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EDUCATION

02/2014 – 06/2017 **Doctor of Philosophy** in Computer Science (*cum laude*)
University of Twente, Enschede, The Netherlands

09/1995 – 08/2001 **Master of Science** in Computer Science
University of Twente, Enschede, The Netherlands

PROFESSIONAL EXPERIENCE

09/2008 – present **SURFnet**, Utrecht, The Netherlands
R&D Project Manager and Researcher
DNS, DNSSEC, Network Security, Network Measurements

11/2006 – 08/2008 **InTraffic**, Nieuwegein, The Netherlands
Lead Software Designer
Control Software for Railway and Public Transport Infrastructure

10/2002 – 11/2006 **AET Europe**, Arnhem, The Netherlands
Senior Software Engineer
Cryptographic Middleware and Embedded Software for Smart Cards

09/2001 – 10/2002 **Royal Philips Electronics**, Eindhoven, The Netherlands
Software and Test Engineer
Embedded Software for Digital Video Broadcasting and IP TV (a.o.)

01/2001 – 08/2001 **Royal Philips Electronics**, Eindhoven, The Netherlands
Master Thesis Work in Embedded Systems
In-Home Networks

09/2000 – 12/2000 **British Telecommunications (BT) R&D**, Ipswich, United Kingdom
Industrial Traineeship
Smart Cards and Hardware IPsec Implementation

ACADEMIC POSITIONS

11/2017 – present **University of Twente**, Enschede, The Netherlands
Assistant Professor (part-time)
In the Design and Analysis of Communication Systems Group,
Faculty of Electrical Engineering, Maths and Computer Science

07/2017 – 10/2017 **University of Twente**, Enschede, The Netherlands
Guest Researcher

02/2014 – 06/2017 **University of Twente**, Enschede, The Netherlands
Ph.D. Candidate

02/2016 – 03/2016 **CAIDA, University of California at San Diego**, United States
Visiting Researcher

02/2013 – 02/2014 **Radboud University**, Nijmegen, The Netherlands
Ph.D. Candidate

SELECTED PUBLICATIONS (FULL LIST ON NEXT PAGE)

- [1] T. Chung, R. van Rijswijk-Deij, B. Chandrasekaran, D. Choffnes, D. Levin, B.M. Maggs, A. Mislove and C. Wilson. *A Longitudinal, End-to-End View of the DNSSEC Ecosystem*. In Proceedings of the 26th USENIX Security Symposium (USENIX Security '17). Vancouver, BC, Canada: USENIX Association. (*Acceptance Rate: 16.3%*)
- [2] R. van Rijswijk-Deij, K. Hageman, A. Sperotto, and A. Pras. *The Performance Impact of Elliptic Curve Cryptography on DNSSEC Validation*. IEEE/ACM Transactions on Networking, vol. 25, no. 2, 2017. (*Impact Factor 2016/2017: 3.376*)
- [3] R. van Rijswijk-Deij, M. Jonker, A. Sperotto, and A. Pras. *A High-Performance, Scalable Infrastructure for Large-Scale Active DNS Measurements*. IEEE Journal of Selected Areas in Communications, vol. 34, no. 7, pp. 1877–1888, 2016. (*Impact Factor 2016/2017: 8.085*)
- [4] R. van Rijswijk-Deij, A. Sperotto, and A. Pras. *DNSSEC and Its Potential for DDoS Attacks*. In Proceedings of ACM IMC 2014, 2014. (*Acceptance Rate: 22.9%*)
- [5] G. van den Broek, R. van Rijswijk-Deij, A. Sperotto, and A. Pras. *DNSSEC Meets Real World: Dealing with Unreachability Caused by Fragmentation*. IEEE Communications Magazine, vol. 52, no. April, pp. 154–160, 2014. (*Impact Factor 2014: 4.007*)

AWARDS

2017 USENIX Security Distinguished Paper Award

for the paper “*A Longitudinal, End-to-End View of the DNSSEC Ecosystem*” [1]
presented at the 26th USENIX Security Symposium, August 16-18, 2017, Vancouver, BC, Canada

IRTF Applied Networking Research Prize (ANRP)

for the paper “*The Performance Impact of Elliptic Curve Cryptography on DNSSEC Validation*” [2]
to be presented at IETF 100 in Singapore, November 2017

2015 IRTF Applied Networking Research Prize (ANRP)

for the paper “*DNSSEC and Its Potential for DDoS Attacks*” [4]
presented at IETF 94 in Yokohama, Japan, November 2015

2014 ACM SIGCOMM IMC Community Contribution Award

for the paper “*DNSSEC and Its Potential for DDoS Attacks*” [4]
presented at ACM SIGCOMM IMC 2014, Vancouver, BC, Canada, November 2014

MASTER STUDENTS

Boudewijn Ector (2009), Niels Monen (2011), Gijs van den Broek (2012), Sean Rijs (2014), Kaspar Hageman (2015), Romanos Dodopoulos (2015), Tho Le (2017), Olivier van der Toorn (2017)

SHORT BIOGRAPHY

Roland van Rijswijk-Deij was born in Arnhem, The Netherlands, on March 17th, 1977. He received an M.Sc. degree in Computer Science from the University of Twente, Enschede, The Netherlands in 2001. Roland has a background in embedded systems and applied cryptography. He previously worked for British Telecom (2000, traineeship), Royal Philips Electronics (2001-2002), AET Europe (2002-2006) and InTraffic (2006-2008).

Since 2008, Roland works for SURFnet, the National Research and Education Network in The Netherlands. At SURFnet, Roland is responsible for SURFnet’s DNS and DNSSEC infrastructure. He also initiates and leads innovation projects in the area of Internet security and stability. Past innovation projects initiated by Roland have focused on DNS, DNSSEC, detecting and mitigating DDoS attacks, IPv6 and many other topics. Roland regularly presents his work in international networking venues, such as TNC, Internet2 conferences, IETF meetings, ICANN meetings, RIPE meetings and NANOG.

Roland received a *cum laude* Ph.D. degree from the University of Twente in June 2017, for his thesis entitled “Improving DNS Security: a Measurement-Based Approach”.

PUBLICATIONS (IN REVERSE CHRONOLOGICAL ORDER)

- 2017** T. Chung, R. van Rijswijk-Deij, D. Choffnes, D. Levin, B.M. Maggs, A. Mislove and C. Wilson. *Understanding the Role of Registrars in DNSSEC Deployment*. Accepted for ACM IMC 2017. London, United Kingdom: ACM Press
- R. van Rijswijk-Deij, T. Chung, D. Choffnes, A. Mislove and W. Toorop. *The Root Canary: Monitoring and Measuring the DNSSEC Root Key Rollover*. Proceedings of ACM SIGCOMM 2017. Los Angeles, CA, USA: ACM Press
- A. Sperotto, O. van der Toorn and R. van Rijswijk-Deij. *TIDE – Threat Identification using Active DNS Measurements*. Proceedings of ACM SIGCOMM 2017. Los Angeles, CA, USA: ACM Press
- T. Chung, R. van Rijswijk-Deij, B. Chandrasekaran, D. Choffnes, D. Levin, B.M. Maggs, A. Mislove and C. Wilson. *A Longitudinal, End-to-End View of the DNSSEC Ecosystem*. Proceedings of the 26th USENIX Security Symposium (USENIX Security '17). Vancouver, BC, Canada: USENIX Association
- R. van Rijswijk-Deij, K. Hageman, A. Sperotto and A. Pras. *The Performance Impact of Elliptic Curve Cryptography on DNSSEC Validation*. In IEEE/ACM Transactions on Networking, Volume 25, Issue 2 (April 2017)
- L. Hendriks, R. de Oliveira Schmidt, R. van Rijswijk-Deij and A. Pras. *On the Potential of IPv6 Open Resolvers for DDoS Attacks*. Proceedings of the 18th Passive and Active Measurement Conference (PAM 2017). Sydney, Australia
- 2016** M. Jonker, A. Sperotto, R. van Rijswijk-Deij, R. Sadre and A. Pras. *Measuring the Adoption of DDoS Protection Services*. Proceedings of ACM IMC 2016. Santa Monica, CA, USA: ACM Press
- R. van Rijswijk-Deij, M. Jonker and A. Sperotto. *On the Adoption of the Elliptic Curve Digital Signature Algorithm (ECDSA) in DNSSEC*. Proceedings of the 12th International Conference on Network and Service Management (CNSM 2016). Montréal, Canada: IFIP
- A. Hankel, R. van den Hoed, E. Hoekstra and R. van Rijswijk-Deij. *Measuring Software Energy Efficiency: Presenting a Methodology and Case Study on DNS Resolvers*. Proceedings of the 18th Mediterranean Electrotechnical Conference (MELECON 2016). Limassol, Cyprus: IEEE Computer Society
- R. van Rijswijk-Deij, M. Jonker, A. Sperotto and A. Pras. *A High-Performance, Scalable Infrastructure for Large-Scale Active DNS Measurements*. IEEE Journal on Selected Areas in Communications (JSAC), Volume 34, Issue 7 (May 2016)
- 2015** R. van Rijswijk-Deij, M. Jonker, A. Sperotto and A. Pras. *The Internet of Names: A DNS Big Dataset – Actively Measuring 50% of the Entire DNS Name Space, Every Day*. Proceedings of ACM SIGCOMM 2015. London, UK: ACM Press
- R. van Rijswijk-Deij, A. Sperotto and A. Pras. *Making the Case for Elliptic Curves in DNSSEC*. ACM SIGCOMM Computer Communication Review, Volume 45, Issue 5 (October 2015)
- J.J. Santanna, R. van Rijswijk-Deij, R. Hofstede, A. Sperotto, M. Wierbosch, L.Z. Granville and A. Pras. *Booters - an Analysis of DDoS-as-a-Service Attacks*. Proceedings of the 2015 IFIP/IEEE International Symposium on Integrated Network Management (IM 2015). Ottawa, Canada: IEEE Computer Society
- 2014** R. van Rijswijk-Deij, A. Sperotto and A. Pras. *DNSSEC and Its Potential for DDoS Attacks - a Comprehensive Measurement Study*. Proceedings of ACM IMC 2014. Vancouver, BC, Canada: ACM Press
- G. van den Broek, R. van Rijswijk-Deij, A. Sperotto and A. Pras. *DNSSEC Meets Real World: Dealing with Unreachability Caused by Fragmentation*. IEEE Communications Magazine, Vol. 52 (April 2014), pp. 154-160
- S. Diettrich, J. van der Ham, A. Pras, R. van Rijswijk-Deij, D. Shou, A. Sperotto, A. van Wynsberghe and L. Zuck. *Ethics in Data Sharing: Developing a Model for Best Practice*. Proceedings of the 2nd Cybersecurity Research Ethics Dialogs & Strategy (CREDS-II), co-located with the 35th IEEE Symposium on Security and Privacy (IEEE S&P 2014). San Jose, CA, USA: IEEE Computer Society
- 2013** R. van Rijswijk-Deij and E. Poll. *Using Trusted Execution Environments in Two-Factor Authentication: Comparing Approaches*. Proceedings of the Open Identity Summit 2013 (OID 2013). Kloster Banz, Germany: Gesellschaft für Informatik
- 2011** R. van Rijswijk-Deij and J. van Dijk. *tigr: a Novel Take on Two-Factor Authentication*. Proceedings of the 25th international conference on Large Installation System Administration (LISA '11). Boston, MA, USA: USENIX Association, 2011