

IGNACIO PINO, DVM

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EDUCATION

Massachusetts Institute of Technology Sloan School Management MIT Entrepreneurship Development Program	2008
University Products LLC. Vaccine development	2004
Universidad Autónoma de Yucatán, México Training in diagnosis of blood parasite in cattle	2000
Trained by Dr. Robert Baker, founder of Select Embryos Embryo Transfer Technology	1997
Kansas State University, Manhattan, KS Clinical year in veterinary studies	1995
Ross University School of Veterinary Medicine, St. Kitts, West Indies Tropical Veterinary Medicine	1993-1995
University of Puerto Rico, Mayaguez, PR Pre-Veterinary Studies	1988-1992

AWARDS

Participant at the first Demo Day at the White House, hosted by President Obama	2015
Guayacán "Tech" Fellows Program, to attend The MIT Entrepreneurship Development Program	2008
1st place winner Enterprize Business Plan Competition from Grupo Guayacán	2006

Research Grants

\$500,000 sub-award collaboration with the University of Puerto Rico to optimize a CHO cell line for commercial-scale production of an HIV vaccine	2016 to present
\$9.5 Million sub-award as part of collaborative U54 with Johns Hopkins University for the generation of highly specific monoclonal antibodies against the human transcription factors	2011 to 2016
\$149,000 SBIR from NSF for the development of a Babesiosis vaccine for cattle.	2010
\$1.5 Million grant from the Puerto Rico Science Technology and Research Trust	2008
\$50,000 seed funding first prize Enterprize Business Plan Competition sponsored by Grupo Guayacán.	2006

RELATED EXPERIENCE

CDI Laboratories, Inc

CEO

2007 – to present

- CDI Laboratories is a company I co-founded in 2007 along with Johns Hopkins University researchers Heng Zhu and Seth Blackshaw, JHU professor emeritus Jef Boeke, and two other scientists (Daniel Eichinger and Joseph Bonaventura). The company specializes in proteomics, the large-scale study of proteins, their structures, and their functions. CDI's HuProt protein microarrays and related services make it possible to perform rapid and efficient analyses of thousands of protein interactions using minimal amounts of valuable research or clinical samples. The platform is used to discover and take to market autoantibody biomarkers. The company has a growing pipeline of biomarker panels for oncology, immune oncology and autoimmunity. The platform is also the basis to a patented system of antibody production. This system was central in the NIH Protein Capture Reagents program and is currently used to produce truly mono-specific antibodies for immunohistochemistry and multiplex immunoassays.
- I have led the growth of the company from 3 employees to 25 employees and two locations, one in Mayagüez, Puerto Rico and one at the Johns Hopkins Technology Park in Baltimore, MD.
- Together with the cofounders we have raised more than \$13M dollars from grants and private equity to fuel the growth of our company.
- I have also led business development for CDI establishing successful collaborations with partners in academia and industry in the US, Europe, China, and South Korea.
- Since 2014 I have led the commercialization of our products across the globe.

Veterinary Consultant

1997 – to present

- From 1997 to 2007 I did a lot of administrative work: managed a highly complex and saturated agenda on a daily basis. I scheduled appointments with the customers and distributors (in the mainland as well as overseas). I also overlooked accounts receivable, accounts payable, marketing and participated in the sale of products and keeping an organized inventory of the material / products at hand. From 2007 to date I continue to consult farmers and clients and help them resolve problems with their farms and pets. I practice one night a week as an emergency veterinarian at Animal Medical Hospital in Cabo Rojo, Puerto Rico. This allows me to keep proficient as a veterinarian.
- I constantly research new techniques and procedures in order to be knowledgeable about the new terminology and emerging trends on my field of expertise.
- I have also conducted research in the veterinary field, especially in the area of tick-borne diseases.

PUBLICATIONS AND PAPERS

Nathaniel Washburn, Robin Meccariello, Shaohui Hu, Maurice Hains, Naveen Bhatnagar, Hetal Sarvaiya, Bulbul Kapoor, John Schaeck, Ignacio Pino, Anthony Manning, Jonathan C. Lansing, Carlos J. Bosques. (2017) High-resolution physicochemical characterization of different intravenous immunoglobulin products. *PLoS ONE* **12**(7): e0181251. <https://doi.org/10.1371/journal.pone.0181251>

S. Blackshaw, A. Venkataraman, J. Irizarry, K. Yang, S. Anderson, E. Campbell, C.L. Gatlin, N. L. Freeman, R. Basavappa, R.I Stewart, M. A. Loss, I. Pino, H. Zhu, J. S. Bader. (2016) The NIH Protein Capture Reagents Program (PCRP): A standardized protein affinity reagent tool box. *Nature Methods* **13**(10):805-806

S. Liu, H. Zhang, J. Dai, S. Hu, I. Pino, D. J. Eichinger, H. Lyu, H. Zhu (2014) Characterization of monoclonal antibody's binding kinetics using oblique-incidence reflectivity difference approach. *mAbs*. **7**(1)

J. Seop Jeong, L. Jiang, E. Albino, J. Marrero, H. S. Rho, J. Hu, S. Hu, C. Vera, D. Bayron-Poueymiroy, Z.A. Rivera-Pacheco, L. Ramos, C. Torres-Castro, J. Qian, J. Bonaventura, J. D. Boeke, W. Y. Yap, I. Pino, D. J. Eichinger, H. Zhu, and S. Blackshaw. (2012) Rapid Identification of Monospecific Monoclonal Antibodies Using a Human Proteome Microarray. *Molecular Cellular Proteomics*, **11**(6): O111.016253.

W.L. Goff, J.B. Molloy, W.C. Johnson, C.E. Suarez, I. Pino, A. Rhalem, H. Sahibi, L. Ceci, G. Carelli, D.S. Adams, T.C. McGuire, D. P. Knowles, and T.F. McElwain. (2006) Validation of a Competitive Enzyme-Linked Immunosorbent Assay for the Detection of Antibodies Against *Babesia bovis*. *Clinical and Vaccine Immunology*, **13** (11): 1212-1216.

LANGUAGES

Spanish
English

MEMBERSHIPS

Member of the American Veterinary Medical Association
Member of the Colegio de Medicos Veterinarios de Puerto Rico
Member Advisory Board Centro Investigación y Desarrollo UPRM