

TRI NHU DO

Postdoctoral Research Associate

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Education

- Mar. 2015 **Ph.D.**, *Hongik University*, South Korea.
to Aug. 2018 Electronics and Computer Engineering
- Mar. 2013 **M.S.**, *Hongik University*, South Korea.
to Feb. 2015 Electronics and Computer Engineering
- Sep. 2007 **B.Eng.**, *Posts and Telecommunications Institute of Technology*, Vietnam.
to Feb. 2012 Electronics and Telecommunication Engineering

Experience

Research

- Mar. 2019 **Postdoctoral Research Associate**, *The University of Texas at Dallas*, TX, USA.
to present Department of Computer Science
Our research focuses on fundamental limits of multiple-input multiple-output (MIMO) systems, in particular, the reconfigurable distributed MIMO systems.
- Mar. 2013 **Graduate Research Assistant**, *UNC Lab*, *Hongik University*, South Korea.
to Aug. 2018 Department of Software and Communications Engineering
- I was involving in writing research proposals, which resulted in the following grant:
“Development of energy efficiency and robust security-based cooperative relay transmissions and routing protocols for future mobile wireless networks,” has been funded by the National Research Foundation of Korea (NRF), Grant No. 2016R1D1A1B03934898.
 - I was mentoring lab members of UNC Lab. Please contact the lab leader, Prof. Beongku An, for the evaluation of my mentoring works.

Teaching

- Mar. 2017 **Teaching Associate**, *Hongik University*, South Korea.
to Aug. 2018 Department of Software and Communications Engineering
- Teaching undergraduate courses:
- | | | |
|----------|---|------------------|
| [012301] | Computer Engineering: Introduction and Practice | Spring-2017/2018 |
| [704410] | Computer Architecture | Fall-2017 |

Honors and Awards

- **Best Paper Award** in the 10th IEEE International Conference on Ubiquitous and Future Networks (ICUFN), Prague, Czech Republic, Jul. 2018
- **Best Paper Award** in the 6th International Conference on Green and Human Information Technology (ICGHIT), Chiang Mai, Thailand, Feb. 2018

- **Outstanding Paper Award** in the 20th IEEE International Conference on Advanced Communications Technology (ICACT), Gangwon-do, South Korea, Feb. 2018
- **Global Scholarship** awarded from Hongik University, South Korea Mar. 2015 – Dec. 2016
- **Global Scholarship** awarded from Hongik University, South Korea Mar. 2013 – Dec. 2014

Publications

Online academic profiles:

- Google Scholar Profile
- ResearcherID (developed by Thomas Reuters)
- Scopus Author ID (developed by Elsevier)

Journal papers

- [13] **Tri-Nhu Do**, Van-Dinh Nguyen, Oh-Soon Shin and Beongku An, “Simultaneous Uplink and Downlink Transmissions for Wireless Powered Communication Networks,” *IEEE Communications Letters*, vol. 23, no. 2, pp. 374–377, Feb. 2019.
- [12] **Tri-Nhu Do**, Daniel Benevides da Costa, Trung Q. Duong, and Beongku An, “Improving the Performance of Cell-Edge Users in NOMA Systems Using Cooperative Relaying,” *IEEE Transactions on Communications*, vol. 66, no. 5, pp. 1883–1901, May 2018.
- [11] **Tri-Nhu Do**, Daniel Benevides da Costa, Trung Q. Duong, and Beongku An, “Improving the performance of cell-edge users in MISO-NOMA systems using TAS and SWIPT-based cooperative transmissions,” *IEEE Transactions on Green Communications and Networking*, vol. 2, no. 1, pp. 49–62, Mar. 2018.
- [10] Nguyen Toan Van, **Tri-Nhu Do**, Vo Nguyen Quoc Bao, and Beongku An, “Performance analysis of wireless energy harvesting multihop cluster-based networks over Nakagami- m fading channels,” *IEEE Access*, vol. 6, pp. 3068–3084, Feb. 2018.
- [9] **Tri-Nhu Do**, Daniel Benevides da Costa, Trung Q. Duong, Vo Nguyen Quoc Bao, and Beongku An, “Exploiting direct links in multiuser multirelay SWIPT cooperative networks with opportunistic scheduling,” *IEEE Transactions on Wireless Communications*, vol. 16, no. 8, pp. 5410–5427, Aug. 2017.
- [8] **Tri-Nhu Do**, Daniel Benevides da Costa, Trung Q. Duong, and Beongku An, “A BNBF user selection scheme for NOMA-based cooperative relaying systems with SWIPT,” *IEEE Communications Letters*, vol. 21, no. 3, pp. 664–667, Mar. 2017.
- [7] Kyusung Shim, **Tri-Nhu Do**, and Beongku An, “Performance analysis of physical layer security of opportunistic scheduling in multiuser multirelay cooperative networks,” *Sensors*, vol. 17, no. 2, pp. 377–396, Feb. 2017.
- [6] **Tri-Nhu Do**, Daniel Benevides da Costa, and Beongku An, “Performance analysis of multirelay RF energy harvesting cooperative networks with hardware impairments,” *IET Communications*, vol. 10, no. 18, pp. 2551–2558, Jun. 2016.

- [5] Kyusung Shim, **Tri-Nhu Do**, and Beongku An, "The impact of hardware impairments and imperfect channel state information on physical layer security," *Journal of the Institute of Electronics and Information Engineers*, vol. 53, no. 4, p. 79–86, Apr. 2016.
- [4] Kyusung Shim, **Tri-Nhu Do**, and Beongku An, "An analysis modeling architecture for supporting physical layer security of wireless networks under hardware impairments," *International Journal of Security and Its Applications*, vol. 10, no. 6, p. 351–362, 2016.
- [3] **Tri-Nhu Do**, Vo Nguyen Quoc Bao, and Beongku An, "Outage performance analysis of relay selection schemes in wireless energy harvesting cooperative networks over non-identical rayleigh fading channels," *Sensors*, vol. 16, no. 3, pp. 295–314, Feb. 2016.
- [2] **Tri-Nhu Do**, and Beongku An, "A soft-hard combination-based cooperative spectrum sensing scheme for cognitive radio networks," *Sensors*, vol. 15, no. 2, pp. 4388–4407, Feb. 2015.
- [1] **Tri-Nhu Do**, and Beongku An, "Cooperative spectrum sensing schemes with the interference constraint in cognitive radio networks," *Sensors*, vol. 14, no. 5, pp. 8037–8056, May 2014.

Conference papers

- [34] Kyusung Shim, **Tri-Nhu Do**, Beongku An, "Improving Physical Layer Security of NOMA Networks by Using Opportunistic Scheduling," in *Proc. 2018 International Conference on Ubiquitous and Future Networks (ICUFN)*, Prague, Czech Republic, Jul. 2018, pp. 262–267. —**Best Paper Award**
- [33] Kyusung Shim, Hyukchun Oh, **Tri-Nhu Do**, Beongku An, "A Physical Layer Security-Based Transmit Antenna Selection Scheme for NOMA Systems," in *Proc. 2018 International Conference on Ubiquitous and Future Networks (ICUFN)*, Prague, Czech Republic, Jul. 2018, pp. 597–602.
- [32] **Tri-Nhu Do**, and Beongku An, "Optimal sum-throughput analysis for downlink cooperative SWIPT NOMA systems," in *Proc. 2018 IEEE International Conference on Recent Advances in Signal Processing, Telecommunications & Computing (SigTelCom)*, Ho Chi Minh city, Vietnam, Jan. 2018, pp. 85–90.
- [31] Kyusung Shim, **Tri-Nhu Do**, Beongku An, and Sang-Yep Nam, "A Wireless Power Transfer-based Routing Protocol for Heterogeneous Wireless Networks," in *Proc. 2018 International Conference on Green and Human Information Technology (ICGHIT)*, Chiang Mai, Thailand, Feb. 2018, pp. 75–79. —**Best Paper Award**
- [30] Kyusung Shim, **Tri-Nhu Do**, and Beongku An, "A physical layer security-based routing protocol in mobile ad-hoc wireless networks," in *Proc. 20th IEEE International Conference on Advanced Communications Technology (ICACT)*, Gangwon-do, South Korea, Feb. 2018, pp. 417–422. —**Outstanding Paper Award**
- [29] **Tri-Nhu Do** and Beongku An, "Finding optimal power splitting ratio for cooperative SWIPT NOMA systems," in *Proc. KSII The 9th International Conference on Internet (ICONI)*, Vientiane, Laos, Dec. 2017, pp. 135–136.

- [28] **Tri-Nhu Do**, Daniel Benevides da Costa, Trung Q. Duong, and Beongku An, "A full-duplex cooperative scheme with distributed switch-and-stay combining for NOMA networks," in *Proc. 2017 IEEE Global Communications Conference (GLOBECOM)*, Singapore, Dec. 2017, pp. 1–6.
- [27] **Tri-Nhu Do**, Daniel Benevides da Costa, Trung Q. Duong, and Beongku An, "Transmit antenna selection schemes for MISO-NOMA cooperative downlink transmissions with hybrid SWIPT protocol," in *Proc. 2017 IEEE International Conference on Communications (ICC)*, Paris, France, May 2017, pp. 1–6.
- [26] Kyusung Shim, **Tri-Nhu Do**, and Beongku An, "Secure transmission under considering physical layer secure channel state information in mobile ad-hoc wireless," in *Proc. 2017 The Institute of Electronics Engineers of Korea (IEEK) Summer Conference*, Busan, South Korea, Jun. 2017, pp. 1282–1283.
- [25] Kyusung Shim, **Tri-Nhu Do**, and Beongku An, "A source relay selection scheme for physical layer security in multi-user multi-relay amplify-and-forward cooperative networks," in *Proc. 2017 International Conference on Green and Human Information Technology (ICGHIT)*, Hangzhou, China, Feb. 2016, pp. 339–340.
- [24] **Tri-Nhu Do**, Daniel Benevides da Costa, Trung Q. Duong, Vo Nguyen Quoc Bao, and Beongku An, "Opportunistic scheduling for fixed-gain amplify-and-forward-based multiuser multirelay SWIPT cooperative networks," in *Proc. 2017 IEEE International Conference on Recent Advances in Signal Processing, Telecommunications & Computing (SigTelCom)*, Da Nang, Jan. 2017, pp. 49–54.
- [23] Kyusung Shim, **Tri-Nhu Do**, and Beongku An, "Physical layer security under hard impairments in cooperative communication environments," in *Proc. 2016 The Institute of Electronics Engineers of Korea (IEEK) Summer Conference*, Jeju Island, South Korea, Jun. 2016, pp. 1641–1643.
- [22] Kyusung Shim, **Tri-Nhu Do**, and Beongku An, "Optimal joint source and relay selection scheme for physical layer security in multi-user and multi-relay networks," in *Proc. KSII The 8th International Conference on Internet (ICONI)*, Hong Kong, Jul. 2016, pp. 187–188.
- [21] Le The Dung, **Tri-Nhu Do**, and Beongku An, "Cooperative spectrum sensing based routing protocol in mobile cognitive radio ad-hoc networks," in *Proc. 2016 International Conference on Green and Human Information Technology (ICGHIT)*, Angeles City, Philippines, Feb. 2016, pp. 124–125.
- [20] Kyusung Shim, **Tri-Nhu Do**, and Beongku An, "Physical layer security of wireless networks under hardware impairments," in *Proc. 2016 International Conference on Green and Human Information Technology (ICGHIT)*, Angeles City, Philippines, Feb. 2016, pp. 130–131.
- [19] **Tri-Nhu Do**, Le The Dung, Beongku An, and Sang-Yep Nam, "Connectivity of hybrid overlay/underlay cognitive radio ad hoc networks," in *Proc. 2016 IEEE International Conference on Electronics, Information, and Communication (ICEIC)*, Da Nang, Vietnam, Jan. 2016, pp. 1–4.

- [18] K. Shim, **Tri-Nhu Do**, Beongku An, and Sang-Yep Nam, "Outage performance of physical layer security for multi-hop underlay cognitive radio networks with imperfect channel state information," in *Proc. 2016 IEEE International Conference on Electronics, Information, and Communication (ICEIC)*, Da Nang, Vietnam, Jan. 2016, pp. 1–4.
- [17] Kyusung Shim, **Tri-Nhu Do**, and Beongku An, "Physical layer security under hardware impairment and imperfect CSI in relaying networks," in *Proc. 2015 The Institute of Electronics Engineers of Korea (IEEK) Fall Conference*, Gwangju, South Korea, Nov. 2015, pp. 667–668.
- [16] **Tri-Nhu Do** and Beongku An, "Outage analysis of best relay selection scheme for wireless energy harvesting relay networks," in *Proc. 2015 The Institute of Electronics Engineers of Korea (IEEK) Fall Conference*, Gwangju, South Korea, Nov. 2015, pp. 669–670.
- [15] **Tri-Nhu Do**, Vo Nguyen Quoc Bao, and Beongku An, "A relay selection protocol for wireless energy harvesting relay networks," in *Proc. 2015 IEEE International Conference on Advanced Technologies for Communications*, Ho Chi Minh city, Vietnam, Oct. 2015, pp. 243–247.
- [14] Kyusung Shim, **Tri-Nhu Do**, and Beongku An, "Secure transmission using DF on underlay cognitive radio," in *Proc. 2015 The Institute of Electronics Engineers of Korea (IEEK) Summer Conference*, Jeju Island, South Korea, Jun. 2015, pp. 1418–1420.
- [13] **Tri-Nhu Do** and Beongku An, "A physical layer security-based multihop relaying protocol for underlay cognitive radio networks," in *Proc. 2015 The Institute of Electronics Engineers of Korea (IEEK) Summer Conference*, Jeju Island, South Korea, Jun. 2015, pp. 1454–1455.
- [12] **Tri-Nhu Do** and Beongku An, "Secure transmission using decode-and-forward protocol for underlay cognitive radio networks," in *Proc. 2015 IEEE International Conference on Ubiquitous and Future Networks (ICUFN)*, Sapporo, Japan, Jul. 2015, pp. 914–918.
- [11] **Tri-Nhu Do**, Beongku An, and Sang-Yep Nam, "A likelihood ratio test based hard combination scheme for cooperative spectrum sensing in cognitive radio networks," in *Proc. 2015 International Conference on Green and Human Information Technology (ICGHIT)*, Da Nang, Vietnam, Feb. 2015, pp. 195–196.
- [10] **Tri-Nhu Do** and Beongku An, "A comparison of Neyman-Pearson and minimum sensing error criteria for cooperative spectrum sensing in cognitive radio networks," in *Proc. 2015 International Conference on Green and Human Information Technology (ICGHIT)*, Da Nang, Vietnam, Feb. 2015, pp. 181–182.
- [9] **Tri-Nhu Do** and Beongku An, "Hybrid cooperative spectrum sensing scheme for cognitive radio networks," in *Proc. 2015 IEEE International Conference on Information Networking (ICOIN)*, Siem Reap, Cambodia, Jan. 2015, pp. 390–391.
- [8] **Tri-Nhu Do** and Beongku An, "A location information-based data fusion scheme for cooperative spectrum sensing in cognitive radio networks," in *Proc. 2014 The Institute of Electronics Engineers of Korea (IEEK) Fall Conference*, Seoul, South Korea, Nov. 2014, pp. 726–727.

- [7] **Tri-Nhu Do** and Beongku An, "Log-likelihood ratio test based spectrum sensing for cognitive radio in small-scale fading channels," in *Proc. 2014 The Institute of Electronics Engineers of Korea (IEEK) Summer Conference*, Jeju Island, South Korea, Jun. 2014, pp. 1472–1473.
- [6] **Tri-Nhu Do** and Beongku An, "Cooperative spectrum sensing schemes with the interference constraint in cognitive radio networks," in *Proc. 2014 IEEE International Symposium on Computer, Consumer and Control (IS3C)*, Taichung, Taiwan, Jun. 2014, pp. 1010–1013.
- [5] **Tri-Nhu Do** and Beongku An, "Location-based user selection scheme for cooperative spectrum sensing in cognitive radio networks," in *Proc. 2014 International Conference on Green and Human Information Technology (ICGHIT)*, Ho Chi Minh City, Vietnam, Feb. 2014, pp. 355–356.
- [4] **Tri-Nhu Do** and Beongku An, "Underlay approach-based soft combination schemes for cooperative spectrum sensing in cognitive radio networks," in *Proc. 2014 International Conference on Green and Human Information Technology (ICGHIT)*, Ho Chi Minh City, Vietnam, Feb. 2014, pp. 201–202.
- [3] **Tri-Nhu Do**, Beongku An, and Kyu-Tae Lee, "A cooperative spectrum sensing scheme using the concept of underlay cognitive radio," in *Proc. 2014 IEEE International Conference on Electronics, Information, and Communication (ICEIC)*, Kota Kinabalu, Malaysia, Jan. 2014, pp. 1–3.
- [2] **Tri-Nhu Do** and Beongku An, "Cooperative spectrum sensing in cognitive radio networks under interference constraint," in *Proc. 2013 The Institute of Electronics Engineers of Korea (IEEK) Fall Conference*, Seoul, South Korea, Nov. 2013, pp. 902–903.
- [1] **Tri-Nhu Do** and Beongku An, "A discussion of cooperative spectrum sensing using Alamouti code in cognitive radio networks," in *Proc. 2013 The Institute of Electronics Engineers of Korea (IEEK) Summer Conference*, Jeju Island, South Korea, Jun. 2013, pp. 1437–1438.

Services

Technical Program Committee (TPC) Member

- GLOBECOM'2019
- ANTS'2018

Reviewer

I have been serving as reviewer for journals and conferences. For more detailed information, please refer to my *Review Record on Publons.com*