer at University of California Workshop:
  „Mammalian Cell Culture“ as part of the „Advanced Life Cell Imaging“ Workshop
  Neuroscience Research Institute

Albertus Magnus University Cologne

- Taught seminars and lab courses for medical graduate students:
  “Vascular Targeting” as a part of the catalog course “Immunotherapy”
  “Basic Techniques in Biomedical Research” lab course

German Sports University Cologne

- Taught prevention and rehabilitation classes for patients:
  Preventive Back Care
  Cardiovascular Training for heart disease patients (required a licence)
  “Learn to Swim” for cardiovascular patients

Multiple Institutions

- Trained students, laboratory personnel and facility users in instruments, procedures and safety

SCHOLARLY ACTIVITES

2004 - present Reviewer for funding agencies: German Cancer Aid, National Science Foundation (NSF), e.g. panelist for NSF’s division of Chemical, Bioengineering, Environmental, and Transport Systems (CBET).

2003 - present Journal Reviewer, including the journals: Cancer Research, International Journal of Cancer, American Thoracic Society Journal, Chemical Communications, Nanomedicine

1992 - present Scientific presentations at international meetings, including the Gordon Conferences “Drug Carriers in Medicine and Biology” 2010 (poster), 2012 (poster and short talk) and

2014 (2 posters); and the California Breast Cancer Research Program Meetings "From Research to Action" 2010 (poster) and 2012 (invited speaker)

1999 - 2005 Founder and Chair of Vascular Biology Forum at University Cologne

UNIVERSITY SERVICE

2011 - present Member of the Institutional Biosafety Committee (IBC), UC Santa Barbara

2008 - 2013 Director of the Biological Nanostructures Laboratory at the California NanoSystems Institute Santa Barbara, a 1600 sqft state-of-the-Art core facility for protein expression, purification and analysis and for analysis of nanomaterials in a biological context

1999 - 2005 Department coordinator for preclinical *in vivo* studies, Internal Medicine, Albertus Magnus University, Cologne, Germany; involved managing an animal facility at "specific and opportunistic pathogen free" status and consulting for faculty, scientists and students regarding the choice and application of animal models

2003 Implementation of Quality Management System ISO 14000 for preclinical laboratory at Albertus Magnus University Cologne, Germany

2003 - 2005 Supervisor of Departmental Gene Technology Facility, Internal Medicine, Albertus Magnus University, Cologne, Germany

COMMUNITY SERVICE

- Faculty Volunteer at "Tech Trek" Science and Math camp for Girls in Santa Barbara, a project of the American Association of University Women (AAUW)
- Public seminar and tour of University Laboratories for breast cancer patients in the Santa Barbara community, together with local oncologist Dr. Taguchi
- Outreach activities for High School Students and Community College Students, together with the California Science and Engineering Partnership (CSEP), the UCSB Academic Outreach Program, the Ventura County Community College District (VCCCD) and San Marcos High School (Santa Barbara)
- Volunteer at a hotline for alcohol and drug addicts (Suchtnotruf Koeln, Germany)
- Internship in a home for disabled children (St. Josefshaus, Rheinfelden-Herten, Germany)

GRANTS

In Progress

- APP1098742 Hagemeyer (PI), Baker Institute, Melbourne, Australia
  National Health and Medical Research Council (NHMRC) Australia
  Molecular imaging and therapy of cardiac fibrosis in atrial fibrillation and heart failure
  Role: Associate Investigator
- APP1098746 Hagemeyer (PI), Baker Institute, Melbourne, Australia
  National Health and Medical Research Council (NHMRC) Australia
  Targeted nanoparticles for ultrasensitive detection of inflammation
  Role: Associate Investigator

Current

- CH-276 Gottstein (PI)
  Cottage Hospital Research Program Funds 05/21/13-05/20/15
  Discovery of specific antibodies against breast cancer stem cells
  Role: PI

Completed

- URCA 200 Lande, Gottstein 01/01/12-06/30/12
  Design and Prototype Generation of an Electroporation System Accessory Device
  Role: Faculty Mentor
- 15IB-0049 Gottstein (PI) 07/01/09-03/31/12
  California Breast Cancer Research Program
  Antibody based targeting of breast cancer stem cells
  Role: PI
- 26800705 Gottstein (PI) 01/01/04-06/30/05
  Köln Fortune Program at the Faculty of Medicine of the University Cologne
  Development of diagnostic procedures for membrane changes in tumor endothelium
  Role: PI
- 3620/751/31 Gottstein (PI) 01/01/05-06/30/05
  Industry Support
  Generation and *in vitro* characterization of recombinant VEGF (vascular endothelial cell growth factor)
  Role: PI
- 3640/182/21 Gottstein (PI), Engert (PI) 01/01/01-06/30/04
  Novartis Foundation for Therapeutic Research
  Development of Vascular Targeting Agents for oncological diseases
  Role: PI
- 364591 Gottstein (PI) 11/01/03-10/31/04
  Maria Pesch Foundation
  Generation of recombinant vascular specific fusion proteins for preclinical testing
  Role: PI
- 26800537 Gottstein (PI) 01/01/02-12/31/03
  Köln Fortune Program at the Faculty of Medicine of the University Cologne
  Development of a scFv-fusion protein for the treatment of oncological diseases
  Role: PI
- 364578 Gottstein (PI) 11/01/02-10/31/03
  Maria Pesch Foundation
  The procoagulant status in inflammatory diseases and atherosclerosis
  Role: PI
- 364412 Gottstein (PI) 12/01/01-11/30/02
  Nolting Foundation
  Selective sensitization of tumor endothelium for thrombosis inducing agents
  Role: PI
- SFB501 TP06 Gottstein, Engert (PI) 7/01/99 -12/31/02
  German Research Council (DFG)
  Vascular Targeting for Hodgkin's Lymphoma
  Role: PI
- 3649/159/21 Gottstein (PI) 09/01/99-03/31/00
  Moritz Foundation
  Specific tumor infarction as a new approach for tumor therapy
  Role: PI

PUBLICATIONS

Original Articles

1. Rajauria, S., C. Axline, **C. Gottstein**, A.N. Cleland. 2014. High-speed discrimination and sorting of submicron particles using a microfluidic device. *Nano Letters* 15: 469-475. Epub 2014 Dec 9.
2. **Gottstein, C**., Wu, G., Wong, B.J., Zasadzinski, J.A. 2013. Precise quantification of nanoparticle internalization. *ACS Nano* 7:4933-45. Featured at Nanowerk.com.
3. Dane, K.Y., **C. Gottstein**, P.S. Daugherty. 2009. Cell surface profiling with peptide libraries yields ligand arrays that classify breast tumor subtypes. *Molecular Cancer Therapeutics* 8: 1312-1318.
4. Ding, B.S., N. Hong, M. Christofidou-Solomidou, **C. Gottstein**, S.M. Albelda, D.B. Cines, A.B. Fisher, V.R. Muzykantov. 2009. Anchoring fusion thrombomodulin to the endothelial lumen protects against injury-induced lung thrombosis and Inflammation. *American Journal of Respiratory and Critical Care Medicine* 180: 247-256.
5. Ding, B.S., N. Hong, J-C. Murciano, K. Ganguly, **C. Gottstein**, M. Christofidou-Solomidou, S.M. Albelda, A.B. Fisher, D.B. Cines, V.R. Muzykantov. 2008. Prophylactic thrombolysis by thrombin-activated latent pro-urokinase targeted to PECAM-1 in the pulmonary vasculature. *Blood* 111:1999-2006.
6. Gosk, S., T. Moos, G. Bendas/**C. Gottstein**. 2008. VCAM-1 directed immunoliposomes selectively target tumour vasculature in vivo. *Biochimica et Biophysica Acta* 1778:854-863.
7. Danielyan, K., B.S. Ding, **C. Gottstein**, D.B. Cines, V.R. Muzykantov. 2007. Delivery of anti-platelet-endothelial cell adhesion molecule single-chain variable fragment-urokinase fusion protein to the cerebral vasculature lyses arterial clots and attenuates postischemic brain edema. *Journal of Pharmacology and Experimental Therapy* 321:947-52. Featured on Journal Cover.
8. Dienst, A., A. Grunow, M. Unruh, B. Rabausch, J.E. Nor, J.W.U. Fries, **C. Gottstein**. 2005. Specific occlusion of murine and human tumor vasculature by VCAM-1 targeted recombinant fusion proteins. *Journal of the National Cancer Institute* 97: 733-747. Featured in Editorial.
9. **Gottstein C.**/B-S. Ding, A. Grunow, A. Kuo, K. Ganguly, S.M. Albelda, D.B. Cines, V.R. Muzykantov 2005. Endothelial targeting of a recombinant construct fusing a PECAM-1 single chain variable antibody fragment (scFv) with pro-urokinase facilitates prophylactic thrombolysis in the pulmonary vasculature. *Blood* 106:4191-4198.
10. Gosk, S., **C. Gottstein**/G. Bendas. 2005. Targeting of immunoliposomes to endothelial cells expressing VCAM: a future strategy in cancer therapy. *Int J Clin Pharmacol Ther* 43: 581-582.
11. Unruh, M., A. Grunow, **C. Gottstein**. 2005. Systemic coagulation parameters in mice after treatment with vascular targeting agents. *Thrombosis Journal* 3:21-33.
12. Borchmann P., J.F. Treml, H. Hansen, **C. Gottstein**, R. Schnell, O. Staak, H. Zhang, T. Davis, T. Keler, V. Diehl, R.F. Graziano, A. Engert. 2003. The human anti-CD30 antibody 5F11 shows in vitro and in vivo activity against malignant lymphoma. *Blood* 102: 3737-3742.
13. Philipp, J., A. Dienst, M. Unruh, A. Wagener, A. Grunow, A. Engert, J.W.U. Fries, **C. Gottstein**. 2003. Soluble tissue factor induces coagulation on tumor endothelial cells in vivo if coadministered with low-dose lipopolysaccharides. *Arteriosclerosis Thrombosis and Vascular Biology* 23: 905-910.
14. **Gottstein, C.**, R. Forde. 2002. Affinity chromatography system for parallel purification of recombinant proteins. *Protein Engineering* 15: 775-777.
15. Tur, M.K., S. Sasse, M. Stocker, K. Djabelkhir, M. Huhn, B. Matthey, **C. Gottstein**, T. Pfitzner, A. Engert, S. Barth. 2001. An anti-GD2 single chain Fv selected by phage display and fused to Pseudomonas exotoxin A develops specific cytotoxic activity against neuroblastoma derived cell lines. *International Journal of Molecular Medicine* 8: 579-584.

16. Forde, R., **C. Gottstein**, D. Lange. 2001. Improved analytical methodology for the detection of *cryptosporidium* and *giardia*. *International Environmental Technology* 11: 37-38.
17. **Gottstein, C.**, W. Wels, B. Ober, P.E. Thorpe. 2001. Generation and characterization of recombinant Vascular Targeting Agents from hybridoma cell lines. *Biotechniques* 30: 190-200.
18. **Gottstein, C.,** R. Forde. 1999. In vivo measurement of biodistribution kinetics of radiolabeled compounds in laboratory animals. *Biotechniques* 27: 934-938.
19. Huang, X., **C. Gottstein**, R.A. Brekken, P. Thorpe. 1998. Expression of VEGF receptor 2 and characterization of its binding to VEGF via surface plasmon resonance. *Biochemical and Biophysical Research Communications* 252: 643-648.
20. Engert, A., **C. Gottstein**, H. Bohlen, U. Winkler, G. Schön, O. Manske, R. Schnell, V. Diehl, P. Thorpe. 1995. Cocktails of ricin A-chain immunotoxins against different antigens on Hodgkin and Sternberg-Reed cells have superior anti-tumor effects against H-RS cells *in vitro* and solid Hodgkin tumors in mice. *International Journal of Cancer* 63: 304-309.
21. Engert, A., **C. Gottstein**, U. Winkler, P. Amlot, S. Pileri, V. Diehl, P. Thorpe. 1994. Experimental treatment of human Hodgkin's disease with ricin A-chain immunotoxins. *Leukemia & Lymphoma* 13, 441-448.
22. Kapp, U., A. Dux, E. Schell-Frederick, N. Banik, M. Hummel, S. Mucke, C. Fonatsch, J. Bullerdiek, **C. Gottstein**, A. Engert. 1994. Disseminated growth of Hodgkin's-derived cell lines L540 and L540cy in immune-deficient SCID mice. *Annals of Oncology* 5, Suppl. 1: S121-S126.
23. Winkler, U., **C. Gottstein**, G. Schön, U. Kapp, J. Wolf, M.L. Hansmann, H. Bohlen, P. Thorpe, V. Diehl, A. Engert. 1994. Successful treatment of disseminated human Hodgkin's disease in SCID mice with deglycosylated ricin A-chain immunotoxins. *Blood* 83: 466-475. Featured in Editorial.
24. **Gottstein, C.**, G. Schön, S. Tawadros, D. Kube, U.C. Wargalla-Plate, M.L. Hansmann, H.H. Wacker, F. Berthold, V. Diehl, A. Engert. 1994. Antidisialoganglioside ricin A-chain immunotoxins show potent antitumor effects *in vitro* and in a disseminated human neuroblastoma severe combined immunodeficiency mouse model. *Cancer Research* 54: 6186-6193.

Review Articles

25. Joussen, A., B. Kirchhof, **C. Gottstein**. 2003. Molecular mechanisms of vasculogenesis and angiogenesis. [Molekulare Mechanismen der Vaskulogenese und Angiogenese.] *Der Ophtalmologe* 100: 284-91.
26. **Gottstein, C.** 2000. Blood vessels – a target for tumor therapy. [Blutgefäße – Zielscheibe für die Tumortherapie.] *Target Forum* 3: 4-13.
27. Schiefer, D., **C. Gottstein**, V. Diehl, A. Engert. 1999. Antio-angiogenesis: A new approach in tumor therapy? [Antiangiogenese: Ein neuer Ansatz in der Tumortherapie?] *Medizinische Klinik* 94: 570-579.
28. **Gottstein, C.**, U. Winkler, H. Bohlen, V. Diehl, A. Engert. 1994. Immunotoxins: Is there a clinical value? *Annals of Oncology* 5, Suppl. 1: S97-S103.
29. Engert, A., **C. Gottstein**, U. Winkler, G. Schön, P. Amlot, P. Thorpe, V. Diehl. 1992. New perspectives in oncology: The targeted elimination of tumor cells by immunotoxins – an additional approach for tumor therapy? [Neue Perspektiven in der Onkologie: Bietet die gezielte Zerstörung von Tumorzellen durch Immuntoxine beim Morbus Hodgkin eine zusätzliche therapeutische Alternative?] *Medizinische Klinik* 87: 503-509.

Book Chapters

30. Derbyshire, E.J., **C. Gottstein**, P. Thorpe. 1997. Immunotoxins. In: Immunochemistry 1: A practical approach. M. Turner, A. Johnston (Hrsg.) Oxford University Press, p. 239-273.
31. **Gottstein, C.**, G. Schön, S. Tawadros, M.L. Hansmann, F. Berthold, A. Engert. 1996. A disseminated human neuroblastoma model. In: Immunodeficient Animals: Models for Cancer Research. Contributions in Oncology Vol 51, W. Arnold, P. Koepf-Maier, B. Micheel (Hrsg.) Karger, p. 193-197.

Patent Applications

32. **Gottstein C.,** E. Kuge. 2015. Antibodies against a new candidate target on breast cancer stem cells. In preparation.
33. Muzykantov, V.R., **C. Gottstein**, B.S. Ding, D.B. Cines, S.M. Albelda. 2009. Compositions containing thrombomodulin domains and uses thereof. United States Patent and Trademark Office. Appl. No. 61/205,956. Publication information: US2011262466 (A1)
34. Muzykantov, V.R., **C. Gottstein**, B.S. Ding, D.B. Cines. 2005. Fusion Proteins for Inhibition and Dissolution of Thrombi. United States Patent and Trademark Office. Appl. No. 13/528,125;
35. Muzykantov, V.R., **C. Gottstein**, B.S. Ding, D.B. Cines. 2005. Fusion Proteins for Inhibition and Dissolution of Coagulation. United States Patent and Trademark Office. Appl. No. 12/089,250. Publication information: US2013058929 (A1)
36. **Gottstein C.**, M. Unruh. 2004. Therapeutic and diagnostic anti-VCAM-1 antibodies. European Patent Office; Appl. No 04 028 987.8.
37. **Gottstein C.**, J. Staszewski, F. Stassen, A. Poszhitkov, G. Pfitzer. 2004. Devices and procedures for the measurement of locomotoric activity in laboratory animals [Vorrichtung und Verfahren zur Bestimmung lokomotorischer Aktivitäten von Versuchstieren]. German Patent and Trademark Office; Appl. No 10 2004 032 938.9. Publication information: DE102004032938 (B3)
38. Thorpe P.E., S.W. King, **C. Gottstein**. 2002. Combined compositions and methods for tumor vasculature coagulation and treatment. European Patent Office; Appl. No PCT / EP 02 / 10913.
39. Thorpe P.E., S.W. King, **C. Gottstein**. 2002. Combined compositions and methods for tumor vasculature coagulation and treatment. United States Patent and Trademark Office; Appl. No 10/259,244.
40. Thorpe P.E., S.W. King, **C. Gottstein**. 2002. Combined compositions and methods for tumor vasculature coagulation and treatment. United States Patent and Trademark Office; Appl. No 10/259,236.
41. Thorpe P.E., S.W. King, **C. Gottstein**. 2002. Combined compositions and methods for tumor vasculature coagulation and treatment. United States Patent and Trademark Office; Appl. No 10/259,227.
42. Thorpe P.E., S.W. King, **C. Gottstein**. 2002. Combined compositions and methods for tumor vasculature coagulation and treatment. United States Patent and Trademark Office; Appl. No 10/259,223.
43. Thorpe, P.E., S.W. King, **C. Gottstein**. 2001. Combined compositions and methods for tumor vasculature coagulation and treatment. United States Patent and Trademark Office; Prov. Appl.No. 60/325,532. Publication informatio: US 2003 211075 (A1)
44. **Gottstein, C.**, R. Forde. 1999. Protein Purification Device [Vorrichtung zur Proteinreinigung]. German Patent and Trademark Office; Appl. No DE 199 01 030 A1. Publication information: DE19901030 (A1)

Published Abstracts

45. Wu, G., **C. Gottstein,** A. Mikhailovsky, H.A. Khant, J.A. Zasadzinski. Controlled Near Infrared Laser-Activated Liposome Release. 2009. *Biophysical Journal* 96, 49a.
46. Ding, B.S., N. Hong, **C. Gottstein**, S.M. Albelda, D.B. Cines, A.B. Fisher, V.R. Muzykantov. 2007. Anchoring of thrombomodulin on endothelium protects against mouse lung ischemia-reperfusion injury. *Circulation* 116, Suppl S: 193.
47. Gosk, S., **C. Gottstein**, G. Bendas. 2006. Targeting immunoliposomes to tumour endothelial cells. *Journal of Vascular Research* 43, Suppl 1: 75.
48. Grunow, A., A. Dienst, M. Unruh, J.W. Fries, **C. Gottstein**. 2003. Successful treatment of non-small cell lung carcinoma in mice with a recombinant anti-VCAM-1-tissue factor fusion protein. *Clinical Cancer Research* 9 Part 2 Suppl. S: 6141S-6142S
49. Philipp, J., M. Unruh, **C. Gottstein**. 2001. Induction of thrombosis in vivo in LPS-activated tumor vasculature by untargeted tissue factor. *Basic Research in Cardiology* 96, Suppl. 1: I/53.
50. Philipp, J., M. Unruh, **C. Gottstein**. 2001. Induction of selective tumor vessel thrombosis in a mouse model for Hodgkin's lymphoma. *Onkologie* 24, Sonderheft 6: 82.
51. **Gottstein, C.,** J. Philipp, M. Unruh, V. Brand, V. Diehl. 2001. Vascular Targeting using STIAs (specific thrombosis inducing agents) for the treatment of Hodgkin's lymphoma. *Leukemia & Lymphoma* 42, Suppl. 2: 90.
52. **Gottstein, C.,** J. Philipp, M. Unruh, A. Engert, V, Diehl. 2000. Targeting of tumor vasculature for the treatment of cancer. *Cancer Detection and Prevention* 24, Suppl. 1: S-226.
53. Barth, S., B. Matthey, T. Pfitzner, M. Huhn, C. Gottstein, A. Engert. 1999. BW704(scFv)-ETA', a new recombinant anti GD2 immunotoxin for the treatment of neuroblastoma cells. *European Journal of Cancer* 35: S56-S56
54. Winkler, U., R. Schnell, **C. Gottstein**, P.E. Thorpe, V. Diehl, A. Engert. 1998. Immunotoxin cocktails against different target antigens on Hodgkin and Sternberg-Reed cells have superior antitumor effects against Hodgkin's lymphoma. *Leukemia & Lymphoma* 29: 110A.
55. **Gottstein, C.**, X. Huang, B. Gao, G. Molema, S. King, R.A. Brekken, P. Thorpe. 1997. Immunotargeting of tumor vessels for cancer therapy. *Immunology Letters* 56: 224.
56. Engert, A., **C. Gottstein**, F.J. Burrows, P. Thorpe. 1994. Vascular Targeting: A new approach to the therapy of Hodgkin's disease? *Onkologie* 17, Suppl. 2: 31.
57. **Gottstein, C.**, G. Schön, S. Tawadros, R. Schnell, D. Kube, M.L. Hansmann, F. Berthold, V. Diehl, A. Engert. 1994. Anti-GD2-ricin A-chain immunotoxins are effective against neuroblastoma cells in vitro and in vivo. *Onkologie* 17, Suppl. 2: 46.
58. Winkler, U., **C. Gottstein**, G. Schön, U. Kapp, J. Wolf, P. Thorpe, V. Diehl, A. Engert. 1992. Treatment of disseminated Hodgkin's lymphoma in SCID-mice with ricin A-chain immunotoxins. *Annals of Hematology* 65 (Suppl.): A140.
59. **Gottstein, C.**, G. Schön, M. Dünnebacke, F. Berthold, V. Diehl, A. Engert. 1992. Neuroblastoma is a potential target for ricin-A chain immunotoxins. *Annals of Hematology*, Suppl. 64: A61.

For PDF files: visit http://www.claudiagottstein.org

PROFESSIONAL REFERENCES

Reference	Relationship	Years known
Prof. Andreas Engert Albertus Magnus University Deputy Director Dept. Hematology/Oncology Kerpenerstr. 67 50937 Cologne, Germany Ph: 01149-221-478-5933 Email: a.engert@uni-koeln.de	Mentor Dissertation Thesis	Twenty-four
Prof. Vladimir R. Muzykantov University of Pennsylvania Director, Targeted Therapeutics Program School of Medicine 10-125 Translational Research Center 3400 Civic Center Philadelphia, PA 19104-5158 Ph: 215-898-9823 Email: muzykant@mail.med.upenn.edu	Collaborating Scientist	Thirteen
Prof. Philip S. Low Purdue University Director, Purdue Center for Drug Discovery Dept. of Chemistry 720 Clinic Drive West Lafayette, IN 47907 Ph: 765-494-5283 Email: plow@purdue.edu	Peer in Research Area	Thirteen
Prof. Jacques E. Nor University of Michigan Professor for Dentistry, Biomedical Engineering and Otolaryngology School of Dentistry, Room 2309 1011 N University Ave Ann Arbor, MI 48109-1078 Ph: 734-936-9300 Email: jenor@umich.edu	Collaborating Scientist	Eleven
Prof. Anne Wallace University of California Director of UC San Diego Breast Care Unit Dept. Clinical Surgery Moores Cancer Center 3855 Health Sciences Drive La Jolla, CA 92093 Ph: 858-822-6193 Email: amwallace@ucsd.edu	Collaborating Scientist and Clinician	Five

Dr. Tanja Stoyan Univ. of California Santa Barbara Director, Pharmacology and Biotechnology Program Dept. Molecular, Cellular and Developmental Biology 2316 LSB Santa Barbara, CA 93106-9610 Ph: 805-453-5022 Email: tanja.stoyan@gmail.com	Program Director for Pharmacology and Biotechnology Education	Five