

# MARCO BONOLA

## PERSONAL INFORMATION

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Telephone	<b>+393930160598</b>
Residence	<b>Rome, ITALY</b>

## WORK EXPERIENCE

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|--|---|
| <ul style="list-style-type: none"><li>• Dates (from – to)</li><li>• Employer</li><li>• Position held</li></ul> | <p>From August 2012, ongoing</p> <p>Sharigo Srl</p> <p>“Presidente CdA” (Executive Board Chairman) + Developer</p>  |
| <ul style="list-style-type: none"><li>• Main activities and responsibilities</li></ul>                         | <p>Besides administrative duties, development of algorithms and mobile platforms for real time logistic and urban mobility services</p>   |
| <ul style="list-style-type: none"><li>• Dates (from – to)</li><li>• Employer</li><li>• Sector</li></ul>        | <p>From July 2008, ongoing (several contracts)</p> <p>Consorzio Nazionale Interuniversitario per le Telecomunicazioni (CNIT – National Inter-University Consortium for Telecommunications).</p> <p>CNIT is a non-profit Consortium among 37 Italian Universities, whose main purpose is to coordinate and foster basic and applied research in the telecommunication field.</p>   |
| <ul style="list-style-type: none"><li>• Position held</li><li>• Main activities and responsibilities</li></ul> | <p>Researcher</p> <p>European Research Projects, Network protocols and architecture development.</p> <p>Main activities:</p> <ol style="list-style-type: none"><li>1. European Research Project BEBA<br/>Topics tackled: behavioural based SDN dataplane<br/>Main activities: project tech coordination, architecture design, software development demo implementation, meeting discussions, documentation writing</li><li>2. European Research Project DEMONS (FP7-257315)<br/>Topics tackled: decentralized, cooperative, and privacy-preserving network monitoring<br/>Main activities: architecture design, software development demo implementation, meeting discussions, documentation writing</li><li>3. European Research Project PERIMETER (FP7-224024)<br/>Topics tackled: user-centric seamless IP mobility driven by QoS between different access networks<br/>Main activities: architecture design, software development (C programs and kernel modules) demo implementation, meeting discussions, documentation writing</li><li>4. European Research Project PRISM (FP7-215350)<br/>Topics tackled: privacy aware traffic monitoring solutions<br/>Main activities: C/C++ demo implementation based on PCAP, MYSQL and OpenSSL libraries (Linux)</li><li>5. European Research Project DISCREET (FP6-2004-IST-4)<br/>Topics tackled: privacy aware AAA solutions<br/>Main activities: C/C++ demo implementation based on OpenSSL X509 certificates and cryptographic libraries, Socket API (Linux)</li></ol> |

	<p>6. Private consulting  Topic tackled: network security and cryptography  Main activities:</p> <ol style="list-style-type: none"> <li>1. TLS/SSL and DTLS extension to support novel cryptographic algorithms (implemented as a patched Linux OpenSSL library – both TLS and CRYPTO libraries)</li> <li>2. User-space secure IP tunnelling software based on Iptables and NFQUEUE (Integration in OpenWRT Linux based firmware)</li> <li>3. Secure GW design and implementation (Linux)</li> <li>4. 802.15.4 - 6LoPan network interface management for Android systems</li> </ol>
<ul style="list-style-type: none"> <li>• Dates (from – to) <ul style="list-style-type: none"> <li>• Employer</li> <li>• Position held</li> </ul> </li> <li>• Main activities and responsibilities</li> </ul>	<p>November 2014 to March 2015  Radio6sense srl  Developer  Development of an Android application for NFC tag configuration and verification</p>
<ul style="list-style-type: none"> <li>• Dates (from – to) <ul style="list-style-type: none"> <li>• Employer</li> <li>• Position held</li> </ul> </li> <li>• Main activities and responsibilities</li> </ul>	<p>September 2015 to March 2016  Ingenium Logic srl  Network/Sys Admin  Porting of an eLearning WEB platform on Aruba Cloud environment</p>
<ul style="list-style-type: none"> <li>• Dates (from – to) <ul style="list-style-type: none"> <li>• Employer</li> <li>• Position held</li> </ul> </li> <li>• Main activities and responsibilities</li> </ul>	<p>April 2012 to October 2012  University of Rome “Tor Vergata”  Teacher  Course of “Configuration and Management of local networks”, Faculty of Engineering</p>
<ul style="list-style-type: none"> <li>• Dates (from – to) <ul style="list-style-type: none"> <li>• Employer</li> <li>• Sector</li> <li>• Position held</li> </ul> </li> <li>• Main activities and responsibilities</li> </ul>	<p>From October 2007 to June 2008  DOCOMO Communication Laboratories Europe GmbH, Munich, Germany  Mobile Service Provider R&amp;D  Student Intern  Protocols development and performance evaluation.  In particular:</p> <ol style="list-style-type: none"> <li>1. Fast Proxy Mobile IPv6 implementation (Linux) based on Socket API, RTNL</li> <li>2. IEEE 802.11 MADWIFI Linux Driver extension (new 802.11 management frame, statistic transmission, handover decisions)</li> <li>3. hostapd (Linux) and wpa_supplicant (Linux) extension for 802.11 statistic analysis and MSK pre-caching and transfer.</li> <li>4. Testbed set-up, demonstration and performance evaluation</li> </ol>
<ul style="list-style-type: none"> <li>• Dates (from – to) <ul style="list-style-type: none"> <li>• Employer</li> <li>• Sector</li> <li>• Position held</li> </ul> </li> <li>• Main activities and</li> </ul>	<p>From July 2011, March 2012  SO.TEL S.r.L.  Telecommunications  Freelance programmer  Zigbee PAN management software development for Linux/Android systems</p>

responsibilities	
<ul style="list-style-type: none"> <li>• Dates (from – to) <ul style="list-style-type: none"> <li>• Employer</li> <li>• Position held</li> </ul> </li> <li>• Main activities and responsibilities</li> </ul>	<p>From October 2010, March 2011  M28Studio (private architecture studio)  Freelance Programmer  WEB 2.0 Application Development, Resource management software - Python/Django framework</p>
<ul style="list-style-type: none"> <li>• Dates (from – to) <ul style="list-style-type: none"> <li>• Employer</li> <li>• Sector</li> <li>• Position held</li> </ul> </li> <li>• Main activities and responsibilities</li> </ul>	<p>From November 2003 to June 2004  Iannuzzi &amp; Salvato S.r.L.  Software for INA/Assitalia Insurance Agencies  Part Time Programmer  Visual Basic application development (management/accounting software)</p>

## TEACHING ACTIVITIES

<ul style="list-style-type: none"> <li>• Dates (from – to) <ul style="list-style-type: none"> <li>• Employer</li> <li>• Position held</li> </ul> </li> <li>• Main activities and responsibilities</li> </ul>	<p>From October 2016 to March 2017 and From September 2017 (ongoing)  Università di Roma “Tor Vergata”  Professor  Lessons and exams. Course: “Enterprise Networks”</p>
<ul style="list-style-type: none"> <li>• Dates (from – to) <ul style="list-style-type: none"> <li>• Employer</li> <li>• Position held</li> </ul> </li> <li>• Main activities and responsibilities</li> </ul>	<p>From February 2012, ongoing  Università di Roma “Tor Vergata”, department of “Ingegneria elettronica”  Teacher  Lessons and exams. Course: “Configurazione e gestione reti locali”</p>
<ul style="list-style-type: none"> <li>• Dates (from – to) <ul style="list-style-type: none"> <li>• Employer</li> <li>• Position held</li> </ul> </li> <li>• Main activities and responsibilities</li> </ul>	<p>June 2016  Centro di Valutazione della Difesa SMD - Il Reparto Informazioni e Sicurezza  Teacher  Lessons and exams. Master course modules of “Cyber Defence Capability: 1° Corso di sicurezza nelle reti telematiche”</p>
<ul style="list-style-type: none"> <li>• Dates (from – to) <ul style="list-style-type: none"> <li>• Employer</li> <li>• Position held</li> </ul> </li> <li>• Main activities and responsibilities</li> </ul>	<p>From February 2015 to April 2015 and from From February 2016 to April 2016  Università di Roma “Tor Vergata”  Teacher  Lessons and exams. Master course modules of “Cryptography”, “Network Security” and “Perimetral Security”</p>
<ul style="list-style-type: none"> <li>• Dates (from – to) <ul style="list-style-type: none"> <li>• Employer</li> <li>• Position held</li> </ul> </li> <li>• Main activities and responsibilities</li> </ul>	<p>From February 2015 to April 2015 and from From February 2016 to April 2016  OSDIFE - Osservatorio Sicurezza e Difesa CBRNe  Teacher  Lessons and exams. Master in “Computer networks and network security”</p>
<ul style="list-style-type: none"> <li>• Dates (from – to) <ul style="list-style-type: none"> <li>• Employer</li> <li>• Position held</li> </ul> </li> <li>• Main activities and responsibilities</li> </ul>	<p>From January 2014 to February 2014  Università della Calabria, department of “Ingegneria dell’informazione”  Teacher  Lessons and exams. Master course of “Crittografia nelle reti”</p>

<ul style="list-style-type: none"> <li>• Dates (from – to) <ul style="list-style-type: none"> <li>• Employer</li> <li>• Position held</li> </ul> </li> <li>• Main activities and responsibilities</li> </ul>	<p>February 2014  Università della Calabria, department of “Ingegneria dell’informazione”  Teacher  Lessons and exams. Master course “Protocolli per la sicurezza informatica”</p>
<ul style="list-style-type: none"> <li>• Dates (from – to) <ul style="list-style-type: none"> <li>• Employer</li> <li>• Position held</li> </ul> </li> <li>• Main activities and responsibilities</li> </ul>	<p>From September 2011 to March 2014  Università di Roma “Tor Vergata”, faculty of “Lettere”  Teacher  Lessons and exams. Master Course “Servizi di sicurezza” and “Applicazioni della Crittografia”</p>
<ul style="list-style-type: none"> <li>• Dates (from – to) <ul style="list-style-type: none"> <li>• Employer</li> <li>• Position held</li> </ul> </li> <li>• Main activities and responsibilities</li> </ul>	<p>From September 2009, February 2011  Università di Roma “Tor Vergata”, faculty of “Scienze Infermieristiche”  Teacher  Lessons and exams (course “Fondamenti di Informatica”)– teaching material at <a href="http://byron.netgroup.uniroma2.it/~marlon/informatica/">http://byron.netgroup.uniroma2.it/~marlon/informatica/</a></p>
<ul style="list-style-type: none"> <li>• Dates (from – to) <ul style="list-style-type: none"> <li>• Employer</li> <li>• Position held</li> </ul> </li> <li>• Main activities and responsibilities</li> </ul>	<p>From September 2009, February 2011  Centro di ricerca interdipartimentale “Vito Volterra”  Professor  Lessons. (Master for ENAV) Course “Reti Ethernet, IP e wireless”</p>

## EDUCATION AND TRAINING

<ul style="list-style-type: none"> <li>• Title of qualification <ul style="list-style-type: none"> <li>• Date</li> </ul> </li> <li>• Name and type of organization providing education and training</li> <li>• Principal subjects/occupational skills covered</li> </ul>	<p>Ph.D. in Telecommunication and Microelectronic Engineering  From October 2007 to April 2011  Università di Roma “Tor Vergata”</p> <p>Title of the Thesis: “UPMT – Universal Per-application Mobility Management Using Tunnels” – <a href="http://netgroup.uniroma2.it/UPMT">http://netgroup.uniroma2.it/UPMT</a></p> <p>Coding Activities: C userspace tools and kernel modules development. Source code browser at: <a href="http://minerva.netgroup.uniroma2.it/netgroup/browser/netgroup/upmt">http://minerva.netgroup.uniroma2.it/netgroup/browser/netgroup/upmt</a></p> <p>Research activities:</p> <ol style="list-style-type: none"> <li>1. User centric privacy-aware AAA based on pseudonyms and blind credentials</li> <li>2. IP Mobility Management solutions for ABC scenarios</li> <li>3. Per-packet load balancing through heterogeneous access networks</li> </ol> <p>Teaching activities at Faculty of Telecommunication Engineering – Laboratories and slides at: <a href="http://byron.netgroup.uniroma2.it/~marlon/RAT">http://byron.netgroup.uniroma2.it/~marlon/RAT</a></p> <ol style="list-style-type: none"> <li>1. “Port stealing and ARP poisoning attack emulation with NETKIT” – 4 hours seminar</li> <li>2. “Ethernet/IP interaction emulated with NETKIT” – 6 hours seminar</li> <li>3. Complementary classes to Networking courses</li> </ol> <p>Extra activities:</p> <ol style="list-style-type: none"> <li>1. Google Summer of Code 2010: IP/UDP encapsulation kernel module – source code at: <a href="http://svn.ninux.org/ninuxdeveloping/browser/ipudp">http://svn.ninux.org/ninuxdeveloping/browser/ipudp</a></li> </ol>
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- Publications
  - F. Patriarca, S. Salsano, M. Bonola, P. Cerqua, "UPMT Per-Application Mobility Management solution: a Demo for Linux and Android terminals", MobiWac '12 Proceedings of the 10th ACM international symposium on Mobility management and wireless access, ISBN: 978-1-4503-1623-1 doi:10.1145/2386995.2387026
  - Bonola, M.; Salsano, S., "Per-application Mobility management: Performance evaluation of the UPMT solution," Wireless Communications and Mobile Computing Conference (IWCMC), 2011 7th International, 4-8 July 2011, doi: 10.1109/IWCMC.2011.5982892
  - M. Bonola, S. Salsano: "Achieving Scalability in the UPMT Mobility Management Solution". Future Network & Mobile Summit 2010
  - Bonola, M.; Salsano, S.; Polidoro, A., "UPMT: Universal Per-Application Mobility Management Using Tunnels," Global Telecommunications Conference, 2009. GLOBECOM 2009. IEEE , vol., no., pp.1,8, Nov. 30 2009-Dec. 4 2009 doi: 10.1109/GLOCOM.2009.5425883
  - Giuseppe Bianchi, M. Bonola, Vincenzo Falletta, F. S. Proto, Simone Teofili: "The SPARTA Pseudonym and Authorization System". Science of Computer Programming. Volume 74: 23-33 (2008). ISSN: 0167-6423. DOI: 10.1016/j.scico.2008.09.010
- RFC
  - S. Krishnan, J. Laganier, M. Bonola, A. Garzia Martinez, "Secure Proxy ND Support for SEcure Neighbor Discovery (SEND)", rfc6496

- Title of qualification awarded
  - Master's Degree in Telecommunication Engineering. Mark: 110/110 e lode
- Date
  - July 2007
- Name and type of organization providing education and training
  - Università di Roma "Tor Vergata"
- Principal subjects/occupational skills covered
  - Master's degree Thesis: "Designing and development of a distributed pseudonymization system", Thesis supervisor Prof. Giuseppe Bianchi  
Topics tackled: Authentication, Authorization & Accounting, public key encryption/signature algorithms (RSA, ElGamal, ring signature, blind signature), PKI, X.509, pseudonym systems.
  - Bachelor degree Thesis: "Firewall and NAT traversal for Voice over IP systems", Thesis supervisor Prof. Nicola Blefari Melazzi  
Topics treated: VoIP, RTP, RTCP, NAT/Firewall traversal solutions for VoIP systems.
- Publications
  - Giuseppe Bianchi, M. Bonola, Vincenzo Falletta, F. S. Proto, Simone Teofili: "The SPARTA Pseudonym and Authorization System". Electronic Notes in Theoretical Computer Science. Sci. 197(2): 57-71 (2008), doi:10.1016/j.entcs.2007.12.017

**PERSONAL SKILLS AND COMPETENCES**

- Mother tongue
  - Italian
- Other languages
  - English
    - Fluent, very good reading and writing