



MINISTERIO
DE CIENCIA
E INNOVACIÓN

DIRECCIÓN GENERAL
DE INVESTIGACIÓN Y GESTIÓN DEL
PLAN NACIONAL DE I+D+i

SUBDIRECCIÓN GENERAL DE
FORMACIÓN E INCORPORACIÓN DE
INVESTIGADORES

JUAN DE LA CIERVA SUBPROGRAMME

Curriculum vitae Standardized form

Total number of pages: 15

Name: Cruz Enrique Borges Hernández

Date: June 23, 2011

-During the evaluation process, the applicant could be required to expand and justify the information here contained.

PERSONAL DATA

Family name: Borges Hernández
ID/Passport no: 78.624.081-F

Date of birth: March 2, 1983

Forename: Cruz Enrique
Gender: Male

PRESENT PROFESIONAL POSITION

Institution:

Faculty, School or Institute: Deusto Institute of Technology, DeustoTech

Department: Energy Unit

Address: Avenida de las Universidades 24, 48007 Bilbao

Country: Spain

Telephone (indicate prefix, number and extension): +34 678 294781

Fax: +34 944 139101

E-mail: cruz.borges@deusto.es

Field of study (UNESCO codes): 1201.13, 1206.01, 1203.04, 1203.15

Professional status: Assistant Researcher

Start date: May 3, 2010

Administrative status

- Permanent Staff Hired on contracts Acting Fellowship holder
 Others specify:

Dedication Full-time
 Part-time

PRESENT RESEARCH AREA

Brief summary (key words).

Complexity, Foundations of Computational Mathematics, Effective Methods in Algebraic Geometry, Numerical Analysis, Machine Learning, Learning Theory, Evolutionary Algorithm and Genetic Programming.

ACADEMIC BACKGROUND

Bachelor	Center	Date
Bachelor in Mathematics	University of La Laguna	June 2005

Ph.D.	Center	Supervisor	Date
Ph.D. in Mathematics	University of Cantabria	L.M. Pardo & J.L. Montaña	25/3/12

PAST SCIENTIFIC EXPERIENCE

Position	R&D Center	Institution	Start date	End date
FPU Grant		University of Cantabria	01/04/06	03/03/10
Assistant Researcher	DeustoTech	University of Deusto	03/05/10	

LANGUAGES (N = NORMAL, G = GOOD, P = PERFECTLY)

Language	Speaking	Reading	Writing
Spanish	P	P	P
English	N	P	N

PARTICIPATION IN RESEARCH PROJECTS

PROJECT TITLE: Herramientas de nueva generación para el diseño y control de procesos novedos: aplicación en sistemas de transformación de residuos a alta presión

FINANCIAL ENTITY: Requested to Ministerio de Ciencia e Innovación

LENGHT, FROM: 2011 TO: 2014

PRINCIPAL INVESTIGATOR: Ainhoa Alonso Vicario

PROJECT TITLE: New Waste Minimization Strategies by Intersectorial Cooperation

FINANCIAL ENTITY: Requested to European Commission (Life+ Program)

LENGHT, FROM: 9/2011 TO: 9/2015

PRINCIPAL INVESTIGATOR: Rubén Barrio Martín

PROJECT TITLE: Hacia la eliminación no universal: en la frontera de lo intratable

FINANCIAL ENTITY: Ministerio de Ciencia y Tecnología

LENGHT, FROM: 2007 TO: 2010

PRINCIPAL INVESTIGATOR: Luis Miguel Pardo Vasallo

PROJECT TITLE: Algoritmos No Universales y Algoritmos Alternativos en Eliminación Geométrica: un Estudio de Eficacia

FINANCIAL ENTITY: Ministerio de Ciencia y Tecnología

LENGHT, FROM: 2004 TO: 2007

PRINCIPAL INVESTIGATOR: Luis Miguel Pardo Vasallo

PUBLICATIONS

Key: B= full book, CB.= chapter of book, A= article, R= review, E= editor

AUTHORS (in order of authorship): C.L. Alonso, J.L. Montaña, J. Puente and C.E. Borges
TITLE: A New Linear Genetic Programming Approach Based on Straight Line Programs: Some Theoretical and Exeperimental Aspects
JOURNAL/BOOK TITLE: International Journal on Artificial Intelligence Tools KEY: A
VOLUME: 18 FIRST AND LAST PAGE: 757-781 DATE OF PUBLICATION: 2009
JOURNAL WITHIN THE 25% HIGHER IMPACT FACTOR INITS KNOWLEDGE AREA AT THE YEAR OF PUBLICATION: YES NO
IMPACT FACTOR: JCR: 0.436
TOTAL NUMBER OF TIMES CITED: 0

AUTHORS (in order of authorship): C.E. Borges and L.M. Pardo
TITLE: On the Probability Distribution of Data at Points in Real Complete Intersection Varieties
JOURNAL/BOOK TITLE: Journal of Complexity KEY: A
VOLUME: 24 FIRST AND LAST PAGE: 492-523 DATE OF PUBLICATION: 2008
JOURNAL WITHIN THE 25% HIGHER IMPACT FACTOR INITS KNOWLEDGE AREA AT THE YEAR OF PUBLICATION: YES NO
IMPACT FACTOR: JCR: 0.825
TOTAL NUMBER OF TIMES CITED: 1

AUTHORS (in order of authorship): Y.K. Peña, C.E. Borges and I. Fernández
TITLE: Short-term load forecasting in non-residential Buildings
JOURNAL/BOOK TITLE: Accepted in IEEE Region 8 Conference (AFRICON) KEY: CB
VOLUME: FIRST AND LAST PAGE: XX-XX DATE OF PUBLICATION: 2011
JOURNAL WITHIN THE 25% HIGHER IMPACT FACTOR INITS KNOWLEDGE AREA AT THE YEAR OF PUBLICATION: YES NO
IMPACT FACTOR:
TOTAL NUMBER OF TIMES CITED: 0

AUTHORS (in order of authorship): I. Fernández, Y.K. Peña y C.E. Borges
TITLE: EfiñAcient Building load forecasting
JOURNAL/BOOK TITLE: Accepted in IEEE International Conference on Emerging Technology & Factory Automation KEY: CB
VOLUME: FIRST AND LAST PAGE: XX-XX DATE OF PUBLICATION: 2011
JOURNAL WITHIN THE 25% HIGHER IMPACT FACTOR INITS KNOWLEDGE AREA AT THE YEAR OF PUBLICATION: YES NO
IMPACT FACTOR:
TOTAL NUMBER OF TIMES CITED: 0

AUTHORS (in order of authorship): Y.K. Peña, C.E. Borges, D. Agote y I. Fernández

TITLE: Short-term load forecasting in air-conditioned non-residential Buildings

JOURNAL/BOOK TITLE: Accepted in IEEE International Symposium on Industrial Electronics KEY: CB

VOLUME: FIRST AND LAST PAGE: XX-XX DATE OF PUBLICATION: 2011

JOURNAL WITHIN THE 25% HIGHER IMPACT FACTOR IN ITS KNOWLEDGE AREA AT THE YEAR OF PUBLICATION: YES NO

IMPACT FACTOR:

TOTAL NUMBER OF TIMES CITED: 0

AUTHORS (in order of authorship): C.E. Borges, C.L. Alonso, J.L. Montaña, A.O. de la Puente and M.C. Echeandia

TITLE: Coevolution of Symbolic Expressions Represented by Straight Line Code

JOURNAL/BOOK TITLE: Accepted in Lecture Notes in Studies in Computational Intelligence KEY: CB

VOLUME: FIRST AND LAST PAGE: XX-XX DATE OF PUBLICATION: 2011

JOURNAL WITHIN THE 25% HIGHER IMPACT FACTOR IN ITS KNOWLEDGE AREA AT THE YEAR OF PUBLICATION: YES NO

IMPACT FACTOR:

TOTAL NUMBER OF TIMES CITED: 0

AUTHORS (in order of authorship): J.L. Montaña, C.L. Alonso, C.E. Borges and J. de la Dehesa

TITLE: Penalty Functions for Genetic Programming Algorithms

JOURNAL/BOOK TITLE: International Conference on Computational Science and Its Applications

KEY: CB

VOLUME: FIRST AND LAST PAGE: 550-562 DATE OF PUBLICATION: 2011

JOURNAL WITHIN THE 25% HIGHER IMPACT FACTOR IN ITS KNOWLEDGE AREA AT THE YEAR OF PUBLICATION: YES NO

IMPACT FACTOR: CORE: C

TOTAL NUMBER OF TIMES CITED: 0

AUTHORS (in order of authorship): C.E. Borges, C.L. Alonso and J.L. Montaña

TITLE: Model Selection in Genetic Programming

JOURNAL/BOOK TITLE: Genetic and Evolutionary Computation Conference 2010 KEY: CB

VOLUME: FIRST AND LAST PAGE: 985-986 DATE OF PUBLICATION: 2010

JOURNAL WITHIN THE 25% HIGHER IMPACT FACTOR IN ITS KNOWLEDGE AREA AT THE YEAR OF PUBLICATION: YES NO

IMPACT FACTOR: CORE: A

TOTAL NUMBER OF TIMES CITED: 0

AUTHORS (in order of authorship): C.E. Borges, C.L. Alonso, J.L. Montaña, A.O. de la Puente and M.C. Echeandia

TITLE: Coevolutionary Architectures with Straight Line Programs for solving the Symbolic Regression Problem

JOURNAL/BOOK TITLE: International Conference on Evolutionary Computation 2010 KEY: CB

VOLUME: FIRST AND LAST PAGE: 41-50 DATE OF PUBLICATION: 2010

JOURNAL WITHIN THE 25% HIGHER IMPACT FACTOR INITS KNOWLEDGE AREA AT THE YEAR OF PUBLICATION: YES NO

IMPACT FACTOR: CORE: C

TOTAL NUMBER OF TIMES CITED: 0

AUTHORS (in order of authorship): J.L. Montaña, C.E. Borges, C.L. Alonso and J.L. Crespo

TITLE: Adaptation, Performance and Vapnik-Chervonenkis Dimension of Straight Line Programs

JOURNAL/BOOK TITLE: Lecture Notes in Computer Science (EUROGP 09) KEY: CB

VOLUME: 5481 FIRST AND LAST PAGE: 315-327 DATE OF PUBLICATION: 2009

JOURNAL WITHIN THE 25% HIGHER IMPACT FACTOR INITS KNOWLEDGE AREA AT THE YEAR OF PUBLICATION: YES NO

IMPACT FACTOR: CORE: B

TOTAL NUMBER OF TIMES CITED: 0

AUTHORS (in order of authorship): J.L. Montaña and C.E. Borges

TITLE: Lower Bounds for Approximation of some classes of Lebesgue measurable functions by Sigmoidal Neural Networks

JOURNAL/BOOK TITLE: Lecture Notes in Computer Science (IWANN 09) KEY: CB

VOLUME: 5517 FIRST AND LAST PAGE: 1-8 DATE OF PUBLICATION: 2009

JOURNAL WITHIN THE 25% HIGHER IMPACT FACTOR INITS KNOWLEDGE AREA AT THE YEAR OF PUBLICATION: YES NO

IMPACT FACTOR: CORE: B

TOTAL NUMBER OF TIMES CITED: 0

AUTHORS (in order of authorship): J.L. Montaña, C.E. Borges and C.L. Alonso

TITLE: Evolution Strategies for Constants Optimization in Genetic Programming

JOURNAL/BOOK TITLE: International Conference on Tools with Artificial Intelligence KEY: CB

VOLUME: FIRST AND LAST PAGE: 703-707 DATE OF PUBLICATION: 2009

JOURNAL WITHIN THE 25% HIGHER IMPACT FACTOR INITS KNOWLEDGE AREA AT THE YEAR OF PUBLICATION: YES NO

IMPACT FACTOR: CORE: B

TOTAL NUMBER OF TIMES CITED: 0

AUTHORS (in order of authorship): Y.K. Peña, C.E. Borges, D. Agote and I. Fernández
TITLE: Short-term load forecasting in air-conditioned non-residential Buildings

JOURNAL/BOOK TITLE: IEEE International Symposium on Industrial Electronics 2011 KEY: CB
VOLUME: FIRST AND LAST PAGE: DATE OF PUBLICATION: submitted
JOURNAL WITHIN THE 25% HIGHER IMPACT FACTOR INITS KNOWLEDGE AREA AT THE
YEAR OF PUBLICATION: YES NO
IMPACT FACTOR:
TOTAL NUMBER OF TIMES CITED:

AUTHORS (in order of authorship): J.L. Montaña and C.E. Borges
TITLE: Guía académica. Licenciado en Matemáticas. Curso 2008–2009, Adaptación al EEES

JOURNAL/BOOK TITLE: KEY: CB
VOLUME: FIRST AND LAST PAGE: 86–94 DATE OF PUBLICATION: 2009
JOURNAL WITHIN THE 25% HIGHER IMPACT FACTOR INITS KNOWLEDGE AREA AT THE
YEAR OF PUBLICATION: YES NO
IMPACT FACTOR:
TOTAL NUMBER OF TIMES CITED: 0

PARTICIPATION IN RESEARCH CONTRACTS OF SPECIAL RELEVANCE
WITH COMPANIES AND/OR PRIVATE OR PUBLIC FUNDING BODIES

CONTRACT TITLE: Tecnologías para la gestión automatizada e inteligente

FINANCIAL ENTITIES: Ministerio de Ciencia e Innovación (CDTI, CENIT ENERGOS)

LENGHT FROM: 2009 TO: 2012

PRINCIPAL INVESTIGATOR: Yoseba Peña

CONTRACT TITLE: IMPONET Intelligent Monitoring of POver NETworks

FINANCIAL ENTITIES: Ministerio de Industria, Turismo y Comercio (Plan Avanza I+D), Information Technology for European Advancement - ITEA2

LENGHT FROM: 2010 TO: 2012

PRINCIPAL INVESTIGATOR: Yoseba Peña

CONTRACT TITLE: EIKE Energia Ikerketak

FINANCIAL ENTITIES: Diputación Foral de Guipúzcoa

LENGHT FROM: 2009 TO: 2009

PRINCIPAL INVESTIGATOR: Yoseba Peña

CONTRACT TITLE: ERAGIN Energiaren eRabilera erAginkorra Gestio INdustrialean

FINANCIAL ENTITIES: Gobierno Vasco (SAIOTEK)

LENGHT FROM: 2010 TO: 2010

PRINCIPAL INVESTIGATOR: Yoseba Peña

CONTRACT TITLE: MANU-NET ENEPRO ENergy Efficient foundry PROduction

FINANCIAL ENTITIES: Gobierno Vasco

LENGHT FROM: 2011 TO: 2012

PRINCIPAL INVESTIGATOR: Yoseba Peña

TECHNOLOGY TRANSFERENCE ACTIVITIES

Specify activity performed, time dedication and participation mode, territorial scope, validity and budget; and any other relevant contribution regarding: Results of technology transference activities, introduction of product improvements on the market or processes in progress. Participation in generation of spin-off companies based on technological innovations, development of competences / technological skills; start-up of new techniques or procedures, large installation or complex equipment maintenance, execution of technological services: homologation, calibration, analysis or others

PATENTS AND UTILITY MODELS

INVENTORS (in order of authorship):

TITLE:

APPLICATION FORM No:

PRIORITY COUNTRY:

PRIORITY DATE:

HOLDER ENTITY:

OTHER COUNTRIES WHICH THE PATENT HAS BEEN EXTENDED TO:

COMPANIES THAT ARE LICENSING IT:

STAYS IN INTERNATIONALLY RECOGNIZED CENTRES

KEY: D=Ph.D student, P=postdoctoral. G= guest, S=staff, O=others (specify)

CENTRE:

PLACE:

COUNTRY:

YEAR:

LENGHT:

TOPIC:

KEY:

PRESENTATIONS IN CONGRESSES

AUTHORS: J.L. Montaña, C.L. Alonso, C.E. Borges and J.L. Crespo.

TITLE: New outcomes in Linear Genetic Programming: Adaptation, Performance and Vapnik-Chervonenkis Dimension of Straight Line Programs

TYPE OF PRESENTATION: Poster

CONGRESS: EUROGP 09

PUBLICATION: LNCS 5481

MEETING PLACE: Tübingen (Germany)

YEAR: 2009

AUTHORS: J.L. Montaña, C.E. Borges

TITLE: Lower bounds for Approximation of some classes of Lebesgue measurable functions by sigmoidal neural networks

TYPE OF PRESENTATION: Oral contribution

CONGRESS: IWANN 09

PUBLICATION: LNCS 5571

MEETING PLACE: Salamanca (Spain)

YEAR: 2009

AUTHORS: J.L. Montaña, C.L. Alonso, C.E. Borges and J. de la Dehesa

TITLE: Penalty Functions for Genetic Programming Algorithms

TYPE OF PRESENTATION: Oral contribution

CONGRESS: ICCSA 11

PUBLICATION: LNCS 6782

MEETING PLACE: Santander (Spain)

YEAR: 2011

AUTHORS: Y.K. Peña, C.E. Borges, D. Agote y I. Fernández

TITLE: Short-term load forecasting in air-conditioned non-residential Buildings

TYPE OF PRESENTATION: Poster

CONGRESS: ISIE 11

PUBLICATION:

MEETING PLACE: Gdańsk (Poland)

YEAR: 2011

THESIS SUPERVISED

TITLE:

Ph. D. STUDENT:

UNIVERSITY:

YEAR:

FACULTY/SCHOOL:

MARK:

OTHER ACHIEVEMENTS (in one DIN A4 page only)

Congress Organization:

Title: Foundations of Computacional Mathematics 2005

Type of Activity: Local Organisers

Scope: International Congress

Year: 2005

Title: Jornadas de Matemáticas Discretas y Algoritmos 2010

Type of Activity: Local Organisers

Scope: National Congress

Year: 2010

Other Academic Titles:

- Curso de Aptitud Pedagógica by Universidad de Cantabria.

Workshop organization:

- Libre Linux Party 2.0 and 3.0 by Universidad de Cantabria.

Prizes and Grants:

- 2º Prize in 2004 “Javier Martínez Maurica” mathematical contest granted by Departamento de Matemáticas, Estadística y Computación of Universidad de Cantabria.
- Best mathematical paper by a non doctor granted by Facultad de Ciencias, Universidad de Cantabria.
- SICUE scholarship in 2004-2005.

Attended congress:

- International Congress of Mathematicians 2006 by I.M.U.
- int.eu.grid Kick-Off Meeting by IFCA and Universidad de Cantabria.
- I and II Workshop on Mathematical Cryptology by Departamento de Matemáticas Aplicadas y Ciencias de la Computación of Universidad de Cantabria.
- Sociedad, Tecnología y Matemáticas, Modules I, II AND III in 2003 and 2004 by Universidad de La Laguna.
- Popular Science Cicle “Matemáticas en Acción” between 2004-2009 by Universidad de Cantabria.
- Matemáticas Estocásticas aplicadas a las Finanzas y al Análisis de Riesgos, Module IV in 2004 by Universidad de La Laguna.
- Cosmología: Problemas de actualidad Física, Filosofía y Religión in 2004 by Universidad de La Laguna.
- Topics in Galois Theory in 2004 by Universidad de La Laguna.