Antonietta Stango

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Personal Statement

My predisposition to always confront new challenges brought me over the years to acquire knowledge in several fields of telecommunication and biomedical engineering (threat analysis, security for personal networks, IoT, channel modelling, SAR measurements, WBAN). I have contributed to the proposal of several European projects and I have successfully obtained a Marie Skłodowska-Curie Individual Fellowship. In 2020 have been selected as expert evaluator of the 2020 Marie Sklodowska-Curie Individual Fellowships by Eurpean Commision.

Work Experience

April 2021 – ongoing
Researcher – IRCS San Giovanni di Dio Fatebenefratelli Clinical Research Center - Brescia, Italy
-    Signal processing of EEG (Electroencephalography) signals with TMS (Transcranial magnetic stimulation)

May 2017 – April 2019
Research fellow – OT Bioelettronica, Marie Skłodowska-Curie Individual Fellowship Society and Enterprise H2020 - MyoBan (753048) - Turin, Italy
-    Development of a system for recording and transmitting multiple High-Density EMG (electromyography) electrodes in real-time.
-    Investigation of new compression techniques for wireless transmission of EMG signals.
-    Implementation of the system through microcontrollers.

October 2011 – September 2016
Researcher - **Department of Neurorehabilitation Engineering, University Medical Center Goettingen -** Goettingen, Germany
-    Implementation and simulation of antennas, channel modelling and SAR measurements for implant communications (IEEE 802.15.6) (3D electromagnetic simulations).
-    Control of upper limb prostheses using spatial correlation of sEMG.
-    Assisting editorial tasks for the books:" Introduction to neural engineering for motor rehabilitation" and "Surface Electromyography".

March 2007 - June 2011
Researcher - **Aalborg University -** Aalborg, Denmark
-    Security requirements, application of enterprise security framework (SABSA) and risk analysis for critical information infrastructures.
-    Access control methods for intrusion detection and prevention systems.
-    Assisting editorial tasks for the book:" My Personal Adaptive Global Net (MAGNET)" (R. Prasad)
-    Security requirements for Software Defined Radio (SDR) devices.
-    Threat analysis for Federation of Personal Network.

July 2005 - February 2007
Researcher - **Università' di Roma Tor Vergata -** Rome, Italy
-    Integration of air interfaces for high (IEEE 802.15.3) and low data rate (IEEE 802.15.4).
-    Cross-layer optimization techniques in High Data Rate Wireless Personal Network.

May 2004 - June 2005

Researcher - Consorzio Università Industria - Laboratori di Radiocomunicazioni - RadioLabs - Rome , Italy
-    Analysis and simulations of media access control protocols for UWB systems.

Skills

Technical skills:
-    Good knowledge of 3D electromagnetic simulation (SEMCAD X) and Networks simulation (ns-2)
-    Good knowledge of Matlab and Simulink
-    **K**nowledge of the most important wireless communication standards
-    Programming of wireless microcontrollers
-    Basic knowledge of C++, AWK, OTCL, SQL
-    Knowledge of SABSA (Sherwood Applied Business Security Architecture)
-    Recording and processing EMG signals
-    Competent with most Microsoft Office programs
-    Basic knowledge of the European patent systems

Personal skills:
-    Good ability to adapt to multicultural environments, gained by working in UMG Goettingen, Aalborg University and participating in European Projects.
-    Autonomous and good in organizing the work.

Education

November 2016
Ph.D. Computer Science
University of Goettingen, Goettingen, Germany – Thesis title: "Increasing the robustness of active upper limb prostheses. "

September 2003
M.Sc in Electronics Engineering
Università degli Studi di L'Aquila, L'Aquila, Italy -Thesis title: "Study and simulation of the effect of the power control on ad hoc wireless local area network."

Languages

Italian   Mother tongue

English   Proficient user

German   Basic user

Additional information

Evaluator of Marie Skłodowska-Curie Individual Fellowship projects for the European Commission
Reviewer for several international conferences and scientific journals.
IEEE Young Professionals and IEEE Communication Society membership.

List of publications
1. A. Stango, Y. K. Yazdandoost, F. Negro, D. Farina, "Characterization of In-Body to On-Body Wireless Radio Frequency Link for Upper Limb Prostheses", PloS one 11 (10), e0164987

2. A. Stango, Y. K. Yazdandoost, D. Farina, "Wireless Radio Channel for Intramuscular Electrode Implants in the Control of Upper Limb Prostheses", presented in 37th Annual International Conference of the IEEE Engineering in Medicine and Biology Society, EMBC 2015, August 2015

3. A. Stango, F. Negro, D. Farina, "Spatial Correlation of High Density EMG Signals Provides Features Robust to Electrode Number and Shift in Pattern Recognition for Myocontrol", Neural Systems and Rehabilitation Engineering, IEEE Transactions on, November, 2014 DOI: 10.1109/TNSRE.2014.2366752.

4. T. Pecorella, R. Fantacci, L. Micciullo, A. Stango, N. Prasad, P. Pacyna, N. Rapacz, T. Chmielecki, "Future Aeronautical Communications", chapter "Security Concepts in IPv6 based Aeronautical Communications", Edited by Dr. Simon Plass, Intech, ISBN 978-953-307-625-6, August 2011.

5. S Babar, A Stango, N Prasad, J Sen, R Prasad, "Proposed embedded security framework for internet of things (iot)", in Proceedings of 2nd International Conference on Wireless Communications, Vehicular Technology, Information Theory and Aerospace & Electronic Systems, Wireless VITAE 2011.

6. A. Stango, P. Pacyna, N. Rapacz, N. Prasad, "Proposed Risk prioritization based on SABSA (Sherwood Applied Business Security Architecture) for Critical Information Infrastructures", 3rd International ICST Conference on Security and Privacy in Mobile Information and Communication Systems, Aalborg, May 2011

7. D. Lund, B. Ammar, P. Pacyna, N. Rapacz, G. Sowa, A. Stango, N. Prasad, "State of the Art of CIIP: Gathering the Baseline for Critical Architecture Framework (CrAF)", 3rd International ICST Conference on Security and Privacy in Mobile Information and Communication Systems, Aalborg, May 2011

8. S. Babar, P. Mahalle, A. Stango, N. Prasad, R. Prasad, "Proposed Security Model and Threat Taxonomy for the Internet of Things (IoT)", Communications in Computer and Information Science, vol.89, no.2, pp. 420-429, 2010.

9. H. Afifi, D. Kyriazanos, S. Mirzadeh, J. J. Pallares, A. Pashalidis, N. Rashmi Prasad, A. Stango, J. Stoter, "My personal Adaptive Global NET MAGNET", chapter "Security in PNs", editor Ramjee Prasad, Springer, ISBN: 978-90-481-3436-6, 2010 .

10. A. Stango, N. Prasad, "Policy-Based Approach for Secure Radio Software Download ", SDR'09 Technical Conference and Product Exposition, Washington DC December 2009

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