Ivan Delgado Orlic

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PERSONAL

Date of birth	May 28, 1973
Spoken languages	English, Spanish, and intermediate French

EDUCATION

Feb. 2004 - Mar. 2006	M.B.A. in General Business. **GPA: 4.00/4.00**. Capella University.
Aug. 1995 - Dec. 2001	Ph.D. in Genetics. **GPA: 3.67/4.00**. MSU-DOE-PRL. Advisor: Natasha Raikhel
Aug. 1991 - May 1995	B.S. in Genetics **GPA: 3.97/4.00**. Plant Genetics and Breeding. Purdue University.

EXPERTISE

NUCLEIC ACIDS	DNA, RNA, mRNA. Sequencing. Extensive PCR assay development, including quantitative real time PCR. Cloning. Blotting. *In vitro* transcription. Mutagenesis. Microarray analysis. Chemical synthesis of DNA fragments.
GENETICS	Mapping (RAPDs; RFLPs; AFLPs). Plant (*Arabidopsis* and rice) and animal (human and mouse) cell transformation. Mice management and genotyping. Library screening.
GENOTYPING	Created and validated hundreds of standard PCR- and dozens of qPCR-based genotyping assays. Genotyped up to 5,000 samples per month.
STATISTICS	One-way ANOVA analysis of microarray experiments and qPCR expression analysis of candidate genes. GeneSpring software.
FDA REGULATIONS	Established and maintained GLP, GMP, CLIA, NSY DOH and ISO 17025:2005 certified laboratories. Prepared and maintained SOPs, qualification (IQ/OQ/PQ), and validation documents. Conducted internal audits and managed external audits.
GRANT WRITING	Prepared proposals to apply for academic grants and government funded (RFP) contract molecular biology work worth millions of dollars.
PROTEINS	Organelle, membrane and protein purification. 2-D gel electrophoresis. Antibody work. *In vitro* translation. Recombinant protein expression and purification.
CARBOHYDRATES	GC/Mass spectrometry of alditol acetates. Methylation analysis.
CELL BIOLOGY	Tissue culture (plant and animal cells). Confocal microscopy. Reporter genes assays (GUS, GFP). RNA interference. Enzyme assay development and optimization.
BUSINESS	Business Plan development, break-even analysis, finance. Built new businesses from scratch and managed it. Supervised, trained, and managed up to 4 individuals.

WORK EXPERIENCE

Oct 2006 - present

President and CEO
Mouse Genotype, Escondido, CA, USA
Manage a full service mouse genotyping services for academic as well as industrial clients. In charge of daily operations, including PCR assay design and optimization, data generation and analysis, technical support, and inventory management.

Sept 2008 - Oct 2009

Application Scientist
Helixis, Inc., Carlsbad, CA, USA (purchased by Illumina in 2010)
Part of a cross-functional team developing world-class instrumentation and support tools for life sciences. Involved throughout the product development cycle including product concepts focus groups, external collaborator evaluations and regular discussions with internal development teams to support product development through commercialization.

Responsible for supporting the development of software user interface and for developing innovative training and support tools. Develop external collaboration relationships in leading laboratories to provide beta testing evaluations, feedback and early data for marketing purposes. Responsible for the development of applications notes and other training modules. Provide technical seminars to demonstrate utility of real-time PCR and Helixis systems.

March 2007 - Sept 2008 **Principal Scientist**
Lancaster Laboratories, Lancaster, PA, USA
Responsible for the performance of cellular- and molecular-based assays in support of the manufacture and testing of therapeutic agents and biological products under GMP conditions. Develop, execute, and qualify assays, including real time qPCR, immunoassays, cell based assays, and other analytical and virology techniques.
Serve as administrator of analytical instrumentation systems, develop and execute instrument validation plans, carry out method transfers and feasibility studies, train and supervise technical staff, and give oral presentations for industry, internal training, and client reviews.

Aug 2005 - Sept 2006 **Senior Scientist and QA/QC Manager**
Identigene, Inc., Houston, TX, USA
Senior Scientist: helped build a mouse genotyping service from scratch (www.MouseGenotyping.com) and developed it into a $200,000 a year business. Created and systematically optimized the laboratory process, ran up to 1,500 genotyping reactions per month, analyzed results and created genotyping reports for submission.
QA/QC manager: provided all requirements for AABB, NYS DOH, and ISO (9001:17025) regulations. Wrote and managed dozens of SOPs (for Paternity, Forensics, and Mouse Genotyping laboratories) and maintained regulatory documents. Managed audits and resolved non-conforming issues.

Oct 2004 - Aug. 2005 **Post-doc. Molecular Genetics of Human Disease. Rett Syndrome.**
Dr. I. Van den Veyver, Baylor College of Medicine, Houston, TX, USA
Researched the molecular genetics and epigenetics of Rett Syndrome, a neurological disease caused by mutations in the MeCP2 gene. Performed microarray experiments and identified genes with altered expression in diseased cells (published work). Managed mouse colonies, maintained cell cultures, and ran qPCRs, Northerns, and Westerns.

July 2003 - May 2004 **Scientific Advisor and QA Manager**
SeqWright Inc., Houston, TX, USA
Scientific Advisor: identified possible new business opportunities and wrote grants in response to RFPs. Provided technical support to the sales department, being instrumental in the acquisition of contracts worth over $500,000.
QA manager: provided all requirements for GLP regulations. Wrote and managed SOPs and maintained regulatory documents (IQ/OQ/PQ). Managed audits from outside vendors and developed all required systems to satisfy non-conforming issues.

Jan. 2002 - June 2003 **Post-doc. Muscle development, cell cycle control and cancer**
Dr. P. Zhang, Baylor College of Medicine, Houston, TX, USA
Worked on the molecular genetics of cell cycle control with an emphasis on muscle development and cancer development. Performed microarray experiments and identified genes whose expression was altered during muscle cell differentiation (published work). Built constructs for use in generating KO mice. Supervised MD/PhD students, managed mouse colonies, maintained cell cultures, and ran qPCRs, Northerns, and Westerns.

Apr. 2002 - Sept 2002 **Contract Scientist. Chemical synthesis of kilobasepair-sized DNA fragments**
Alfred W. Lasher III. Pres., Picoscript Ltd., Houston, TX, USA
Provided scientific advice and support in the development of a semi-automated process for the chemical synthesis of kilobasepair-sized DNA fragments.

ACADEMIC EXPERIENCE

Aug. 1995 - Dec. 2001	**Ph.D. The role of *Arabidopsis* polypeptides that bind the sugar moiety of nucleotide sugars in plant polysaccharide biosynthesis** Dr. N. Raikhel, MSU-DOE-PRL, MSU, East Lansing, MI, USA
May 1999 - Aug. 1999	**GC/MS analysis of carboxyl-reduced alditol acetates from transgenic *Arabidopsis* plants altered in Rgp expression** Dr. T. Bacic, University of Melbourne, Melbourne, Australia
Dec. 1998	**Purification of Golgi vesicles for nucleotide sugar import assays** Dr. A. Orellana, Universidad de Chile, Santiago, Chile
March and Sept 1998	**Screen for transposable-element-mutagenized *Arabidopsis* plants** Dr. K. Palme, Max-Planck-Institut Fur Zuchtungsforschung, Köln, Germany
May 1995 - Aug. 1995	**Analysis of 7S and11S globulin storage proteins in soybean inbred lines** Dr. K. Kitamura, National Agriculture Research Center, Tsukuba, Japan
May 1994 - Aug. 1994	**AFLP characterization of *Phaseolus vulgaris* (common bean) genotypes** Dr. J. Tohme, International Center for Tropical Agriculture, Cali, Colombia
May 1993 - May 1995	**Phylogenetic analysis of cereals and cereal rust fungi using rRNA genes** Dr. J. Bennetzen, Purdue University, West Lafayette, IN, USA

SELECTED PUBLICATIONS

Javorschi-Miller S and **Delgado I (2011**) Real-Time PCR Instrumentation: an Instrument Selection Guide. In Suzanne Kennedy and Nick Oswald (Eds.) PCR Troubleshooting and Optimization: The Essential Guide (pp. 119 - 138). Caister Academic Press.

Drakakaki G, Zabotina O, **Delgado I**, Keegstra K, Raikhel NV (**2006**) Arabidopsis RGP1 and RGP2 are essential for pollen development. **Plant Physiology** 142: 1480-1492.

Delgado I, K Dong, Thatcher K, LaSalle J, Van den Veyver I (**2006**) Expression profiling of clonal lymphocyte cell cultures from Rett syndrome patients. **BMC Medical Genetics** 7: 61.

Delgado I, Huang X, Jones S, Zhang L, Hatcher R, Gao B, Zhang P (**2003**) Dynamic gene expression during the onset of myoblast differentiation in vitro. **Genomics** 82: 109-121

Delgado I, Wang Z, De Rocher A, Keegstra K, Raikhel NV (**1998**) Cloning and Characterization of *AtRgp1*: A reversibly autoglycosylated protein implicated in cell wall biosynthesis. **Plant Physiology** 116: 1339-1349

PARTICIPATION AND PRESENTATIONS IN SCIENTIFIC MEETINGS

- 110th American Society of Microbiology Meeting, **2010**, San Diego, CA, USA
- 2nd Advances in qPCR Conference, **2009**, Berlin, Germany
- Scripps Conference: The Future of Genomic Medicine II, **2009**, San Diego, CA, USA
- qPCR Symposium USA, **2008**, Millbrae, CA, USA
- 16th Annual Nucleic Acid-Based Technologies Conference - Meeting the Demands, **2008**, Baltimore, MD, USA
- 55th Annual Meeting, American Society of Human Genetics (ASHG), **2005**, Salt Lake City, Utah, USA
- 6th Annual Symposium, Rett Syndrome Research Foundation (RSRF), **2005**, Chicago, IL, USA
- Molecular Biology of Muscle Development and Regeneration Meeting, **2003**, Banff, Alberta, Canada
- 12th International Conference on Arabidopsis Research, **2001**, Madison, WI, USA
- 10th International Conference on Arabidopsis Research, **1999**, Melbourne, Australia
- Annual Meeting, American Society of Plant Physiologists (ASPP), **1998**, Madison, WI, USA
- Gordon Research Conference on Plant Cell Walls, **1997**, Tilton, NH, USA
- 8th International Conference on Arabidopsis Research, **1997**, Madison, WI, USA
- Cloning Plant Genes Known Only by Phenotype, **1994**, Plant Molecular Genetics Institute, Saint Paul, MN, USA

COMPUTER KNOWLEDGE

Sequence analysis	GCG; DNA Star; Sequencher; Database search (BLAST)
Microarray analysis	GeneSpring software for microarray analysis
Quantitative real time PCR	ABI Prism SDS software for real time PCR
Software specialist	MSOffice (Excel, Powerpoint, Word), WordPerfect
Internet development	HTML, Java, Macromedia web design studio (Dreamweaver) -

Graphic artist	Macromedia Flash and Freehand, Adobe Photoshop and Illustrator

PROFESSIONAL ACTIVITIES AND AFFILIATIONS

1994 - present	Member, Phi Beta Kappa National Honor Society
1996 - present	Member, American Association for the Advancement of Science (AAAS)
1997 - present	Member, American Association of Plant Biologists (ASPB)
2005 - 2007	American Association of Blood Banks (AABB)
2005 - 2007	American Society of Quality (ASQ)
2005 - 2007	Society of Quality Assurance (SQA)

PERSONAL INTERESTS

Soccer	1996 Michigan (Greater Lansing) Division II Soccer Champions
Lecturer	Community Volunteers for International Programs (CVIP) lecturer at schools on cultural issues.
Running	Finisher (2006, 2009 and 2010 San Diego Rock 'n' Roll Marathon; 2010 and 2013 Carlsbad Marathon; 2007 Select Medical Corporation Harrisburg Marathon)
Volunteer	Through Volunteer San Diego devote >30 hours a year to community service activities

REFERENCES

Available upon request