



Who's Who in One Health Galaxy Diagnostics, Inc.

1. **Organization/ Group Name** - Galaxy Diagnostics, Inc. , North Carolina
<http://www.galaxydx.com/web/>

2. **Description and Scope of One Health Activities**

Galaxy Diagnostics provides human and animal clinical testing services for emerging zoonotic and vector-borne diseases associated with chronic disorders. It is also the world leader in the detection of Bartonella in humans and animals. The Company's Bartonella ePCR™ test is enabling clinical discoveries on the occupational and ecological risk factors for chronic disease associated with a genus of bacteria discovered only two decades ago.

3. **Key Collaborators and Participants**

Edward B. Breitschwerdt, DVM, DACVIM
Chief Scientific Officer, Galaxy Diagnostics, Inc.
Professor, Internal Medicine, NCSU College of Veterinary Medicine
Adjunct Professor of Medicine, Duke University Medical Center

Dr. Ricardo Maggi
Chief Technology Officer, Galaxy Diagnostics, Inc.
Assistant Research Professor, NCSU College of Veterinary Medicine

Research collaborators from various universities and human and animal clinical practices.

4. **Type of Organization**

Private, For Profit / Corporate

5. **Address of Organization/ Group**

7020 Kit Creek Rd, Suite 130
Research Triangle Park, NC 27709 USA

6. **Contact(s) (with check box to agree to share)**

Amanda Elam

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Yes - Agree to share contact information on the One Health website

7. Sources of funding for Organization/Group

Commercial Sales

Grant funding from federal, state, and private sources

8. Organization/Group Website Address www.galaxydx.com

9. One Health Course/Certificate/Training Offered by Organization or Group

Title of Course/Certificate/Training:

Bartonellosis, A One Health Perspective on an Emerging Infectious disease

Contact person's name and email:

Dr. Ed Breitschwerdt, ed_breitschwerdt@ncsu.edu

Link to informational web page: N/A

10. Other One Health Activities/Initiatives (selected)

Bartonellosis--One Health Perspective on an Emerging Infectious Disease

Ian Beveridge Memorial Lecture, University of Sydney, August 12, 2014

Dr. Ed Breitschwerdt, ed_breitschwerdt@ncsu.edu

http://sydney.edu.au/vetscience/about/annual_lectures/beveridge/index.shtml

Ticks, Fleas, and Mysterious Disease, The People's Pharmacy Podcast, August 2014

Dr. Ed Breitschwerdt, ed_breitschwerdt@ncsu.edu

<http://www.peoplespharmacy.com/2014/08/30/907-ticks-fleas-mystery-disease/>

Animal & Human Health, Healthy Body Healthy Mind 2805, Fall 2013

Dr. Ed Breitschwerdt, ed_breitschwerdt@ncsu.edu

http://www.itvisus.com/programs/hbhm/episode_2805.asp

11. Brief History of Your Organization's One Health Involvement

Galaxy Diagnostics was initially launched from the One Health Research Program at North Carolina State University (NCSSU) to fill a need for at risk patients suffering from undiagnosed chronic symptoms associated with zoonotic infections. Dr. Ed Breitschwerdt and Dr. Ricardo Maggi are leading experts on Bartonella and have studied zoonotic and vector-borne diseases that infect both animals and humans for much of their careers.

Bartonella spp represent an important emerging infectious pathogen with over 15 species now associated with acute and chronic disease in humans and animals. Commonly known as the cause of Cat Scratch Disease, new research has implicated *Bartonella spp* in a range of severe chronic symptoms and is easily misdiagnosed due to lack of awareness and traditional testing limitations.

Breitschwerdt's NCSU research team recently overcame a significant challenge in the study of *Bartonella*. These bacteria are notoriously difficult to culture for research and for diagnostic purposes. The solution was the development of an insect-based growth medium called Bartonella alpha-Proteobacteria Growth Medium (BAPGM) which increases the sensitivity of PCR detection of *Bartonella spp* DNA up to 10 times over conventional PCR.

The development of this novel diagnostic test approach to the study and clinical diagnosis of Bartonella infection is producing startling new findings in both human and animal health. *Bartonella spp* are now implicated in a broad range of medical disorders affecting the vascular and neurological systems of both animal and human patients with healthy immune systems.

More recently, Galaxy has expanded its testing services to include molecular and immunological testing for other microbial agents implicated in chronic disease. Veterinary workers and others with high exposure to animals and vectors are at particularly high risk of infection, shifting the focus from the risks of opportunistic infections solely for immunocompromised patients to all patients with potential environmental exposures. This work further highlights the importance of protecting the human-animal bond by keeping animals healthy and free of fleas, ticks, lice, and biting flies.

12. Additional Information

The translation of clinically significant findings from veterinary research into human health research is particularly challenging. We offer an open invitation to clinical research to collaborate on clinical research projects clarifying the associations between hard-to-detect zoonotic and vector-borne infections with immune-mediated disorders affecting the blood, heart, liver, spleen, joints, and central nervous system in humans and animals.