



Prof. em. Dr. Bruno Gottstein
Institute of Infectious Diseases
Immunoparasitology
Faculty of Medicine
University of Berne



Brief Curriculum Vitae (updated August 2019)

Biographical

Gottstein, Bruno; Swiss; born March 22, 1954

Married; 4 sons.

EDUCATION

- 1974–1979: Study of Medical Microbiology, University of Bern
- 1979: Diploma in Medical Microbiology
- 1981: Ph.D. at the Faculty of Natural Sciences, University of Bern
- 1991: Habilitation (Privatdozent) in Veterinary and Medical Parasitology, University of Zürich
- since 1992: "Ordinarius" (full professorship) in Veterinary and Medical Parasitology, University of Berne
- 2004: CBA (Certificate in Business Administration), Universities of Fribourg and Trier
- since 2019: Prof. emeritus at the University of Berne

CURRENT AND PAST EMPLOYMENTS

Research assistant (to Prof. H. Fey), Inst. Veterinary Bacteriology, University of Berne,: 1977 - 1979

Research assistant (to Prof. R. Büttler), Swiss R.C. Blood Transfusion Services, Berne,: 1979 - 1981

Research assistant (to Prof. J. Eckert), Institute of Parasitology, University of Zürich: 1981 - 1983

Guest Fellow (to Prof. A. Capron), at the "Institut Pasteur", Lille, France: September 1981

Senior Research Assistant (to Prof. J. Eckert) and Head of the "Laboratory for Parasite Immunology", Institute of Parasitology, University of Zürich, Switzerland: 1983 - 1992

Post-doc (to Dr. P.M. Schantz), Helminthic Diseases Branch, DPD, CID, CDC, Atlanta,: 1984/1985

Research Sabathical (to Dr. T.E. Nash), Laboratory of Parasitic Diseases, NIAID, NIH: 1989

Full Professor (Ordinarius) and Director of the Institute of Parasitology of the University of Berne, Switzerland: 1992 – July 2019

Head of Department (Department of Infectious Diseases and Pathobiology, DIP): 2015 - 2018

Scientific Advisor in Immunoparasitology at the Institute of Infectious Diseases, Medical Faculty, University of Berne: August 2019 - date

RESEARCH ACTIVITIES IN PARASITOLOGY (selection)

Major Research Supports covering 2012 – 2019 (previous years and smaller grants => list upon request)

Research Grant, for "Echinococcus multilocularis and alveolar echinococcosis: immunomodulatory mechanisms as potential target for immuno- and chemotherapeutical intervention" (Gottstein B, Hemphill A), from the Swiss National Science Foundation No. 31003A-141039/1 (2012-2015).

Research Grant, for "Search for novel immuno- and chemotherapeutical approaches to treat alveolar echinococcosis" (Gottstein B, Hemphill A); from the Swiss National Science Foundation No. 31003A_1601081 (2015-2018).

Research Grant, for "IsotopEchino", (Gottstein B, Millon L, Knapp J, Vuitton DA) from Interreg IV France-Suisse (2010-2014).

Research ID Grant, UniBE, for "Understanding and modulating hepatic immune responses for the treatment of alveolar echinococcosis" (2017-2018).

SERVICE AS CONSULTANT, EXPERT AND OTHER RELATED FUNCTIONS (selection)

Vice-President ESCCAP-Schweiz (European Scientific Counsel Companion Animal Parasites): 2008-date

Member, Swiss Working Group on Echinococcosis: 1982 - date

Vice-President (1987 -1990) and President (1990 – 1993) of the Swiss Society of Tropical Medicine and Parasitology (SSTMP)

President of the Swiss CASS-Commission for Polar Research: 1999-2006

Expert for the Swiss Accreditation Services (SAS) for the accreditation of Swiss medical and veterinary diagnostic laboratories (ISO 17025): 2000-date

Member of the Human Rights Committee of the Leopoldina National Academy of Sciences (2010 - date)

UNIVERSITY OF BERN (selection)

President of the Hans-Sigrist-Foundation for the promotion of Science at the University of Bern (1999 - 2013)

Member of the "VETSUISSE" Integration Board (1997 - 2002), Structural Board (2003 - date) and Task Force (2005-date)

Member of the Vet.-Faculty PhD-Commission (1995 - 2004)

Member of the University Commission "Evaluation & Reporting" (1997 - 2002)

Chief Financial Officer (CFO) of the Vetsuisse Faculty Bern (2004 – 2019)

AWARDS

- "1989 Förderungspreis" of the Swiss Society of Microbiology, Switzerland, 1989
- "Behring-Bilharz-Preis", Berlin, Germany, 1993
- Honorary Member of the Bulgarian Society of Parasitology, 2004
- Member of the "Deutsche Akademie der Naturforscher Leopoldina" (Leopoldina National Academy of Sciences), 2006
- Professeur Honoraire de l'Université de Franche-Comté, 2012

PUBLICATION LIST (years 2014 – 2019)

(for former years, request separate list)

Scopus h-Index (1979-2019): 58

1. Peer-reviewed articles (original publications)

- Barkati S, Gottstein B, Mu Ller N, Sheitoyan-Pesant C, Metrakos P, Chen T, Garceau R, Libman MD, Ndao M, Yansouni CP: First Human Case of Metacestode Infection Caused by *Versteria* sp. in a Kidney Transplant Recipient. *Clin Infect Dis*. 1;68(4):680-683 (2019).
- Basso W, Grandt LM, Magnenat AL, Gottstein B, Campos M: *Strongyloides stercoralis* infection in imported and local dogs in Switzerland: from clinics to molecular genetics. *Parasitol Res*. 2019 Jan;118(1):255-266.
- Bernasconi Ch, Bodmer M, Doherr MG, Janett F, Thomann A, Spycher C, Iten C, Hentrich B, Gottstein B, Müller N, Frey CF: *Trichostrongylus axei* prevalence study in naturally mating bulls in Switzerland. *Vet Parasitol*. 200: 289-94 (2014).
- Boubaker B, Hemphill A, Huber CO, Spiliotis M, Babba H, Gottstein B: Prevention and immunotherapy of secondary murine alveolar echinococcosis employing recombinant EmP29 antigen. *Plos Negl Trop Dis*. 9(6):e0003795 (2015).
- Boubaker G, Gottstein B, Hemphill A, Babba H, Spiliotis M: Echinococcus P29 Antigen: Molecular characterization and implication on post-surgery follow-up of CE patients infected with different species of the *Echinococcus granulosus* complex. *PLoS One*, 22;9(5):e98357 (2014).
- Boubaker G, Marinova I, Gori F, Hizem A, Müller N, Casulli A, Jerez Puebla LE, Babba H, Gottstein B, Spiliotis M: A dual PCR-based sequencing approach for the identification and discrimination of *Echinococcus* and *Taenia* taxa. *Mol Cell Probes*. 30: 211-217 (2016).
- Campbell-Palmer R, Del Pozo J, Gottstein B, Girling S, Cracknell J, Schwab G, Rosell F, Pizzi R: *Echinococcus multilocularis* Detection in live Eurasian Beavers (*Castor fiber*) using a combination of laparoscopy and abdominal ultrasound under field conditions. *PLoS One*. Jul 13;10(7):e0130842 (2015).
- Chaignat V, Boujon P, Frey CF, Hentrich B, Müller N, Gottstein B: The brown hare (*Lepus europaeus*) as a novel intermediate host for *Echinococcus multilocularis* in Europe. *Parasitol Res*. 114: 3167-3169 (2015).
- Chaligiannis I, Maillard S, Boubaker G, Spiliotis M, Saratsis A, Gottstein B, Sotiraki S: *Echinococcus granulosus* infection dynamics in livestock of Greece. *Acta Trop*. Oct;150:64-70 (2015).
- Corsini M, Geissbühler U, Howard J, Gottstein B, Spreng D, Frey CF: Clinical presentation, diagnosis, therapy and outcome of alveolar echinococcosis in dogs. *Vet Rec*. Dec 5;177(22):569 (2015).
- Dezaki ES, Yaghoobi MM, Taheri E, Almani PG, Tohidi F, Gottstein B, Harandi MF: Differential expression of hox and notch genes in larval and adult stages of *Echinococcus granulosus*. *Korean J Parasitol*. Oct;54(5):653-658 (2016).
- Dezaki ES, Yaghoobi MM, Spiliotis M, Boubaker G, Taheri E, Almani PG, Tohidi F, Harandi MF, Gottstein B: Comparison of ex vivo harvested and in vitro cultured materials from *Echinococcus granulosus* by measuring expression levels of five genes putatively involved in the development and maturation of adult worms. *Parasitol Res*. 115(11):4405-4416 (2016).
- Frey CF, Eicher R, Raue K, Strube C, Bodmer M, Hentrich B, Gottstein B, Marreros N: Apparent prevalence of and risk factors for infection with *Ostertagia ostertagi*, *Fasciola hepatica* and *Dictyocaulus viviparus* in Swiss dairy herds. *Vet Parasitol*. 250:52-59. doi: 10.1016/j.vetpar.2017.12.004 (2018).
- Frey CF, Marreros N, Renneker S, Schmidt L, Sager H, Hentrich B, Milesi S, Gottstein B: Dogs as victims of their own worms: Serodiagnosis of canine alveolar echinococcosis. *Parasit Vectors*. Sep 16;10(1):422 (2017).
- Gottstein B, Frey CF, Campbell-Palmer R, Pizzi R, Barlow A, Hentrich B, Posautz A, Rysler-Degjorgis MP: Immunoblotting for the serodiagnosis of alveolar echinococcosis in alive and dead Eurasian beavers (*Castor fiber*). *Vet. Parasitol*. 205: 113-118 (2014).
- Gottstein B, Lachenmayer A, Beldi G, Wang J, Merkle B, Vu XL, Kurath U, Müller N: Diagnostic and follow-up performance of serological tests for different forms/courses of alveolar echinococcosis. *Food and Waterborne Parasitology* 16, e00055, 2019.
- Gottstein B, Schneeberger M, Boubaker G, Merkle B, Huber C, Spiliotis M, Müller N, Garate T, Doherr MG: Comparative assessment of ELISAs using recombinant saposin-like protein 2 and recombinant cathepsin L-1 from *Fasciola hepatica* for the serodiagnosis of human fasciolosis. *PLoS Negl Trop Dis*, 12;8(6):e2860 (2014).
- Gottstein B, Soboslay P, Ortona E, Wang J, Siracusano A, Vuitton DA: Immunology of Alveolar and Cystic Echinococcosis (AE and CE). *Adv Parasitol*.;96:1-54 (2017).
- Gottstein B, Wang J, Boubaker G, Marinova I, Spiliotis M, Müller N, Hemphill A: Susceptibility versus resistance in alveolar echinococcosis (larval infection with *Echinococcus multilocularis*). *Vet Par*. 213(3-4):103-109 (2015).
- Hertzberg H, Schwarzwald CC, Grimm F, Frey CF, Gottstein B, Gerber V: Helminthenmanagement beim adulten Pferd: Notwendigkeit einer Neuorientierung. *SAT* 156: 61-70 (2014).
- Knapp J, Damy S, Brillaud J, Tissot JD, Navion J, Mélior R, Afonso E, Hormaz V, Gottstein B, Umhang G, Casulli A, Dadeau F, Millon L, Raoul F: EWET: Data collection and interface for the genetic analysis of *Echinococcus multilocularis* based on EmsB microsatellite. *PLoS One*. Oct 3;12(10):e0183849 (2017).

- Knapp J, Gottstein B, Saarma U, Millon L. Taxonomy, phylogeny and molecular epidemiology of *Echinococcus multilocularis*: From fundamental knowledge to health ecology. *Vet Parasitol.* 213(3-4):85-91 (2015).
- Kochanowski M, González-Muñoz M, Gómez-Morales MÁ, Gottstein B, Dąbrowska J, Różycki M, Cencek T, Müller N, Boubaker G: Comparative analysis of excretory-secretory antigens of *Anisakis simplex*, *Pseudoterranova decipiens* and *Contracaecum osculatum* regarding their applicability for specific serodiagnosis of human anisakidosis based on IgG-ELISA. *Exp Parasitol.* 2019 Feb;197:9-15.
- Koehler AV, Borel S, Hoby S, Henrich B, Gottstein B, Gasser RB: Genetic identification of an oxyurid from a captive, black-handed spider monkey – implications for treatment and control. *Parasit Res.* 113: 3445-3448 (2014).
- Lachenmayer A, Gebbers D, Gottstein B, Candinas D, Beldi G: Elevated incidence of alveolar echinococcosis in immunocompromised patients. *Food and Waterborne Parasitology* 16, e00060, 2019.
- Lampe K, Gottstein B, Becker T, Stahl-Hennig C, Kaup FJ, Mätz-Rensing K: Immunization of rhesus macaques with *Echinococcus multilocularis* recombinant 14-3-3 antigen leads to specific antibody response. *Parasitol Res. Jan*;116(1):435-439 (2017).
- Lopes AP, Vila-Viçosa MJ, Coutinho T, Cardoso L, Gottstein B, Müller N, Cortes HC: *Trichinella britovi* in a red fox (*Vulpes vulpes*) from Portugal. *Vet Parasitol.* 210: 260-263 (2015).
- Marinova I, Spiliotis M, Wang J, Muhtarov M, Chaligiannis I, Sotiraki S, Rainova I, Gottstein B, Boubaker G: Molecular characterization of *Echinococcus granulosus* isolates from Bulgarian human cystic echinococcosis patients. *Parasitol Res. Mar*;116(3):1043-1054 (2017).
- Massolo A, Klein C, Kowalewska-Grochowska K, Belga S, MacDonald C, Vaughan S, Girgis S, Giunchi D, Bramer SA, Santa MA, Grant DM, Mori K, Duijnan P, Slater O, Gottstein B, Müller N, Houston S: European *Echinococcus multilocularis* identified in patients in Canada. *N Engl J Med.* 381(4):384-385, 2019.
- Meinel TR, Gottstein B, Geib V, Keel MJ, Biral R, Mohaupt M, Brügger J. Vertebral alveolar echinococcosis - a case report, systematic analysis, and review of the literature. *Lancet Infect Dis.* 18(3):e87-e98. doi: 10.1016/S1473-3099(17)30335-3 (2018).
- Oscos-Snowball A, Tan E, Peregrine AS, Foster R, Bronsoiler J, Gottstein B, Jenkins E, Gesy K, Bienzle D: What is your diagnosis? Fluid aspirated from an abdominal mass in a dog. *Vet Clin Pathol.* 244(1):167-168 (2015).
- Pastor-Valle J, Gonzales LM, Martín-Clemente JP, Merino FJ, Gottstein B, Gárate T: Molecular diagnosis of diphyllobothriasis in Spain, most presumably acquired via imported fish, or sojourn abroad. *New Microbes And New Infections*, 2: 1-6 (2014).
- Pektas B, Altintas N, Akpolat N, Gottstein B: Evaluation of the diagnostic value of the ELISA tests developed by using EgHF, Em2 and EmlI/3-10 antigens in the serological diagnosis of alveolar echinococcosis. *Mikrobiyol. Bul.* 48:461-468 (2014).
- Perrodin S, Waelti L, Gottstein B, Kim-Fuchs C, Candinas D, Banz V: *Fasciola hepatica* in a country of low incidence: a tricky diagnosis. *Hepatobiliary Surgery and Nutrition* 2019 (in press).
- Posautz A, Parz-Göllner R, Hölzler G, Gottstein B, Schwaiger L, Beiglböck C, Kübber-Heiss A: Erstnachweis von *Echinococcus multilocularis* im Biber (Castor fiber) in Österreich. *Wiener Tierärztliche Monatsschrift* 102: 74-79 (2015).
- Salehi N, Gottstein B, Haddadzadeh HR: Genetic diversity of bovine *Neospora caninum* determined by microsatellite markers. *Parasitol Int.* 64: 357-361 (2015).
- Skelding A, Brooks A, Stalker M, Mercer N, de Villa E, Gottstein B, Peregrine AS. Hepatic alveolar hydatid disease (*Echinococcus multilocularis*) in a boxer dog from southern Ontario. *Can Vet J.* 55: 551-553 (2014).
- Stadelmann B, Rufener R, Aeschbacher D, Spiliotis M, Gottstein B, Hemphill A: Screening of the open source malaria box reveals an early lead compound for the treatment of alveolar echinococcosis. *PLoS Negl Trop Dis.* 10(3):e0004535, (2016).
- Trotz-Williams LA, Mercer NJ, Walters JM, Wallace D, Gottstein B, Osterman-Lind E, Boggild AK, Peregrine AS: Public Health Follow-up of Suspected Exposure to *Echinococcus multilocularis* in Southwestern Ontario. *Zoonoses Public Health.* Dec 24. doi: 10.1111/zph.12326. (2016).
- Valot B, Rognon B, Prenel A, Baraquin A, Knapp J, Anelli M, Richou C, Bresson-Hadni S, Grenouillet F, Wang J, Vuitton DA, Gottstein B, Millon L. (2017) Screening of antigenic vesicular fluid proteins of *Echinococcus multilocularis* as potential viability biomarkers to monitor drug response in alveolar echinococcosis patients. *Proteomics Clin Appl.* Jul 11. doi: 10.1002/prca.201700010 (2017).
- Wang J, Cardoso R, Marreros N, Müller N, Lundström-Stadelmann B, Siffert M, Vuitton DA, Boué F, Lin R, Wen H, Gottstein B. Foxp3+ Tregs as a potential target for immunotherapy against primary infection with *Echinococcus multilocularis* eggs. *Infect Immun.* 2018 Jul 23. pii: IAI.00542-18. doi: 10.1128/IAI.00542-18. [Epub ahead of print] (2018).
- Wang J, Goepfert C, Mueller N, Piersigilli A, Lin R, Wen H, Vuitton DA, Vuitton L, Mueller C, Gottstein B. Larval *Echinococcus multilocularis* infection reduces dextran sulphate sodium-induced colitis in mice by attenuating T helper type 1/type 17-mediated immune reactions. *Immunology.* 154(1):76-88 (2018).
- Wang J, Jebbawi F, Bellanger AP, Beldi G, Millon L, Gottstein B: Immunotherapy of alveolar echinococcosis via PD-1/PD-L1 immune checkpoint blockade in mice. *Parasite Immunol.* 2018 Dec;40(12):e12596
- Wang J, Lin R, Zhang W, Li L, Gottstein B, Blagosklonov O, Lü G, Zhang CS Lu X, Vuitton DA, and Wen H, Transcriptional profiles of cytokine/chemokine factors of immune cell-homing to the parasitic lesions: a comprehensive one-year course study in the liver of *E. multilocularis*-infected mice, *PLoS One*, 17;9(3):e91638 (2014).
- Wang J, Müller S, Lin R, Siffert M, Vuitton DA, Wen H, Gottstein B: Depletion of FoxP3+ Tregs improves control of larval *Echinococcus multilocularis* infection by promoting co-stimulation and Th1/17 immunity. *Immun Inflamm Dis.* Jun 16. doi: 10.1002/iid3.181 (2017).
- Wang J, Siffert M, Spiliotis M, Gottstein B: Repeated long-term DT application in the DEREK mouse induces a neutralizing anti-DT antibody response. *J Immunol Res.*; 2016:1450398 (2016).

- Wang J, Vuitton DA, Hemphill A, Müller N, Blagosklonov O, Grandgirard D, Leib S, Shalev I, Levy G, Lu X, Lin R, Wen H, Spiliotis M, Gottstein B: Deletion of fibrinogen-like protein 2 (FGL-2), a novel CD4+ CD25+ Treg effector molecule, leads to improved control of *Echinococcus multilocularis* infection. *PLoS Negl Trop Dis*. May 8;9(5):e0003755 (2015).
- Wenker C, Hoby S, Wyss F, Mengiardi B, Vöggtli R, Posthaus H, Deplazes P, Gottstein B: Alveolar echinococcosis in Western Lowland Gorillas (*Gorilla gorilla gorilla*): Albandazole was not able to stop progression of the disease. *Journal of Zoo and Wildlife Medicine* 50(1):243–253, 2019.
- Zysset-Burri DC, Müller N, Beuret C, Heller M, Schürch N, Gottstein B, Wittwer M. Genome-wide identification of pathogenicity factors of the free-living amoeba *Naegleria fowleri*. *BMC Genomics*, 19;15(1):496 (2014).

2. Reviews / Book chapters

- Borel N, Frey CF, Gottstein B, Hilbe M, Pospischil A, Franzoso FD, Waldvogel A. Laboratory diagnosis of ruminant abortion in Europe. *Vet J*. 200: 218-229 (2014).
- Cortes H, Leitão A, Gottstein B, Hemphill A. A review on bovine besnoitiosis: a disease with economic impact in herd health management, caused by *Besnoitia besnoiti* (Franco and Borges). *Parasitology*. 2: 1-12 (2014).
- Deplazes P, Gottstein B, Junghans T. Alveolar and cystic echinococcosis in Europe: Old burdens and new challenges. *Vet Parasitol*. Oct 30;213(3-4):73-75 (2015).
- Gottstein B, Junghans T, Vuitton DA, Millon L, Stojkovic M, Marcinkute A, Deplazes P: Threat of alveolar echinococcosis to public health – a challenge for Europe. *Trends Parasitol*. Sep;31(9):407-12 (2016).
- Gottstein B, Beldi G: Echinococcosis. In: *Infectious Diseases*, 4th edition (eds. Jonathan Cohen, William G. Powderly, Steven M. Opal), vol. 2. Elsevier; pp. 1038-1045. (2017)
- Gottstein B, Soboslay P, Ortona E, Wang J, Siracusano A, Vuitton DA: Immunology of alveolar and cystic echinococcosis (AE and CE). *Adv Parasitol*. 2017;96:1-54. (2017)
- Gottstein B, Wang J, Blagosklonov O, Grenouillet F, Millon L, Vuitton DA, Müller N: *Echinococcus* metacestode: in search of viability markers. *Parasite* 21:63 (2014).
- Hemphill A, Stadelmann B, Rufener R, Spiliotis M, Boubaker G, Müller J, Müller N, Gorgas D, Gottstein B: Treatment of echinococcosis: albendazole and mebendazole - what else? *Parasite*. 21:70. Epub (2014) .
- Porot C, Knapp J, Junhua Wang, Germain S, Camporese D, Seimbille Y, Boulahdour H, Vuitton DA, Gottstein B, Blagosklonov O: Development of a specific tracer for metabolic imaging of alveolar echinococcosis: A preclinical study. *Conf Proc IEEE Eng Med Biol Soc*. 2014:5587-90 (2014).
- Stojkovic M, Gottstein B, Junghans T: Echinococcosis. In: *Manson's Tropical Diseases*, 23rd edition. Eds: Farrar J, Hotez PJ, Junghans T, Kang G, Lalloo D, White N. Elsevier Saunders, pp. 795-819 (2014).
- Vuitton DA, Millon L, Gottstein B, Giraudoux P (invited editors). Proceedings of the international symposium - innovation for the management of echinococcosis, Besançon, March 27-29, 2014. *Parasite* 21:28. doi: 10.1051/parasite/2014024. Epub Jun 25. (2014).
- Wang J, Gottstein B. Immunoregulation in larval *Echinococcus multilocularis* infection. *Parasite Immunol*. Mar;38(3):182-192 (2016).