



# Riccardo Ravaioli

*Research Engineer in Computer Networks*

## Research Interests

Communication networks, network measurements, Internet neutrality, Internet tomography.

## PhD thesis

- title** *Active inference of network neutrality*
- supervisors** Guillaume Urvoy-Keller (I3S/CNRS), Chadi Barakat (INRIA)
- description** In the last decade, some ISPs have been reported to discriminate against specific user traffic, especially if generated by bandwidth-hungry applications (e.g., peer-to-peer, video streaming) or competing services (e.g. Voice-over-IP). Network neutrality, a design principle according to which a network should treat all incoming packets equally, has been widely debated ever since. In my PhD thesis I developed ChkDiff, a novel tool for the detection of traffic differentiation at the Internet access. In contrast to existing work, ChkDiff is independent of both the applications being tested and the shaping mechanisms deployed by an ISP. URL: <http://chkdiff.gforge.inria.fr>
- scholarship** Funded by the French Government (National Research Agency, ANR) through Labex UCN@Sophia.

## Education

- 2012–2016 **PhD**, *I3S/CNRS*, Sophia Antipolis, France.
- 2011–2012 **Master's Degree**, *Université de Nice - Sophia Antipolis*, France.  
Master 2 in Computer Networks (UbiNet)
- 2010–2012 **Master's Degree**, *Università di Bologna*, Italy, *110/110 and honours*.  
Master's degree in Computer Science - Curriculum in Computer Technologies
- 2009–2010 **One-year Study Abroad Program**, *University of Illinois at Urbana-Champaign*, USA.
- 2007–2010 **Bachelor's Degree**, *Università di Bologna*, Italy, *110/110 and honours*.  
Bachelor's Degree in Computer Science.

## Experience

- Mar 2012– **Intern**, *INRIA*, Sophia Antipolis, France.
- Aug 2012 Master-2 internship under the supervision of Chadi Barakat, Diana project team. Design, development and validation of a novel method for the detection of traffic differentiation.

146, rue de France – 06000 Nice – France

☎ +33 7 61 52 17 49 • ✉ [riccardoravaioli@gmail.com](mailto:riccardoravaioli@gmail.com)  
📄 [riccardoravaioli.wordpress.com](http://riccardoravaioli.wordpress.com) •  [riccardoravaioli](https://www.linkedin.com/in/riccardoravaioli)

---

## Technical skills

<i>Languages</i>	Python, Bash, C/C++, Java	<i>Architectures</i>	UML, Design Patterns
<i>Sys. Admin.</i>	Linux	<i>Networking</i>	TCP/IP stack
<i>Data Analysis</i>	NumPy, matplotlib	<i>Vers. Control</i>	Git
<i>Debugging</i>	tcpdump, GDB	<i>Databases</i>	MySQL
<i>Typesetting</i>	LaTeX		

---

## Teaching (labs)

- 2014-2015 Networking (International Master M1 IFI, UNS); Réseau, M3104 Sécu (DUT - IUT R&T); Systèmes d'exploitation (MAM3 - Polytech). Total: 48h.
- 2013-2014 Networking, Probability and Statistics (International Master M1 IFI, UNS); Réseau (Licence 1 IUT R&T). Total: 48h.
- 2012-2013 Networking, Probability and Statistics, XML and Web Technology, Introduction to cryptography and security (International Master M1 IFI, UNS); Systèmes informatiques (Licence 1 informatique, UNS). Total: 48h.

---

## Publications

- [1] Riccardo Ravaoli, Guillaume Urvoy-Keller, and Chadi Barakat. "Testing for traffic differentiation with ChkDiff: the downstream case". In: *Teletraffic Congress (ITC 28), 2016 28th International*. IEEE. Sept. 2016.
- [2] Riccardo Ravaoli, Guillaume Urvoy-Keller, and Chadi Barakat. "Characterizing ICMP Rate Limitation on Routers". In: *IEEE International Conference on Communications (ICC)*. June 2015.
- [3] Riccardo Ravaoli, Guillaume Urvoy-Keller, and Chadi Barakat. "Towards a general solution for detecting traffic differentiation at the Internet access". In: *Teletraffic Congress (ITC 27), 2015 27th International*. IEEE. Sept. 2015, pp. 1–9.
- [4] Riccardo Ravaoli, Chadi Barakat, and Guillaume Urvoy-Keller. "Chkdif: checking traffic differentiation at internet access". In: *Proceedings of the 2012 ACM conference on CoNEXT student workshop*. ACM. Dec. 2012, pp. 57–58.

---

## Languages

Italian	<b>Native speaker</b>
English	<b>Excellent</b>
French	<b>Advanced</b>
Spanish	<b>Advanced</b>

---

## Language certifications

English	TOEFL, Internet based	<i>Final grade: 107/120. Year: 2009.</i>
English	Certificate in Advanced English (CAE)	<i>Final grade: B. Year: 2006.</i>

---

## Interests

Classical guitar (7 years at a conservatory), jazz, skiing, salsa dancing, travelling, foreign languages.