CV

P.O. Box 4500
university of Oulu, Oulu, Finland
+44 79 399 72 441
giuseppe.destino@kcl.ac.uk
https://www.linkedin.com/in/giuseppe-destino-58618357

Application for job reference: R6/CCS/1166/18-BW

Profile

I am an algorithm expert with over ten years experience in the field of positioning and signal processing applications to PHY layer; experienced in project management and international cooperations; self-driven, creative, proactive and team-worker.

Full name and data

Surname, name, *Destino, Giuseppe*.

Gender, *Male*.

Date of writing the CV, *June 21, 2018*.

Date and place of birth, nationality, current residence

Date and place of birth, *1st of December, 1980, Mesagne, Italy*.

Citizenship, *Italian*.

Current residence, *84 Darwin Road, W5 4BH, London, UK*.

Current position

2018-Present **Visiting Researcher**, *King's College London*, London, UK.
RESPONSIBILITIES: Development of 5G NR positioning solution (algorithm and location-aware netwroking) for V2X applications.

2018-Present **Consultant**, *Kajapro*, Kajani, Finland.
RESPONSIBILITIES: Consulting work for Keysight Technology on positioning technologies.

2013-Present **Project manager**, *University of Oulu - CWC*, Oulu, Finland.
RESPONSIBILITIES: EU project management, national and customer projects. Proposal preparation. Area of interest: 5G radio access, mmW technology and positioning. Recent successes: H2020 EU-KR 5G CHAMPION.

2016-Present **Post-doctoral AoF**, *University of Oulu - CWC*, Oulu, Finland.
RESPONSIBILITIES: PI of the FALCON academy of Finland project. Area of interest: 5G radio access, mmW technology and positioning. Achievements: 1 IEEE journal, 2 conference papers.

Education

Degrees

2006–2012 **Doctoral Degree**, *University of Oulu*, Finland.
Date: December 21, 2012.
Research topic: Positioning in Wireless Network. *Score: Hyväksytty*
Contact: Prof. Jari Inatti, Address: P.O. Box 4500. FIN-90014 University of Oulu, Finland.
E-mail: jari.iinatti@ee.oulu.fi Telephone: + 358 (0)294 482822

1999–2005 **Master Degree**, *Politecnico di Torino*, Italy.
Major: Electronic Engineering. *Score: 108/110*

2004 **Master of Research**, *University of Nice*, France.
Major: Signal and Digital Communications. *Score: Quite-good - Honors*

Other education, training and qualification

2006-2011 **Infotech Oulu doctoral program**, *University of Oulu*, Finland.

2003 **Advanced studies in telecommunications**, *Eurécom Institute*, France.
Specialized: Mobile communications.

1994-1999 **High School Diploma**, *Istituto tecnico industriale G. Giorgi*, Italy.
Specialized: Electronics and telecommunications. *Score: 100/100*

Distinctions

2018 **Research award**.
Excellence Performace Award, University of Oulu.

2016 **Research award**.
CWC Excellence Award, Research merits.

2011 **Project award**.
eUWB delivers the best technology demonstrator at the Future Network Mobile Summit 2011, Warsaw, Poland. Contribution to the shopping centre demonstration.

2009 **Academic award**.
Nomination for the Best Paper Award in the IEEE Asilomar Conference, U.S., 2009.

Membership of Professional and Learned Societies

Member IEEE Signal Processing Society
Member IEEE WPNC Technical Program Committee since 2010
Member IEEE CrownCom Technical Program Committee since 2013
Member IEEE International Conference on Localization and GNSS (start in 2016)
Referee IEEE journals

Research and teaching experience

Research

2017-2018 **Reserch Fellow**, *Nokia Bell-Labs*, Oulu, Finland.
RESPONSIBILITIES: Development of NR positioning concept. Achievement: 1 IPR (under revision)

2012-2016 **Research fellow**, *University of Oulu - CWC*, Oulu, Finland.
RESPONSIBILITIES: L1-algorithm design related to LTE-A, 5G technology, i.e., hybrid beamforming for mmWave radio access, channel estimation and accurate mobile-based positioning. Achievements: 1 IEEE journals, 13 IEEE conference papers.

2005-2012 **Research scientist**, *University of Oulu - DCE/CWC*, Oulu, Finland.
RESPONSIBILITIES: Research on positioning techniques, optimization techniques and short-range communications. Support technical and management leadership in EU projects, presentation of project results and report editing. Achievements: Ph.D Thesis *"Positioning in Wireless Networks"*, 2 IEEE journals, 17 IEEE international conference papers, 2 compilation books and 2 tutorials in international conferences.

2005 **Research - Testing engineer**, *Telecom Italia Lab*, Torino,Italy.
RESPONSIBILITIES: Measurement campaign on an experimental WLAN in outdoor environment under static and dynamic scenarios.

2004 **Research assistant**, *University of Oulu - CWC*, Oulu, Finland.
RESPONSIBILITIES: Development of high rate ultra-wideband MAC and pre-standardization of the current WiMedia Medium-access-control. Achievements: M.Sc. thesis *"Access Techniques for Wireless Personal Area Network"* and Patent US20070002803 A1: *"Methods for improving the throughput using locality information for spatial reuse"*.

Teaching and seminars

2016 **Lecture**, *"Trade-off between positioning and communications with mmWave radios"*, in Nokia Bell-labs, Oulu, Finalnd..

2014 **Tutorial**, *"Wireless positioning: challenges and solutions"*, in CrownCom, Univeristy of Oulu, Oulu, Finalnd..

2014 **Lecture**, *"Indoor Positioning - Challenges, Formulations and Algorithms -"*, in Delta Winter School, Ruka, Finalnd.

2013 **Seminar**, *"Geographical-location and semantic-location. Two facets of future indoor positioning applications",*, in UPIN, Finnish Geodesic Institute, Helsinki, Finalnd..

2013 **Lectures**, *"Synchronization techniques, ranging and positioning"*, in Communications Signal Processing II, University of Oulu, Oulu, Finalnd.

2012 **Seminar**, *"Positioning in wireless networks. Cooperative and non-cooperative algorithms"*, University of Oulu, Oulu, Finland.

2012 **Invited talk**, *"Introduction to Compressive Sensing and Applications"*, Offered to Renesas Mobile, University of Oulu, Oulu, Finland.

2011 **Tutorial**, *"Localization and communication. Theory, algorithms and benefits of localization in wireless communications"*, in IEEE PIMRC 2011, Toronto, Canada.

2010 **Tutorial**, *"Localization and communication. Theory, algorithms and benefits of localization in wireless communications"*, in IEEE PIMRC 2010, Istanbul, Turkey.

Administrative and management experience

2018 **ESA**, *GINTO5G project*, OBJECTIVE: European Space Agency project aiming at the integration of GNSS and 5G positioning technology. ROLE: Project manager and principal investigator.

2017 **Academy of Finland**, *PRISMA project*, OBJECTIVE: Investigation of an innovative technology for IIoT. ROLE: Project manager and principal investigator.

2016 **EU-Kr H2020**, *5G CHAMPION project*, OBJECTIVE: EU-Korea collaborative project aiming at the first 5G system demonstration at the Winter Olympic games, in February 2018. ROLE: Project manager, Radio-access technology WP leader .

2016 **Academy of Finland**, *FALCON project*, OBJECTIVE: Investigation of an innovative technology for simultaneous high-data rate communication and positioning. ROLE: Project manager and principal investigator.

2016 **Keysight**, *Geolocation project*, OBJECTIVE: Development of positioning technology. The project focuses on location based on UE measurements. ROLE: Project manager and principal investigator.

2014 **Tekes funding**, *5G-NDP project*, OBJECTIVE: Investigation of accurate indoor positioning for 5G. ROLE: Project manager and principal investigator.

2013 **Tekes funding**, *ELIN project*, OBJECTIVE: demonstration of indoor fingerprinting positioning with user-effortless training phase. I have been amongst the founders. ROLE: Project manager and principal investigator.

2008-2012 **EU funding**, *FP7 IP BUTLER, EARTH, eUWB projects*, ROLE: Project proposal editor, support the technical activities of the Work-Package leader, vice-leader in the management board, presenting project results and editing reports.

Grants, prizes and honours

2016 **Academic grant**.
Three years research grant for "Fundamental of Simultaneous Localization and Communications", 2016.

2007-2012 **Research grant**.
Infotech Oulu, Graduate School (5 years).

2006-2010 **Scholarship for merit**.
Riitta ja Jorma J. takasen säätiö – Scanfil (2010). Walter Ehrströmin säätiö – Technology Academy of Finland (2010). Tekniikan edistämissäätiö (2009). Oulun yliopisto (2008). Nokia foundation (2006-2007).

Skills

Specialist **Algortihm**.
Signal processing, MIMO technology, mmW technolgoy, hybrid beamforming, positioning, compressive sensing

Research area **Wireless communications**.
Location-awareness, 5G L1-L2, LTE L1, 3G L1 and UWB L1-L2 technology

Programming **Languages**.
Matlab, Object-Oriented Programming, C, ARM Embedded programming

Management **Project management**.
Resource and project planning, multidiscipline project execution, requirements and R&D documentations.

Social **Networking**.
Presentation, cooperative and social networking, self-driven professional.

Linguistic skills

Mother tougue **Italian**.

Other languages **English**.

Listening: Proficient users-C1. Reading: Proficient user-C2. Spoken interaction: Proficient user-C1. Spoken production: Proficient user-C1. Writinig: Proficient user-C1.

French.

Listening: Independent users-B2. Reading: Independent user-B1. Spoken interaction: Independent user-B1. Spoken production: Basic user-A2. Writinig: Basic user-A1.

Spanish.

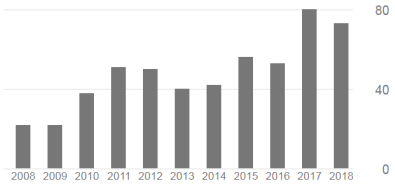
Listening: Independent users-B2. Reading: Independent user-B1. Spoken interaction: Independent user-B1. Spoken production: Basic user-A2. Writinig: Basic user-A1.

Finnish.

Listening: Basic users-B2. Reading: Basic users-B2. Spoken interaction: Basic users-B2. Spoken production: Basic user-A1. Writinig: Basic user-A1.

10 Selected Publications (Google Scholar ranking)

	All	Since 2013
Citations	557	344
h-index	15	12
i10-index	19	12



1. (17 cit.) A. Shahmansoori, G. E. Garcia, G. Destino, G. Seco-Granados, H. Wymeersch, "Position and orientation estimation through millimeter-wave MIMO in 5G systems," *IEEE Transactions on Wireless Communications, 2018* , vol. 17, no. 3, p. 1822 – 1835, 2018.
2. (17 cit.) H. Wymeersch, G. Seco-Granados, G. Destino, D. Dardari, F. Tufvesson, "5G mmWave Positioning for Vehicular Networks," *IEEE Wireless Communications*, vol. 24, no. 6, p. 80 – 86, 2017. (Featured paper in mmW Prototyping, ComSoc)
3. (56 cit.) G. Destino, *et al.*, "Spatial reuse in a wireless communications network," Apr. 14 2009. US Patent 7,519,013.
4. (39 cit.) G. Destino and G. Abreu, "On the maximum likelihood approach for source and network localization," *IEEE Trans. Signal Process.*, vol. 59, no. 10, p. 4954 – 4970, 2011.
5. (36 cit.) D. Macagnano, G. Destino and G. Abreu, "MAC performances for localization and tracking in wireless networks," *IEEE WPNC 2007*, p. 297 – 302, 2007.
6. (32 cit.) G. Destino and G. Abreu, "Weighing strategy for network localization under scarce ranging information," *IEEE Trans. Wireless Commun.*, vol. 8, no. 7, p. 3668 – 3678, 2009.
7. (25 cit.) G. Abreu and G. Destino, "Super MDS: source location from distance and angle information," *IEEE WCNC 2007*, p. 4430 – 4434, 2007.
8. (22 cit.) G. Destino , "Positioning in Wireless Networks: Noncooperative and Cooperative Algorithms ," *Ph.D Thesis, University of Oulu, 2012*.
9. (16 cit.) G. Destino and G. Abreu, "Reformulating the least-square source localization problem with contracted distances," *IEEE Asilomar Conference on Signals, Syst. and Computers*, p. 307 – 311, 2009.
10. (12 cit.) K. Sakaguchi, *et al.*, "Where, When, and How mmWave is Used in 5G and Beyond," *IEICE Transactions on Electronics*, vol. 100, no. 10, p. 790 – 808. 2017.

Giuseppe Destino

Update: June 21, 2018

Peer-reviewed scientific articles

Journal articles (6)

2018 A. Shahmansoori, G. E. Garcia, G. Destino, G. Seco-Granados, H. Wymeersch, "Position and orientation estimation through millimeter-wave MIMO in 5G systems," *IEEE Transactions on Wireless Communications, 2018* , vol. 17, no. 3, p. 1822 – 1835, 2018.

2018 K. Sakaguchi, *et al.*, "Where, When, and How mmWave is Used in 5G and Beyond," *IEICE Transactions on Electronics*, vol. 100, no. 10, p. 790 – 808. 2017.

2017 H. Wymeersch, G. Seco-Granados, G. Destino, D. Dardari, F. Tufvesson, "5G mmWave Positioning for Vehicular Networks," *IEEE Wireless Communications*, vol. 24, no. 6, p. 80 – 86, 2017. (Featured paper in mmW Prototyping, ComSoc)

2012 D. Macagnano, G. Destino and G. Abreu, "A comprehensive tutorial on localization: algorithms and performance analysis tools," *Springer International Journal of Wireless Information Networks*, vol. 19, n. 4, p. 290 - 314, 2012.

2011 G. Destino and G. Abreu, "On the Maximum Likelihood Solution of Source and Network Localization," *IEEE Trans. on Signal Processing*, vol. 59, p. 4954 - 4970, October 2011.

2009 G. Destino and G. Abreu, "Weighing Strategy for Network Localization under Scarce Ranging Information," *Trans. on Wireless Communications*, vol. 8, no. 7, p. 3668 - 3678, 2009.

Conference proceedings (34)

2018 G. Destino, et al, "Impact of imperfect beam alignment on the rate-positioning trade-off," IEEE WCNC 2018, Barcelona, Spain

2017 J. Talvitie, et al, "Novel Algorithms for High-Accuracy Joint Position and Orientation Estimation in 5G mmWave Systems," IEEE Globecom 2017, Singapore

2017 S. H. Won, et al. “Development of 5G CHAMPION testbeds for 5G services at the 2018 Winter Olympic Games”, IEEE SPAWC 2017, Japan

2017 J. Saloranta and G. Destino, “Reconfiguration of 5G radio interface for positioning and communication,” EUSIPCO 2017, Greece

2017 G. Destino, et All, “System analysis and design of mmW mobile backhaul transceiver at 28 GHz,” EuCNC 2017, Oulu, Finland

2017 J. Saloranta, G. Destino and H. Wymeersch, “Comparison of Different Beamtraining Strategies from a Rate-Positioning Trade-Off Perspective,” EuCNC 2017, Oulu, Finland

2017 G. Destino and H. Wymeersch, “On the trade-off between positioning and achievable rate with sequential BF training,” Workshopt at the IEEE International Conference on Communications (ICC) 2017 in Paris, France

2016 M. Mueck, G. Destino, et All, “5G CHAMPION - Rolling out 5G in 2018,” IEEE Global Communications Conference (GLOBECOM) 2016, United States

2016 Jani Saloranta, and Giuseppe Destino,“On the Utilization of MIMO-OFDM Channel Sparsity for Accurate Positioning,” in Proc. European Signal Processing Conference (EUSIPCO), Budapest, Hungary, Aug. 2016

2016 Giuseppe Destino, Jani Saloranta, and Markku Juntti,“Robust 3D MIMO-OFDM Channel Estimation with Hybrid Analog-Digital Architecture,” in Proc. European Signal Processing Conference (EUSIPCO), Budapest, Hungary, Aug. 2016

2015 Shahmansoori, G. Garcia, G. Destino, G. Seco-Granados, H. Wymeersch, “5G Position and Orientation Estimation through Millimeter Wave MIMO”, in Proc. IEEE Globecom Workshops, Dec. 2015.

2015 G. Destino,et al., “Levaraging sparsity into massive MIMO channel estimation with the adaptive-LASSO,” in Proc. IEEE GlobalSIP, December 2015

2014 G. Destino and D. Macagnano, “Mobile Sensor Mapping via Semi-Definite Programming,” *in Proc. in IEEE Asilomar Conference on Signals, Systems and Computers*, November 2014.

2014 D. Macagnano, G. Destino and G. Abreu, "Localization with heterogeneous information," *in Proc. in IEEE World Forum on Internet of Things*, pp. 124-129, March 2014.

2014 G. Destino and D. Macagnano, "Semantic positioning via structured sparsity models," *in Proc. in IEEE World Forum on Internet of Things*, pp. 106-110, March 2014.

2014 D. Macagnano, G. Destino and G. Abreu, "Indoor positioning: A key enabling technology for IoT applications," *in Proc. in IEEE World Forum on Internet of Things*, pp. 117-118, March 2014.

2014 G. Destino et All, "Sparsity-Aware Channel Estimation with Contaminated Pilot Sequence," *in Proc. IEEE International Conference on Acoustics, Speech, and Signal Processing*, May 2014.

2013 D. Macagnano, G. Destino and G. Abreu, "Enhanced edge kernel estimation for robust positioning„" *in Proc. IEEE Asilomar Conference on Signals, Systems and Computers*, pp. 168-189, November 2013.

2011 D. Macagnano, G. Destino and G. Abreu, "Hybrid initialization for non-convex network localization problems," *in Proc. IEEE International Conference on Ultra-Wideband*, pp. 145-149, September 2011.

2011 S. Severi, G. Abreu, G. Destino and D. Dardari, "Multihop versus message-passing: A complexity and accuracy comparison for distributed localization," *in Proc. IEEE Workshop on Positioning Navigation and Communication*, p. 45 - 50, April 2011

2010 G. Destino and G. Abreu, "Improving source localization in NLOS conditions via ranging contraction," *in Proc. IEEE Workshop on Positioning Navigation and Communication*, pp. 56-61, March 2010.

2009 G. Destino and G. Abreu, "Advanced location-tracking systems in home, automotive and public transportation environments," *in Proc. IEEE international Symposyum on Personal, Indoor and Mobile Radio Communications, pp. 1908-1912, September 2009.*

2009 S. Severi, G. Abreu, G. Destino and D. Dardari, "Efficient and accurate localization in multihop networks," *in Proc. IEEE Asilomar Conference on Signals, Systems and Computers*, pp. 1071-1076, November 2009

2009 G. Destino and G. Abreu, "Reformulating the Least-Square Source Localization Problem with Contracted Distances," *in Proc. IEEE 43th Asilomar Conference on Signals, Systems and Computers*, p. 307 - 311, 2009, (Best-paper award finalist)

2009 S. Severi, G. Abreu, G. Destino and D. Dardari, "Understanding and Solving Flip-Ambiguity in Network Localization via Semidefinite Programming," *in Proc. IEEE Global Telecommunications Conference*, p. 1-6, November 2009.

2009 G. Destino and G. Abreu, "Solving the Source Localization Prolem via Global Distance Continuation," *in Proc. IEEE International Conference on Communcations*, p. 1 - 6, 2009.

2008 G. Destino and G. Abreu, "Optimized confidence weights for localization algorithms with scarce information," *in Proc. IEEE International Conference on Ultra-Wideband*, p. 81 - 84, September 2008.

2008 G. Destino and G. Abreu, "Network boundary recognition via graph-theory," *in Proc. IEEE Workshop on Positioning Navigation and Communication*, p. 271 - 275, 2008.

2007 G. Destino, D. Macagnano and G. Abreu, "A Clusterized WLS Localization Algorithm for Large Scale WSNs," *in Proc. IEEE Workshop on Positioning Navigation and Communication*, p. 261 - 265, 2007.

2007 G. Abreu and G. Destino, 'D. Macagnano and G. Abreu, "Super MDS: Source Location from Distance and Angle Information," *in Proc. IEEE Conference on Wireless Communications and Networking*, p. 4430 - 4434, 2007.

2007 G. Destino, D. Macagnano and G. Abreu, "Hypothesis Testing and Iterative WLS Minimization for WSN Localization under LOS/NLOS Conditions," *in Proc. IEEE Asilomar Conference on Signals, Systems and Computers*, p. 2150 - 2155, 2007.

2007 G. Destino, et All, "Localization and Tracking for LDR-UWB Systems," *in Proc. IEEE Mobile and Wireless Communications Summit*, p. 1 - 5, 2007.

2007 D. Macagnano, G. Destino, F. Esposito and G. Abreu, "MAC Performances for Localization and Tracking in Wireless Sensor Networks," *in Proc. IEEE Workshop on Positioning Navigation and Communication*, p. 297 - 302, 2007.

2006 G. Destino and G. Abreu, "Localization from Imperfect and Incomplete Ranging," *in Proc. IEEE international Symposyum on Personal, Indoor and Mobile Radio Communications, pp. 1-5, September 2006.*

2006 G. Destino and G. Abreu, "Sensor localization from WLS optmization with closed-form Gradient and Hessian," *in Proc. IEEE 49th Annual Globecom Conference*, p. 1 - 6, Nov. 27 - Dec. 1 2006.

Book chapters (3)

2011 G. Destino and G. Abreu (2011), Ch. *Novel Mechanisms for Location-Tracking Systems* in Novel Applications of the UWB Technologies, Boris Lembrikov, InTech. 423-440

2010 G. Destino, D. Macagnano and G. Abreu, Ch. *Data-Processing and Optimization Methods for Localization-Tracking Systems* in Communications and Networking, Jun Peng, SCIYO.COM

2008 D. Macagnano, G. Destino and G. Abreu, Ch. *Metric multidimensional scaling for localization and tracking*, in 4G Wireless & Mobile Communications Technologies, Eds. S. Kyriazakos; I. Soldatos & G. Karetsos, River Publishers

Theses

2012 G. Destino, *Positioning in Wireless Networks*, PhD thesis, University of Oulu, Oulu, Finland, November 2012

2005 G. Destino, *Access Techniques for Wireless Personal Area Network*, MSc. thesis, Politecnico di Torino, Torino, Italy, May 2005

Patents and invention disclosures

2009 Destino, Giuseppe; Goratti, Leonardo; Celentano, Ulrico; Reunamäki, Jukka; Kaaja, Harald, *Spatial reuse in a wireless communications network*. USPTO Pat. No. 7,519,013 Ser. No. 11/170,116. 14.04.2009

Talks in industry

2017 Destino, Giuseppe, *On the trade-off between rate and beam-trainingin mmWcommunications*, Nokia Bell-Labs, Oulu

2015 Destino, Giuseppe, *Sparsity aware channel estimation for mmW link*, Nokia, Chicago

2012 Destino, Giuseppe, *Introduction to Compressive Sensing and Applications*, Renesas Mobile, Oulu