

**DEPARTAMENTO DE**  
**INGENIERIA MECANICA**

## **DEPARTAMENTO DE INGENIERIA MECANICA**

### **Actividades de investigación**

#### **Tesis Doctorales**

- Active Neuro-Fuzzy Integrated Vehicle Dynamics Controller To Improve The Vehicle Handling And Stability At Complicated Maneuvers  
*Autores:* RAOUF, R.  
*Director/Codirectores:* DIAZ, V. ; BOADA, B. L.  
*Año:* 2013
- Análisis Numérico Y Experimental Del Desgaste De Herramienta E Integridad Superficial Del Material En Los Procesos De Torneado De Inconel 718  
*Autores:* DIAZ, J.  
*Director/Codirectores:* CANTERO, J. L.  
*Año:* 2013
- Creación, Crecimiento Y Expansión Internacional De Las Nuevas Empresas: Influencia Del Emprendedor Y Del Equipo De Emprendedores  
*Autores:* VOS, A.  
*Director/Codirectores:* SANCHEZ, M.J.; MUÑOZ, F.  
*Año:* 2013
- Diseño Y Desarrollo De Una Plataforma Flexible De Simulacion Para Apoyar El Diseño Y El Rediseño De Terminales Ferroviarias De Contenedores  
*Autores:* GARCIA, A.  
*Director/Codirectores:* GARCIA, I.  
*Año:* 2013
- Superconducting Non-Contact Linear Slider For Precision Positioning In Cryogenic Environments  
*Autores:* VALIENTE, I.  
*Director/Codirectores:* PEREZ, J.L.  
*Año:* 2013

### **Publicaciones y actividades de difusión de resultados**

#### **Publicaciones en revistas científicas nacionales**

- BOADA, B. L.; BOADA, M. J. L.; RAMIREZ, M. B. ; DIAZ, V.  
Influencia del mantenimiento e inspección técnica de vehículos en la accidentalidad de furgonetas, *Securitas Vialis*, Núm. 14, 2013, ESPAÑA.

## Publicaciones en revistas científicas internacionales

- BOADA, B. L.; BOADA, M. J. L.; DIAZ, V.  
Discussion on "Integrated vehicle dynamics control via coordination of active front steering and rear braying", *European journal of control*, Vol. 19, 2013, pp. 144-145, FRANCIA.
- CANTERO, J. L. ; DIAZ, J.; MIGUELEZ, M.H.; MARIN, N.D.C.  
Analysis of tool wear patterns in finishing turning of Inconel 718, *Wear*, Vol. 297, 2013, pp. 885-894, SUIZA.
- CENAMOR, J.; USERO, M. B. ; FERNANDEZ, Z.M.  
The role of complementary products on platform adoption: Evidence from the video console market, *Technovation*, Vol. 33, 2013, pp. 405-416, HOLANDA - PAISES BAJOS.
- DIEZ, E.; VALIENTE, I.; PEREZ, J.L.  
Superconducting sphere and finite-size permanent magnet: force, torque, and alignment effect calculation, *Journal of superconductivity and novel magnetism*, Vol. 26, Núm. 1, 2013, pp. 71-75, ESTADOS UNIDOS DE AMERICA.
- GARCIA, I.; SORIANO, E.; RUBIO, H. ; GARCIA, J.M.  
Simulator Training for Employees in the Field of Production: A Robert Bosch Gasoline Systems Case, *International Journal of Engineering Education*, Vol. 29, Núm. 6, 2013, pp. 1377-1386, IRLANDA.
- GARCIA, J.M.; SORIANO, E.; GARCIA, I.; RUBIO, H.  
Implementation of Service-Learning Projects in Engineering Colleges, *International Journal of Engineering Education*, Vol. 29, Núm. 5, 2013, pp. 1119-1125, IRLANDA.
- GARCÍA-GARCÍA, M.; SORIANO, E.; GARCÍA-ALONSO, M.J.; GARCIA, E. ; SÁNCHEZ-LITE, E.  
Simulation Tools as an Educational and Training Resource in Manufacturing Engineering Subjects Teaching, *Materials Science Forum* , Vol. 759, 2013, pp. 83-90, SUIZA.
- GONZALEZ, I. M. ; SANCHEZ, I.  
Optimal centering and tolerance design for correlated variables, *International journal, advanced manufacturing technology*, Vol. 66, Núm. 9-12, 2013, pp. 1499-1510, REINO UNIDO.
- HECKSCHER, C.; MARTIN, C.  
Looking Back, Moving Forward: Toward Collaborative Universities, *Journal of management inquiry*, Vol. 22, 2013, pp. 136-139, ESTADOS UNIDOS DE AMERICA.
- MIGUELEZ, M.H.; SOLDANI, X.; MOLINARI, A.  
Analysis of adiabatic shear banding in orthogonal cutting of Ti alloy, *International journal of mechanical sciences*, Vol. 75, 2013, pp. 212-222, HOLANDA - PAISES BAJOS.
- MOLINARI, A.; SOLDANI, X.; MIGUELEZ, M.H.  
Adiabatic shear banding and scaling laws in chip formation with application to cutting of Ti-6Al-4V, *Journal of the Mechanics and Physics of Solids*, Vol. 61, 2013, pp. 2331-2359, REINO UNIDO.
- MUÑOZ, F. ; SANCHEZ, M.J.  
Multinational enterprises and domestic wages: The contingent effect of skill composition, *International business review*, Vol. 22, 2013, pp. 918-931, REINO UNIDO.
- OLTRA, J.; BONACHE, J. A. ; BREWSTER, C.  
A New Framework for Understanding Inequalities Between Expatriates and Host Country Nationals, *Journal of business ethics*, Vol. 115, Núm. 2, 2013, pp. 291-310, HOLANDA - PAISES BAJOS.

- PEREZ, J.L.; DIEZ, E.; VALIENTE, I.; HERRERO, J.  
Stable thrust on a finite-sized magnet above a Meissner superconducting torus, *Journal of applied physics*, Vol. 113, 2013, ESTADOS UNIDOS DE AMERICA.
- REVILLA, A. J. ; FERNANDEZ, Z.M.  
Environmental Dynamism, Firm Size and the Economic Productivity of R&D, *Industry and Innovation*, Vol. 20, Núm. 6, 2013, pp. 503-522.
- REVILLA, A. J. ; FERNANDEZ, Z.M.  
The dynamics of company profits: A latent growth model, *Strategic organization*, Vol. 11, Núm. 2, 2013, pp. 180-204, REINO UNIDO.
- RUBIO, L. ; LOYA, J.A.; MIGUELEZ, M.H.; FERNANDEZ-SAEZ, J.  
Optimization of passive vibration absorbers to reduce chatter in boring, *Mechanical System and Signal Processing*, Vol. 41, Núm. 1-2, 2013, pp. 691-704, REINO UNIDO.
- STIRPE, L.; TRULLEN, J.; BONACHE, J. A.  
Factors helping the HR function gain greater acceptance for its proposals and innovations: evidence from Spain, *International Journal of Human Resource Management*, Vol. 24, 2013, pp. 3794-3811, REINO UNIDO.
- VALIENTE, I.; DIEZ, E.; CERVANTES, J.A.; PEREZ, J.L.  
Characterization of commercial-off-the-shelf electronic components at cryogenic temperatures, *Instruments and experimental techniques* , Vol. 56, Núm. 6, 2013, pp. 665-671, RUSIA.
- VALIENTE, I.; DIEZ, E.; PEREZ, J.L.  
Engineering and performance of a contactless linear slider based on superconducting magnetic levitation for precision positioning, *Mechatronics*, Vol. 23, 2013, pp. 1051-1060, REINO UNIDO.

## Colaboraciones en obras colectivas

- ALVAREZ-CALDAS, C. ; CALVO, J. A. ; QUESADA, A. ; SAN ROMAN, J. L.  
*Interactive Application For Technical Drawing Learning*, en: New Trends in Educational Activity in the Field of Mechanism and Machine Theory, SPRINGER , 2013.
- BUSTOS, A.; RUBIO, H. ; CASTEJON, C. ; MENESES, J. ; GARCIA PRADA, J. C.  
*Tool for the analysis of new skills biped Pasibot*, en: New Advances in Mechanisms, Transmissions and Applications. Proceedings of the Second Conference MeTrApp 2013, SPRINGER , pp. 173-181, 2013.
- CALVO, J. A. ; ALVAREZ-CALDAS, C. ; SAN ROMAN, J. L.  
*Analysis of dynamic systems using Bond Graph and SIMULINK* , en: New Trends in Educational Activity in the Field of Mechanism and Machine Theory, SPRINGER , 2013.
- FERNANDEZ, Z.M.; NIETO, M.J.  
*Internationalization of family firms*, en: The SAGE handbook of family business, SAGE, REINO UNIDO, pp. 403-422, 2013.
- MORCILLO, J. ; YAGUEZ, M.  
*Relación con los proveedores y gestión de subcontrataciones*, en: La gestión integral de proyectos, UNIVERSIDAD PONTIFICIA COMILLAS, ESPAÑA, pp. 111-134, 2013.

- NIETO, M.J. ; RODRIGUEZ, A.  
*The challenge of R&D offshoring: implications for firm productivity*, en: Offshoring challenge: strategic design and innovation for tomorrow's organization, Springer-Verlag London, REINO UNIDO, pp. 175-190, 2013.
- PAZ, C.; RICART, J.E.  
*Offshoring activities impact a company's business model: the case of BBVA and Banco Santander*, en: The offshoring challenge: strategic design and innovation for tomorrow's organization, Springer-Verlag London, REINO UNIDO, pp. 21-35, 2013.

## Ponencias y Comunicaciones a congresos

- ALVAREZ, M.A.; JIMENEZ, S.; SANCHEZ, J.; DIEZ, E.; VALIENTE, I.; CRISTACHE, C.; PEREZ, J.L.  
*Relaxation of surface tension of aqueous solutions by humidification of the gas phase*, 5th World Tribology Congress, *TURÍN*, ITALIA, 2013.
- ALVAREZ, M.A.; JIMENEZ, S.; SANCHEZ, J.; VALIENTE, I.; DIEZ, E.; CRISTACHE, C.; PEREZ, J.L.  
*Relaxation of the water surface tension by humidification of the environment*, VII Iberian Conference on Tribology (IBERTIB 2013), *OPORTO*, PORTUGAL, 2013.
- ALVAREZ-CALDAS, C. ; CALVO, J. A. ; QUESADA, A. ; SAN ROMAN, J. L.  
*Interactive Application For Technical Drawing Learning* , 1st International Symposium on the Education in Mechanism and Machine Science, *LEGANES*, ESPAÑA, 2013.
- CALVO, J. A. ; ALVAREZ-CALDAS, C. ; SAN ROMAN, J. L.  
*Analysis of dynamic systems using Bond Graph and SIMULINK*, 1st International Symposium on the Education in Mechanism and Machine Science, *LEGANES*, ESPAÑA, 2013.
- CASTRO, V.; DIEZ, E.; VALIENTE, I.; PEREZ, J.L.  
*Non-hysteretic passive magnetic linear bearing for cryogenic environments*; en: Proceedings of the Institution of Mechanical Engineers, Part J: Journal of Engineering Tribology (Special Issue: Selected Papers from the World Tribology Congress 2013), SAGE Journals, ESTADOS UNIDOS DE AMERICA, 2013.
- CORRAL, E.; ARYASSOV, G.; MENESES, J.  
*A quasi-static approach to optimize the motion of an UGV depending on the track profile*; en: Solid State Phenomena. Mechatronic Systems and Materials VI: selected papers of the 9th Conference Mechatronic Systems and Materials (MSM 2013), Trans Tech Publications Ltd. 416-4, SUIZA, 2013.
- CORRAL, E.; MENESES, J.  
*"A quasi-static approach to optimize the motion of a UGV depending of the track profile"*, 9th Int. Conf. Vilnius. Lithuania.MSM , LITUANIA, 2013.
- CRISTACHE, C.; DIEZ, E.; VALIENTE, I.; ALVAREZ, M.A.; SANCHEZ, J.; PEREZ, J.L.  
*Levitation force relaxation and hysteresis in a frictionless superconducting magnetic bearing*; en: International journal of surface science and engineering (Special issue on current trends in tribology in the Iberian Peninsula: Selected papers of IBERTIB 2013) , Inderscience Publishers, REINO UNIDO, 2013.
- CRISTACHE, C.; VALIENTE, I.; DIEZ, E.; ALVAREZ, M.A.; PATO, N.; PEREZ, J.L.  
*Mechanical characterization of journal superconducting magnetic bearings: stiffness, hysteresis and force relaxation*; en: Journal of Physics: Conference Series (11th European Conference on Applied Superconductivity, EUCAS2013), INSTITUTE OF PHYSICS PUBLISHING, REINO UNIDO, 2013.

- CUERVO, A.; NIETO, M.J. ; RODRIGUEZ, A.  
*The impact of R&D sources on new product sales*, XXIII Congreso Nacional ACEDE, MALAGA, ESPAÑA, 2013.
- DIAZ, J.  
*Surface integrity in finishing turning of inconel 718*, ESPAÑA, 2013.
- DIAZ, J.  
*Análisis de estrategias de mallado para modelizar en 3D procesos de taladrado en Ti6Al4V*, ESPAÑA, 2013.
- DIAZ, J.  
*Surface integrity in finishing turning of Inconel 718*, 5th MANUFACTURING ENGINEERING SOCIETY INTERNATIONAL CONFERENCE, ESPAÑA, 2013.
- DIAZ, J.  
*Analysis of adiabatic shear banding in machining*, 2013.
- DIAZ, J.; CANTERO, J. L. ; AHMED, M.; SOLDANI, X.; MIGUELEZ, M.H.  
*3D numerical modelling of machining*; en: 20th International Conference on Computer Methods in Mechanics, A.R. COMPRINT, 2013.
- DIAZ, J.; SANTIUSTE, C.; FEITO, N.; SOLDANI, X.; MIGUELEZ, M.H.  
*Damage prediction in composite milling*, IV ECCOMAS Thematic Conference on the Mechanical Response of Composites (COMPOSITES2013), AZORES, PORTUGAL, 2013.
- DIEZ, E.; VALIENTE, I.; PEREZ, J.L.  
*Design rules of magnet-superconductor non-contact mechanisms considering the mechanical interaction in the Meissner state*, 11th European Conference on Applied Superconductivity, GÉNOVA, ITALIA, 2013.
- DIEZ, E.; VALIENTE, I.; SANCHEZ, J.; PEREZ, J.L.  
*Linear actuator for ultraprecise positioning based on superconducting levitation*, 11th European Conference on Applied Superconductivity, GÉNOVA, ITALIA, 2013.
- GARCIA PRADA, J. C. ; CASTEJON, C. ; GOMEZ, M.J.; ALVAREZ, J. ; MORENO, A.; KAPPES, W.  
*Euraxles - WP5: non-destructive testing (NDT) and verification on the reliability of axles in service*, 17th International Wheelset Congress, KIEV, UCRANIA, 2013.
- GOMEZ, M.J.; CASTEJON, C. ; GARCIA PRADA, J. C.  
*Incipient fault detection in rolling bearing through the use of WPT energy and neural networks*; en: Advances in condition monitoring of machinery in non-stationary operations: Proceedings of the Third International Conference on Condition Monitoring of Machinery in Non-Stationary Operations CMMNO 2013, Springer Berlin / Heidelberg, ALEMANIA, 2013.
- LOPEZ, J.; ARTÉS, M.  
*Simulación del comportamiento ante las vibraciones de encoders ópticos lineales mediante modelado FEM de alta eficiencia computacional*; en: Actas del XI Congreso Iberoamericano de Ingeniería Mecánica CIBIM11, La Plata, Argentina, 2013, Universidad Nacional de La Plata, ARGENTINA, 2013.

- MORCILLO, J. ; DURAN, A.  
*Capabilities generation mechanisms in alliances. Case based analysis*; en: Book of Proceedings of the 7 th International Conference on Industrial Engineering and Industrial Management, XVII Congreso de Ingeniería de Organización, Grupo INSISOC-Universidad de Valladolid, , 2013.
- MORCILLO, J. ; PRIDA, B.  
*Las empresas de servicios energéticos (ESE) en España y su contribución al desarrollo de las Ciudades Inteligentes (Smart Cities)*; en: Book of Proceedings of the 7 th International Conference on Industrial Engineering and Industrial Management, XVII Congreso de Ingeniería de Organización, , 2013.
- MUÑOZ, F. ; SANCHEZ, M.J.  
*The use of incentive compensation among board members in family firms*, XXIII Congreso ACEDE (Asociación Científica de Economía y Dirección de la Empresa), MALAGA, ESPAÑA, 2013.
- MUÑOZ, F. ; SANCHEZ, M.J.  
*Startup team contributions and new firm creation*, Third conference of the International Network of Business and Management Journals (INBAM 2013), LISBOA, PORTUGAL, 2013.
- MUÑOZ, F. ; SANCHEZ, M.J.; VOS, A.  
*An entrepreneurial approach to new venture internationalization*, XXIII Congreso ACEDE (Asociación Científica de Economía y Dirección de la Empresa), MALAGA, ESPAÑA, 2013.
- PARRA, J. L. ; LINDOSO, A. ; PORTELA-GARCIA, M. ; ENTRENA, L. A. ; RESTREPO , F.; CUENCA, S.; MARTÍNEZ , A.  
*Efficient mitigation of data and control-Flow errors in microprocessors*; en: 2013 14th European Conference on Radiation and Its Effects on Components and Systems (RADECS), IEEE - THE INSTITUTE OF ELECTRICAL AND ELECTRONICS ENGINEERS, INC, 2013.
- PEREZ, J.L.; ALVAREZ, M.A.; VALIENTE, I.; JIMENEZ, S.; PALACIOS-CUESTA, M.; GARCÍA, O.; DIEZ, E.; SANCHEZ, J.; CRISTACHE, C.  
*On the influence of relative humidity on the contact angle of a water droplet on a silicon wafer*; en: Proceedings of ASME International Mechanical Engineering Congress and Exposition, American Society of Mechanical Engineers (ASME), ESTADOS UNIDOS DE AMERICA, 2013.
- PEREZ, J.L.; DIEZ, E.; CRISTACHE, C.; VALIENTE, I.; ALVAREZ, M.A.; CASTRO, V.; E.M. RUIZ-NAVAS; SANCHEZ, J.; FERDEGHINI, C.; CANEPA, F.; HORNING, W.; CARBONE, G.; PLECHACEK, J.; AMORIN, A.; SERRANO, J.; SANZ, V.  
*Magnetic non-contact harmonic drive*; en: Proceedings of the ASME International Mechanical Engineering Congress and Expositio, vol. 1. *Advances in aerodynamics*, American Society of Mechanical Engineers (ASME), ESTADOS UNIDOS DE AMERICA, 2013.
- PEREZ, J.L.; DIEZ, E.; CRISTACHE, C.; VALIENTE, I.; ALVAREZ, M.A.; SANCHEZ, J.; CARBONE, G.; FERDEGHINI, C.; CANEPA, F.; PLECHÁČEK, J.; HORNIG, W.; SANZ, V.; AMORIM, A.J.R.  
*MAGDRIVE: a Non-Contact Magnetic Superconducting Harmonic Drive*, 15th European Space Mechanisms and Tribology Symposium, Noordwijk, HOLANDA - PAISES BAJOS, 2013.
- PEREZ, J.L.; LAMESANS, M.; ARGELAGUET-VILASECA, H.; VALIENTE, I.; DIEZ, E.; SANCHEZ, J.; ALVAREZ, M.A.; CRISTACHE, C.; SERRANO, J.; ROMERA, F.; GONZÁLEZ , M.  
*Contactless superconducting magnetic instrument for precise positioning in cryogenic environments*, ASME 2013 International Mechanical Engineering Congress and Exposition, *San Diego, California*, ESTADOS UNIDOS DE AMERICA, 2013.

- RUBIO, H. ; BUSTOS, A.; CASTEJON, C. ; MENESES, J. ; GARCIA PRADA, J. C.  
*Tool for the analysis of new skills biped Pasibot*; en: New advances in mechanisms, transmissions and applications: proceedings of the Second Conference MeTrApp 2013, SPRINGER, , 2013.
- SANTIUSTE, C.; DIAZ, J.; SOLDANI, X.; MIGUELEZ, M.H.  
*Numerical modeling of composite cutting including thermal effects*, 17th International Conference on Composite Structures (ICCS17), *OPORTO*, PORTUGAL, 2013.
- VALIENTE, I.; DIEZ, E.; CRISTACHE, C.; ALVAREZ, M.A.; SANCHEZ, J.; PEREZ, J.L.  
*Characterization and improvement of axial and radial stiffness of contactless thrust superconducting magnetic bearings*; en: Tribology Letters (Special Issue: 5th World Tribology Congress 2013, WTC V, Torino, Italy, 8th - 13th September 2013), Springer US, ESTADOS UNIDOS DE AMERICA, 2013.

## **Propiedad Industrial/intelectual**

- *Inventores*: DIEZ, E.; PEREZ, J.L.; VALIENTE, I.  
Contactless magnetic gear  
*Titular*: UNIVERSIDAD CARLOS III DE MADRID  
*Número Solicitud*: **EP13382461**  
*Fecha Solicitud*: 14/11/2013
- *Inventores*: DIEZ, E.; VALIENTE, I.; PEREZ, J.L.; ALVAREZ, M.A.  
High-performance radial gap superconducting magnetic bearing  
*Titular*: UNIVERSIDAD CARLOS III DE MADRID  
*Número Solicitud*: **EP13382535**  
*Fecha Solicitud*: 20/12/2013

## **Actividades de formación y movilidad de personal investigador**

### **Estancias en otros centros**

- MARIA JESUS GOMEZ GARCIA  
*Título*: ESTANCIA PREDOCTORAL CON EL FIN DE VALIDAR EXPERIMENTALMENTE SOBRE UN BANCO DE ENSAYOS LAS INVESTIGACIONES DE LA TESIS.  
*Centro Externo*: Politecnico de Milan  
*País*: ITALIA  
*Duración*: 01/03/2013 a 31/05/2013.
- VIRGINIA HERNANDEZ PAZ  
*Título*: Estancia de investigación predoctoral  
*Centro Externo*: COPENHAGEN BUSINESS SCHOOL  
*País*: DINAMARCA  
*Duración*: 01/03/2013 a 01/07/2013.