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INTERNSHIP OFFER FOR INTERNATIONAL STUDENTS

INSTITUTION	Universidad Politécnica de Cartagena www.upct.es South-East of Spain
SHORT DESCRIPTION OF THE INSTITUTION	The UPCT is a public institution, established in 1998 in Spain. It is comprised of 7 Schools of Engineering, Business and Architecture and offers several Master and PhD Programmes.
RECEIVING SCHOOL / FACULTY	Escuela Técnica Superior de Ingeniería de Telecomunicación (ETSIT) School of Telecommunication Engineering
ADRESS	Campus Muralla del Mar S/N, Antigones 30202 Cartagena, Murcia (Spain)
PLACEMENT OFFERED	ETSIT. Telecomunicacion Universidad Politecnica Cartagena
DESCRIPTION OF THE PLACEMENT ACTIVITY	Experimental and Deterministic channel modeling for 5G and 6G The field is propagation, and deals with channel sounding and channel modeling in urban environments to propose models for ITU The Trainingship deals with channel modeling of propagation for 5G and 6G radio networks. It has two parts, a first experimental part where using a developed channel sounder by the SiCoMo group measurements will be performed at 868, 3.5, 5 and 26 GHz in the city of Cartagena. These measurements will consider indoor and outdoor scenarios. In a second step, a commercial software tool will be used to adjust and simulate the same scenarios and develop propagation models. This project is recommended for two students, since measurements campaign need two people for arranging them correctly and easier. The scenarios considered will be those proposed in the ITU recommendations: • ITU Rec. 1238 Indoor • ITU Rec. 1411 Outdoor • ITU Rec. 2109 Building Entry Losses • ITU Rec. 2108 Clutter Losses Bibliography: - Autor: Pascual García, Juan Título: Sistemas de comunicaciones

	móviles segunda, tercera y cuarta generación Editorial: Universidad Politécnica de Cartagena, Fecha Publicación: 2012 ISBN: 9788496997967 Autor: Rappaport, Theodore S. Título: Wireless communications principles and practice Editorial: Prentice Hall Fecha Publicación: 2002 ISBN: 0130422320 - Autor: Hernando Rábanos, José María Título: Comunicaciones móviles Editorial: Editorial Universitaria Ramón Areces Fecha Publicación: 2015 ISBN: 9788499612089 Autor: Pascual García, Juan Título: Sistemas de comunicaciones móviles caracterización del canal móvil Editorial: Universidad Politécnica de Cartagena Fecha Publicación: 2010 ISBN: 9788496997547 - Autor: Holma, Harri Título: LTE for UMTS OFDMA and SC-FDMA based radio access Editorial: John Wiley & Sons Fecha Publicación: 2010 ISBN: 9780470994016 Autor: Bertoni, Henry L. Título: Radio propagation for modern wireless systems Editorial: Prentice Hall Fecha Publicación: 2000 ISBN: 0130263737 - Autor: Parsons, J.D. (John David) Título: The mobile radio propagation channel Editorial: John Wiley and Sons Fecha Publicación: 2001 ISBN: 047198857 - Autor: Dunlop, John Título: Digital mobile communications and the TETRA system Editorial: John Wiley & Sons Fecha Publicación: 2000 ISBN: 0471987921 - Autor: Rappaport, Theodore S. Título: Wireless communications principles and practice. Editorial: Prentice Hall. Fecha Publicación: 2002. ISBN: 0130422320 - Autor: Bertoni, Henry L. Título: Radio propagation for modern wireless systems. Editorial: Prentice Hall. Fecha Publicación: 2000. ISBN: 0130263737 • Recomendaciones ITU Rec. 1238 Indoor, ITU Rec. 1411 Outdoor, ITU Rec. 2109 Building Entry Losses, ITU Rec. 2108 Clutter Losses
REQUIRED STUDENT PROFILE	Electrical Engineering/ Telecommunication Engineering
REQUIRED SKILLS	Last course of bachelor/master in electrical/telecom engineering
WORKING LANGUAGE	English
DURATION	3 or 6 months
WORKING HOURS	25 hours per week
FINANCIAL AID	No. FREE SPANISH CLASS ACCORDING THE ACCADEMIC YEAR.
ACCADEMIC CONTACT	José María Molina García-Pardo: josemaria.molina@upct.es Juan Pacual García: juan.pascual@upct.es

ADMINISTRATIVE CONTACT	Anna Gargiulo – International Office relint@upct.es +34 968 325971