

Ernesto Bustamante

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Ernesto Bustamante (born May 19, 1950 in Lima, Peru) is a prominent scientist known for his expertise and contributions to the field of molecular biology.

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Education

Bustamante holds a B.S. in biology from the Universidad Cayetano Heredia in Lima, Peru, an M.S. in biochemistry from the Universidad Cayetano Heredia in Lima, and a PhD in Biochemistry, Cellular and Molecular Biology from The Johns Hopkins University School of Medicine, in Baltimore, Maryland, in the United States.

He has contributed to science in both the academic and the corporate worlds.

Academia

In academia, he has served as professor of biochemistry at Universidad Cayetano Heredia (Lima, Peru) during eight years (1977–1984). He also was visiting professor, research fellow, visiting researcher, or research scholar at the following institutions: The Johns Hopkins University School of Medicine (Baltimore, Maryland, USA) [1979, 1980, 1981, 1984], Universidad de Chile Facultad de Ciencias (Santiago, Chile) [1980, 1981], and recently at the School of Medicine of the University of North Carolina at Chapel Hill (Chapel Hill, North Carolina, USA) [2002–2005].

Bustamante was a fellow from the Ford Foundation, The Commonwealth Fund of New York, Eli Lilly and Company's Pre-doctoral Fellowship in Biology, E.I. DuPont de Nemours & Co., and The Rockefeller Foundation. In 2002 he was awarded competitively a Breast Cancer Concept Award by the U.S. Department of Defense as recommended by the Congressionally-directed Medical Research Programs.^[2] He has published nearly thirty peer-reviewed original research articles in the specialty of mitochondrial bioenergetics and molecular biology.^[3]

His largest contribution to biochemistry and cell biology was to demonstrate that the mitochondrial hexokinase is the enzyme responsible for driving the high rates of glycolysis that occur under aerobic conditions characteristic of rapidly-growing malignant tumor cells.^{[4][5][6]} Since then, aerobic glycolysis by malignant tumors is utilized clinically to diagnose and monitor treatment responses of cancers by imaging uptake of 2-¹⁸F-2-deoxyglucose (a radioactive modified hexokinase substrate) with positron emission tomography (PET).^[7]

In 2005, he published a research article that demonstrates that the functional association of glucokinase (a hexokinase isoform) to mitochondrial metabolism and intracellular signaling of apoptosis in normal liver is actually not mediated by a physical association of this enzyme with mitochondria or either their inner membrane or outer membrane^[8] as proposed by others.

Corporate work

In the corporate world, Bustamante was founding president and managing director (1978–2001) of *AB Chimica Laboratorios SA*, the first Peruvian company dedicated to manufacturing diagnostic kits and medical devices for use in clinical laboratories. He also was founding president and managing director [1985–2001) of *BelgaMedica SA*, a leading clinical laboratory originally associated with Laboratoire Central, at the time the largest clinical laboratory in Belgium. BelgaMedica was the laboratory that in 1985 identified serologically the first eight cases of HIV infection in Peru.^[9]

He also was technical and commercial representative of U.S. and European companies in the medical and clinical

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diagnostics fields, such as with the *Société Française d'Équipement Hospitalier*, managing a French-government funded, six-million dollar project that entailed the partial renovation of *Hospital Arzobispo Loayza* (Lima, Peru) between 1996 and 2000.

In the area of public diffusion of science, he has contributed with hundreds of conferences and lectures, and he has written numerous newspaper and magazine articles,^{[10][11][12][13]} in the fields of clinical chemistry, medical biotechnology, medical biochemistry, molecular genetics, lipid biochemistry, genetically modified food, genetically modified organisms, irradiated food, and in the area of DNA technology for paternity analysis. The conferences and lectures have been given at various universities and professional organizations, including Colegio Médico del Perú, Colegio de Abogados de Lima, Colegio de Biólogos del Perú, Sociedad Peruana de Medicina General, and others.

He has made multidisciplinary contributions to Peruvian society such as:

- Campaign against deceitful advertising on labels and inappropriate use of Omega-3 and Omega-6 as food additives in milk and eggs, which resulted in an investigation by the regulatory agency, Indecopi, against the food-processing companies Nestlé, Gloria, and Laive.^{[14][15]}
- Successful identification of human remains of eleven officers of the Peruvian Navy, disappeared at the Nanay River (a tributary to the Amazon River), using forensic DNA analysis.^[16]
- DNA analysis methodology for the correct identification of hundreds of cadavers of victims of the catastrophic fire that destroyed the "Mesa Redonda" Shopping Center.^[17]
- Food and Products of Transgenic Origin (GMO): their impact on the Peruvian economy.^{[18][19]}

Public activities

Bustamante regularly publishes articles on political analysis in Peruvian newspapers and magazines; he is a political analyst and Op-Ed columnist for the leading Peruvian newspaper *El Comercio*.^{[20][21][22][23]} As to his political contributions, during the legislative period 2000–2001 he served as *ad honorem* consultant on the Comisión de Reforma de Códigos of the Congress of Peru and a member of the Study Group in charge of the Legislative Bill 00203, which proposed norms to protect the human genetic patrimony and to prevent and criminalize discrimination on the basis of genetic factors. This became Law 27636 that modified Art. 324 of the Peruvian Penal Code. During the legislative period 2001–2002, he served as *ad honorem* consultant on the SubComisión de Ciencia y Tecnología of the Congress of Peru. This became Law 28303, or Law of Science, Technology and Technological Innovation.^[24]

In 2001, Bustamante was named as national expert on the National Biosafety Group of Consejo Nacional del Ambiente, CONAM (National Environmental Council). In 2005 he was designated president of a transitory committee in charge of writing a new Bill to regulate the work of biologists to be presented to the Congress of Peru. The resulting proposal was passed by Congress in 2006 and is now Law 28847.^[25] Between 2001 and 2005 he administered the Internet science interest group Biología run by the Red Científica Peruana consisting of over 450 members. He is a consultant to the Internet sexuality group Sexalud, run by Terra Lycos for Spain and Latin America.

In 2007, Bustamante was elected to serve a two-year term as president (national dean) of the Colegio de Biólogos del Perú [1] (<http://cbperu.org>), a professional organization -created by law- presently consisting of over 10,000 registered Peruvian biologists. In May 2008 he was elected to serve a one-year term as member of the Board of Directors of the Consejo Nacional de Decanos de los Colegios Profesionales del Perú (CDCP), which is a federation -created by law- of deans from over 30 recognized professional organizations in Peru encompassing about 700,000 professional graduates. In 2009, Bustamante was re-elected to the National Board of the Colegio de Biólogos del Perú, this time to serve as vice-president during a two-year term (2009–2011).

In 2008, Bustamante was elected member of the board of directors of the Consejo Nacional del Ambiente, CONAM -the top national environmental authority that also rules on biodiversity and biosafety issues now replaced by the Ministry of the Environment.^[26] In August 2011, he was designated by president Humala's administration as General Director of Mining Environmental Affairs at the Ministry of Energy and Mines (<http://www.mem.gob.pe>). He served until November 2011, when the first Humala Cabinet -headed by Prime Minister Salomon Lerner- fell due to the political consequences of social and environmental conflicts between mining companies and the neighboring populations that took place in the provinces of Tacna and Cajamarca. His office was responsible for approval of Environmental Impact Assessments presented by mining companies. He reformulated a project -and thus obtained budgetary approval for USD 29 million from the Ministry of Economy- for remediation of rivers and their basins heavily polluted by past mining endeavors in the province of Puno^[27]

He is considered an opinion leader in the matter of potential impact of GMOs on biodiversity in Peru and their safety,^[18] and is an advocate of the benefits of modern biotechnology on the economy.^{[28][29][30][31][32][33][34][35][36][37][38][39][40][41][42]}

Bustamante is currently the scientific director of BioGenomica [2] (<http://biogenomica.com>), a company specializing in DNA paternity and parentage testing serving the Peruvian and international markets, and the exclusive representative in Peru for Myriad Genetics [3] (<http://myriad.com>)[4] (<http://myriadperu.com>). He also serves as international consultant on medical, agricultural, and mining biotech matters.

References

- ¹ [^] *Huffington Post*, August 24, 2011. "Former Idaho Professor, Kills Self After Allegedly Murdering Student Katy Benoit" (http://www.huffingtonpost.com/2011/08/24/ernesto-bustamante-former_n_935013.html) Retrieved August 26, 2011.
- ² [^] "U.S. Department of Defense Breast Cancer Research Program Awards List" (<http://cdmrp.army.mil/pubs/books/bc02awards.pdf>). <http://cdmrp.army.mil>. Retrieved February 4, 2012.
- ³ [^] [Author ""Bustamante E or Bustamente E" - PubMed - NCBI" (<http://www.ncbi.nlm.nih.gov/libproxy.lib.unc.edu/pubmed?term=%22Bustamante%20E%22%20or%20%22Bustamente%20E>). [Ncbi.nlm.nih.gov/libproxy.lib.unc.edu](http://www.ncbi.nlm.nih.gov/libproxy.lib.unc.edu). Retrieved 2012-06-18.
- ⁴ [^] PubMed 431708 (<http://www.ncbi.nlm.nih.gov/entrez/query.fcgi?cmd=search&db=PubMed&term=431708>)
- ⁵ [^] "Energy Metabolism of Tumor Cells" (<http://www.biogenomica.com/PDFs/BustamanteHKhepatomaPLPJBC.pdf>) (PDF). Retrieved 2012-06-18.
- ⁶ [^] "Mitochondrial Hexokinase of R a t Hepatoma Cells in Culture: Solubilization and Kinetic Properties" (<http://www.biogenomica.com/PDFs/BustamanteHKhepatomaBiochemistry.pdf>) (PDF). Retrieved 2012-06-18.
- ⁷ [^] "J Cancer Res Clin Oncol (2000) 126:549-559" (<http://www.biogenomica.com/PDFs/PauwelsPETandHexokinase.pdf>) (PDF). Retrieved 2012-06-18.
- ⁸ [^] "Isolated mouse liver mitochondria are devoid of glucokinase" (<http://www.biogenomica.com/PDFs/Bustamante-Glucokinase2005.pdf>) (PDF). Retrieved 2012-06-18.
- ⁹ [^] "Vision Reportaje" (<http://www.biogenomica.com/PDFs/Sida-Vision19851124.pdf>) (PDF). Retrieved 2012-06-18.
- ¹⁰ [^] "Reglas de Etiqueta" (<http://www.biogenomica.com/PDFs/AlimentosSOMOSElComercio20020525.pdf>) (PDF). Retrieved 2012-06-18.
- ¹¹ [^] "Tras las huellas de los Miguel Angel" (<http://www.biogenomica.com/PDFs/ForenseMarinosElComercio20000508.pdf>) (PDF). Retrieved 2012-06-18.
- ¹² [^] "Como hacer las pruebas de ADN?" (<http://www.biogenomica.com/PDFs/MesaRedondaElComercio20020102.pdf>) (PDF). Retrieved 2012-06-18.
- ¹³ [^] "El siguiente paso" (<http://www.biogenomica.com/PDFs/CrediBankMagazineGenetica200109.pdf>) (PDF). Retrieved 2012-06-18.
- ¹⁴ [^] "Reglas de Etiqueta" (<http://www.biogenomica.com/PDFs/AlimentosSOMOSElComercio20020525.pdf>) (PDF). Retrieved 2012-06-18.
- ¹⁵ [^] "Comision De Represion De La Competencia Desleal" (<http://www.biogenomica.com/PDFs/Omega4.pdf>) (PDF). Retrieved 2012-06-18.
- ¹⁶ [^] "Tras las huellas de los Miguel Angel" (<http://www.biogenomica.com/PDFs/ForenseMarinosElComercio20000508.pdf>) (PDF). Retrieved 2012-06-18.
- ¹⁷ [^] "Como hacer las pruebas de ADN?" (<http://www.biogenomica.com/PDFs/MesaRedondaElComercio20020102.pdf>) (PDF). Retrieved 2012-06-18.
- ¹⁸ [^] **a b** "El Comercio / Economia / SÁibado, 5 de agosto de 2006" (<http://www.elcomerciooperu.com.pe/EdicionImpresa/Html/2006-08-05/ImEcEconomia0553321.html>). [Elcomerciooperu.com.pe](http://www.elcomerciooperu.com.pe). Retrieved September 19, 2011.
- ¹⁹ [^] "El siguiente paso" (<http://www.biogenomica.com/PDFs/CrediBankMagazineGenetica200109.pdf>) (PDF). Retrieved 2012-06-18.
- ²⁰ [^] "Comentario El Comercio.JPG" (<http://www.biogenomica.com/PDFs/ElComercio20050309PapaEstado.pdf>) (PDF). Retrieved September 19, 2011.
- ²¹ [^] "La lealtad de PPK" (<http://www.biogenomica.com/PDFs/ElComercio20040303LealtadPPK.pdf>) (PDF). Retrieved 2012-06-18.
- ²² [^] "Del cálculo científico al político" (<http://www.biogenomica.com/PDFs/ElComercio20030905CalculoCientifico.pdf>) (PDF). Retrieved 2012-06-18.
- ²³ [^] "¿Y las planillas secretas?" (<http://www.biogenomica.com/PDFs/ElComercio20030610PlanillasSecretas.pdf>) (PDF). Retrieved 2012-06-18.
- ²⁴ [^] "Microsoft Word - ProyectoLeyCyTAprobadoPorCongreso.doc" (<http://www.biogenomica.com/PDFs/Ley28303CyT.pdf>) (PDF). Retrieved 2012-02-09.
- ²⁵ [^] "Normas Legales" (<http://www.biogenomica.com/PDFs/Ley28847-TrabajoBiologo1.pdf>) (PDF). Retrieved 2012-06-18.
- ²⁶ [^] "Normas Legales" (<http://www.biogenomica.com/PDFs/CONAM-ElPeruano20080418.pdf>) (PDF). Retrieved 2012-06-18.
- ²⁷ [^] "74 million Soles will be Invested to Decontaminate the Basin of River Grande in Puno" (<http://www.minem.gob.pe/descripcion.php?idSector=4&idTitular=4017>). <http://www.minem.gob.pe>. Ministry of Energy and Mines General Directorate of Mining Environmental Affairs. Retrieved February 4, 2012.
- ²⁸ [^] "El Comercio / Opinion / Jueves, 5 de abril de 2007" (<http://www.elcomerciooperu.com.pe/EdicionImpresa/Html/2007-04-05/ImEcOpinion0702575.html>). [Elcomerciooperu.com.pe](http://www.elcomerciooperu.com.pe). Retrieved October 18, 2011.
- ²⁹ [^] "El Comercio.COM.PE" (<http://www.elcomerciooperu.com.pe/EdicionImpresa/Html/2007-05-10/ImEcOpinion0720327.html>). [Elcomerciooperu.com.pe](http://www.elcomerciooperu.com.pe). May 7, 2007. Retrieved October 18, 2011.
- ³⁰ [^] "El Comercio.COM.PE" (<http://www.elcomerciooperu.com.pe/EdicionImpresa/Html/2007-06-25/ImEcOpinion0744571.html>). [Elcomerciooperu.com.pe](http://www.elcomerciooperu.com.pe). May 7, 2007. Retrieved October 18, 2011.
- ³¹ [^] "El Comercio.COM.PE"

- (http://www.elcomerciope.com.pe/EdicionImpresa/Html/2007-06-26/ImEcNacional0745162.html). Elcomerciope.com.pe. May 7, 2007. Retrieved October 18, 2011.
32. ^ "El Comercio.COM.PE" (http://www.elcomercio.com.pe/edicionimpresa/Html/2007-08-22/imecopinion0773519.html). El Comercio.COM.PE. May 7, 2007. Retrieved October 18, 2011.
 33. ^ "La culpa es del hortelano" (http://www.elcomercio.com.pe/edicionimpresa/Html/2007-11-20/la_culpa_es_del_hortelano.html). Elcomercio.com.pe. Retrieved October 18, 2011.
 34. ^ "Polémica por uso de los transgénicos en el país | Perú21" (http://peru21.pe/imprensa/noticia/polemica-uso-transgenicos-pais/2008-01-10/46370). Peru21.pe. January 10, 2008. Retrieved October 18, 2011.
 35. ^ "Transg nicos ya se comercializan en los alimentos procesados" (http://www.elcomercio.com.pe/edicionimpresa/Html/2008-01-19/transgenicos-ya-comercializan-alimentos-procesados.html). Elcomercio.com.pe. Retrieved October 18, 2011.
 36. ^ Gestion20080121 (http://cbperu.org/pdf/Gestion20080121.pdf) (PDF). cbperu.org. January 2008. Retrieved 2013-09-27.
 37. ^ "  Ya se cultivan transg nicos en nuestro pa s?" (http://www.elcomercio.com.pe/edicionimpresa/Html/2008-01-23/ya-cultivan-transgenicos-nuestro-pais.html). Elcomercio.com.pe. Retrieved October 18, 2011.
 38. ^ "No se sabe si causen da o" (http://www.elcomercio.com.pe/edicionimpresa/Html/2008-07-10/no-sabe-si-causen-dano.html). Elcomercio.com.pe. Retrieved October 18, 2011.
 39. ^ "Per  abri  debate sobre semillas modificadas gen ticamente frente a pol ticas de Estado - Archivo" (http://www.portafolio.com.co/negocios/agronegocios/2008-11-24/ARTICULO-WEB-NOTA_INTERIOR_PORTA-4680434.html). portafolio.com.co. Retrieved October 18, 2011.
 40. ^ ElComercio20081204 (http://www.cbperu.org/pdf/ElComercio20081204.pdf) (PDF). cbperu.org. December 2008. Retrieved 2013-09-27.
 41. ^ Staff (December 4, 2008). "Agriculture Ministry opens public debate on use of genetically modified seeds" (http://www.peruviantimes.com/agriculture-ministry-opens-public-debate-on-use-of-genetically-modified-seeds/). *Peruvian Times*. Retrieved 2013-09-27.
 42. ^ Lupick, Travis (April 16, 2009). "Doctored crops stir Latin American debate | Vancouver, Canada" (http://www.straight.com/article-214382/doctored-crops-stir-latin-american-debate). Straight.com. Retrieved October 18, 2011.

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