

David C. HERNOT, PhD

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OBJECTIVE

To obtain a position in nutritional research and development with industry, government, or academia.

EDUCATION

- June, 2005** **PhD. In Animal Nutrition and Digestive Physiology**
University of Nantes (France)
- June, 2000** **Postgraduate diploma in Medical Imaging** (Signal and Image in Biology and
Medicine) - University of Nantes (France)
- June, 1999** **Master of Science, Biochemistry** - University of Rennes I (France)

WORK EXPERIENCE

- 2006-2008** **University of Illinois** at Urbana-Champaign. Department of Animal Sciences.
Postdoctoral Research Associate
↳ Working with senior researchers to write scientific chapters and publications in both human and animal nutrition, mainly on dietary fibers and prebiotics.
↳ Supervision and participation in graduate student's projects.
↳ In vitro fermentation experiments testing ingredients for human or animal nutrition applications, digestibility trials involving ileally cannulated dogs, flow cytometry, real time PCR, quantitative reverse transcriptase PCR (qRT-PCR), denaturing gradient gel electrophoresis (DGGE).
- 2001-2005** **University of Nantes**, France. Nutrition and Endocrinology Unit. National Veterinary School of Nantes.
Ph.D. Candidate
↳ Studied large intestinal physiology in dogs differing in body size; colonic transit time, permeability, and fermentation activity.
↳ Blood sampling, enemas, X-rays, anatomical measurements during autopsies, overall follow-up of experimental protocols, synthesis of the work and redaction of reports and publications.
↳ Gas chromatography (GC), high performance liquid chromatography (HPLC), spectrophotometry, flame photometry, bacterial counts (plate counts, Fluorescence In Situ Hybridization).
↳ In vivo experimentation agreement (Veterinary services).
↳ Managed nine trainees (laboratory technicians students)
↳ Research resulted in 6 publications in peer reviewed scientific journals and 13 presentations at international meetings.

PUBLICATIONS & MEETINGS

Peer reviewed:

- K. Zinn, **D. Hernot**, N. Fastinger, L. Karr-Lilienthal, P. Bechtel, K. Swanson, and G. Fahey. 2008. Fish protein substrates can substitute effectively for poultry by-product meal when incorporated in high quality senior dog diets. *J. Anim. Phys. Anim. Nutr.* Submitted.
- **D. Hernot**, H. Dumon, V. Biourge, L. Martin, and P. Nguyen. 2008. Colonic permeability is higher in Great Danes compared with smaller breed-dogs. *J. Anim. Phys. Anim. Nutr.* Submitted.
- **D. Hernot**, H. Dumon, V. Biourge, L. Martin, and P. Nguyen. 2006. Evaluation of association between body size and large intestinal transit time in healthy dogs. *Am. J. Vet. Res.* 67:342-347.
- **D. Hernot**, V. Biourge, L. Martin, H. Dumon, and P. Nguyen. 2005. Relationship between total transit time and faecal quality in adult dogs differing in body size. *J. Anim. Phys. Anim. Nutr.* 89:189-193.
- M. Weber, **D. Hernot**, P. Nguyen, V. Biourge, and H. Dumon. 2004. Effect of size on electrolyte apparent absorption rates and fermentative activity in dogs. *J. Anim. Phys. Anim. Nutr.* 88:356-365.
- J. Bourreau, **D. Hernot**, E. Bailhache, M. Weber, V. Ferchaud, V. Biourge, L. Martin, H. Dumon, and P. Nguyen. 2004. Gastric emptying rate is inversely related to body weight in dog breeds of different sizes. *J. Nutr.* 134:2039S-2041S.
- **D. Hernot**, M. Weber, V. Biourge, L. Martin, H. Dumon, and P. Nguyen. 2004. Relationship between electrolyte apparent absorption and fecal quality in adult dogs differing in body size. *J. Nutr.* 134:2031S-2034S.

Chapters:

- **D.C. Hernot** and G.C. Fahey, Jr. 2007. Dietary Fibers and Their Effects on Human Digestive Health. In: Kraft Foods Global Nutrition. www.kraftfoods.com/kraftnutrition/PDF/BIS-AOR-HealthyAging-April07.pdf
- **D.C. Hernot** and G.C. Fahey, Jr. 2008. Nutritional Properties and Feeding Values of Soybeans and its Co-products/Use of Soybean Products for Companion Animals. In: White, P., L. Johnson, R. Galloway (eds.). Soybeans: Chemistry, Production, Processing, and Utilization. AOCS Press, Urbana, IL. In press.
- **D.C. Hernot**, E. Ogue, G.C. Fahey, Jr., and R.A. Rastall. 2008. Prebiotics and Synbiotics in Veterinary Medicine. In: Versalovic, J., M. Wilson (eds.). Therapeutic Microbiology: Probiotics and Other Strategies. ASM Press, Washington, DC. In press.

Abstracts presented at international meetings:

- Joint Nutrition Symposium (AAVN, ACVN, CNS, ECVCN, ESVCN, EZNRG). Antwerp, Belgium - August 2002. "Influence of body size on fermentative activity and faecal consistency in dogs".
- 21st annual forum of the American College of Veterinary Internal Medicine. Charlotte, North Carolina (USA) - June 2003. "Influence of body size on orocecal, colonic and total transit time in healthy dogs".
- 13th congress of the European College of Veterinary Internal Medicine. Uppsala, Sweden - September 2003. "Relationships between intestine tract and body size in dogs".
- 7th conference of the European Society of Veterinary and Comparative Nutrition. Hanover, Germany - October 2003. "Relationships between total transit time and faecal quality in adult dogs differing in body size".
- Waltham International Science Symposium - Bangkok, Thailand - October 2003. "Body weight influences gastric emptying time assessed by sodium ¹³C-octanoate test in dogs" and "Influence of body size on intestinal permeability and electrolyte net absorption in adult dogs".
- 8th conference of the European Society of Veterinary and Comparative Nutrition. Budapest, Hungary - September 2004. "Estimation of bacterial mass in dogs faeces using diaminopimelic acid (DAPA) as a bacterial marker" and "Effect of different dietary fibre levels on faecal quality in dogs differing in body size".
- 23rd annual forum of the American College of Veterinary Internal Medicine. Baltimore, Maryland (USA) - June 2005. "Influence of body size on colonic permeability in healthy dogs".
- ADSA-ASAS-CSAS Joint Meeting. - Cincinnati, USA - July 2005. "Effect of body size and diet on total dietary fiber digestibility in dogs" and "Effect of body size and dietary fiber on fecal bacterial mass and fecal quality in dogs".
- Waltham International Science Symposium. Washington DC, USA - September 2005. "Effect of dietary fermentable to non fermentable fiber ratio on fecal putrefactive products in dogs varying in body size".
- 9th conference of the European Society of Veterinary and Comparative Nutrition. Turin, Italy - September 2005. "Colonic permeability and faecal quality in dogs differing in body size" and "Parameters of the colonic function explain the poor faecal quality in large dogs".

Invited speaker* lectures:

- D.C. Hernot and G.C. Fahey, Jr*. Quality aspects of poultry meals and fat in pet food. United States Poultry and Egg Association, Pet Nutrition Symposium. Atlanta, GA. January, 2008.
- D.C. Hernot and G.C. Fahey, Jr*. Modulation of intestinal microbiota by novel dietary carbohydrates. National Institutes of Health Conference on Gastrointestinal Microbiota and Advances in Prebiotics and Probiotics Research. Washington, DC. December, 2007.
- D.C. Hernot, K.S. Swanson, and G.C. Fahey, Jr*. Digestive health aspects of dietary fibers. General Mills Symposium. Minneapolis, MN. November, 2007.
- D.C. Hernot* and G.C. Fahey, Jr. Prebiotics in Companion animals. International Scientific Association for Probiotics and Prebiotics Open forum. London, UK. June, 2007.

PROFESSIONAL AFFILIATIONS

- 2005-present** Member of the American Society of Animal Sciences.
- 2007-present** Member of the American Society for Nutrition.