

Curriculum Vitae

Mahmoud Nikoufard

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Personal Information:

First name: Mahmoud
Surname: Nikoufard
Place of Birth: Kashan, Iran
Birth Date: September 11, 1967
Sex: Male
Marital Status: Married

Education:

Ph.D., Opto-Electronic Devices Group, Eindhoven University of Technology, the Netherlands, 2008.
Thesis Topic: Integrated Wavelength Division Multiplexing Receivers.

M.Sc., Electrical Eng. (telecommunication Eng.), Tarbiat Modarres University, Tehran, Iran, 1994.
Thesis Topic: Propagation of the electromagnetic waves in the plasma media.

B.Sc., Electrical Eng. (Communication Eng.), Sharif University of Technology, Tehran, Iran, 1990.
Project Topic: Design of the E-H plane horn antenna.

Research Activities:

1. Design and realization of “[Monolithic integration of an eight-channel \(8×25 GHz\) multi-wavelength receiver including an AWG, and eight pin-photodetectors on InP-substrate based on twin-guide scheme](#)”, Eindhoven University of Technology, the Netherlands, 2000-2004.

2. Design and realization of “Hybrid integration of the WDM receiver including: an AWG, eight pin-photodetectors on the InP-substrate and the eight front-end GaAs HEMT trans-impedance traveling wave amplifier”, Eindhoven University of Technology, the Netherlands, 2004-2008.
3. Realization of “Monolithic integrated multi-wavelength receiver including semiconductor optical amplifier (SOA), an AWG, and eight pin-photodetectors on semi-insulating InP-substrate based on active-passive butt-joint scheme”, Eindhoven University of Technology, the Netherlands, 2004-2008.
4. Realization of “InP-based membrane photodetector for optical interconnection on CMOS IC’s”, Eindhoven University of Technology, the Netherlands, 2005-2008.
5. Design and realization of “Active Microstrip Bandpass Filters in X band with a 4dB Gain in Passband Filter Prototype”, Iranian Telecommunication Researches Center (ITRC), Tehran, Iran, 1994.
6. Design of the passive microstrip wideband bandpass filters and engineering software including two prototypes functioning at L band, ITRC, Tehran, Iran, 1991.
7. Research on propagation of the electromagnetic waves in the plasma media, Tarbiat Modarres University, Tehran, Iran, 1993-1994.
8. Numerical methods in electromagnetic, Tarbiat Modarres University, Tehran, Iran, 1993.
9. Design of the E-H Plane horn antenna and engineering software including two prototypes functioning at 1GHZ, Sharif University of Technology, Tehran, Iran, 1990.

Publications on photonics (journals and book):

1. Nikoufard M., Alaei Tabatabaei F. S., and Ghafouri S. N., " High-speed pin-traveling wave photodetector based on a semiconductor optical amplifier layer stack on semi-insulating InP substrate," *Progress In Electromagnetisc Research C*, vol. 28,pp. 271-281, 2012.
2. Nikoufard M., and Ghafouri S. N., " Symmetric twin-waveguide photodetector on semi-insulating InP substrate at 1.55 μ m wavelength," *Journal of Optics*, vol. 13, 2011.
3. Xu L., Nikoufard M., Leijtens, X.J.M., Vries, T. de, Smalbrugge, Nötzel, R., E., Oei, Y.S., Smit, M.K.," High bandwidth waveguide photodetector based on an amplifier layer stack on an active-passive semi-insulating InP at 1.55 μ m," *IEEE Photonics Technol. Lett.*, vol. 20, No. 23, Dec. 2008.
4. Nikoufard M., "Integrated wavelength division multiplexing receivers", Technische Universiteit Eindhoven, Eindhoven, The Netherlands, 2008.

Publications on photonics (conferences):

1. Nikoufard M., Amadeh S., and Hajiloo N., " Optimized Y-junction based on directional coupler photonic crystal on InP substrate ", *Proceedings of the 4th International Conference on Nanostructures (ICNS4)*, Mar. 2012, pp. 85, Kish, Iran.

2. Nikoufard M., Amadeh S., and Hajiloo N., " Photonic crystal MZI modulator by using directional coupler on InP substrate", *Proceedings 18th Iranian conference on Optics and Photonics (ICOP2012)*, Feb. 2012, pp. 155-158, Tabriz, Iran.
3. Nikoufard M., and Yazdanpanah J., " Twin-waveguide uni-travelling carrier photodetector ", *Proceedings 18th Iranian conference on Optics and Photonics (ICOP2012)*, Feb. 2012, pp. 41-44, Tabriz, Iran.
4. Kari M., and Nikoufard M., " Ring-based monolithic optical transceiver ", *Proceedings 18th Iranian conference on Optics and Photonics (ICOP2012)*, Feb. 2012, pp. 71-74, Tabriz, Iran.
5. Firoozi S, Abaeiani GH., and Nikoufard M., " Calculation and analysis of structural dependency of the plasmonic fiber-optic sensors characteristics ", *Proceedings 18th Iranian conference on Optics and Photonics (ICOP2012)*, Feb. 2012, pp. 646-649, Tabriz, Iran.
6. Nikoufard M., Amadeh S., Farshadpour A., " Photonic crystal power splitter-based directional couplers on InP substrate", *The Annual physics conference of Iran (PSI2011)*, Sep. 2011, Uramiah, Iran.
7. Nikoufard M., Rezazadeh A, Jahani Bahnamiri H., " Design of a 3D-compact lateral taper on semi-insulating InP substrate", *The Annual physics conference of Iran (PSI2011)*, Sep. 2011, Uramiah, Iran.
8. Kari M., Nikoufard M., Abaeiani Gh., and Anis A., " Monolithic integrated transcieverbased on ring-resonator," *Proceedings 19th Iranian Conference on Electrical Engineering (ICEE)*, 2011, Tehran, Iran.
9. Farshadpour A., and Nikoufard M., " Photonic crystal ring resonator-based wavelength division multiplexer on InP substrate," *Proceedings 19th Iranian Conference on Electrical Engineering (ICEE)*, 2011, Tehran, Iran.
10. Anis A., Nikoufard M., and Kari M., " Wavelength converter based on cross-phase modulation on InP substarte at 1.55 μ m wavelength," *2nd National Conference on Optics and Laser Engineering (ICOLE)*, 2011, Shahin-shahr, Iran.
11. Kari M., Nikoufard M., and Anis A., " Ring-based monolithic integrated optical transceiver on semi-insulating InP substrate," *2nd National Conference on Optics and Laser Engineering (ICOLE)*, 2011, Shahin-shahr, Iran.
12. Alaei Tabatabaei F. S., and Nikoufard M., " Design and RF-analysis of a high-speed, high-efficiency traveling-wave photodetector," *2nd National Conference on Optics and Laser Engineering (ICOLE)*, 2011, Shahin-shahr, Iran.
13. Nikoufard M., Alaei Tabatabaei F. S., Kari M. and Sheikhan M., " Design and RF-analysis of a high-speed traveling-wave photodetector based on InP material at 1.55 μ m wavelength," *Proceedings 17th Iranian Conference on Photonics and Optics (ICOP)*, 2011, Kerman, Iran.
14. Nikoufard M., and Farshadpour A., " Photonic crystal ring resonator-based wavelength division multiplexer on InP substrate," *Proceedings 176th Iranian Conference on Photonics and Optics (ICOP)*, 2011, Kerman, Iran.
15. Nikoufard M., Ghafouri S. N., and Alaei Tabatabaei F. S., " DC-analysis of a traveling-wave photodetector on semi-insulating InP at 1.55 μ m wavelength," *Proceedings 3rd Iranian Conference on Photonics Engineering*, 2011, Kerman, Iran.
16. Nikoufard M., S. F. Alaei, M. Sheikhan, " Efficient pin-Travelling Wave Photodetector Based on a Semiconductor Optical amplifier layer stack on Semi-Insulating InP Substrate at 1.55 μ m," *Numerical Simulation of Optoelectronic Devices (NUSOD2010)*, Sep. 2010, USA.

17. [Nikoufard M.](#), Taheri R., Farrokhi A., "Hybrid Spot Size converter on Semi-Insulating InP substrate at 1.55 μ m wavelength," *Numerical Simulation of Optoelectronic Devices (NUSOD2010)*, Sep. 2010, USA.
18. [Nikoufard M.](#), Taheri R., Farrokhi A., "Monolithic Integration of a Spot-Size Converter and active and passive photonic devices on Semi-Insulating InP substrate at 1.55 μ m wavelength window," *The Annual physics conference of Iran (PSI2010)*, Sep. 2010, Hamadan, Iran.
19. [Nikoufard M.](#), Taheri R., Farrokhi A., "Design of a Low-Coupling Loss Hybrid Spot-Size Converter Based on SI-InP substrate at 1.55 μ m Wavelength Window," *Proceedings 18th Iranian Conference on Electrical Engineering (ICEE)*, 2010, Isfahan, Iran.
20. [Nikoufard M.](#), Taheri R., Farrokhi A., "Design of Hybrid Spot-Size Converter Based on InP Material at 1.55 μ m Wavelength Window," *Proceedings 16th Iranian Conference on Photonics and Optics (ICOP)*, 2010, Yazd, Iran.
21. [Nikoufard M.](#), "Design and characterization of a monolithic integrated eight-channel WDM receiver on InP-based material," *Proceedings 15th Iranian Conference on Photonics and Optics (ICOP)*, 2009, Isfahan, Iran.
22. [Nikoufard M.](#), "Design and fabrication of edge-illuminated photodetector based on vertical coupler on InP-substrate," *First National Conference on Optics and Laser Engineering (NCOLE)*, 2009, Shahin-shahr, Iran.
23. [Nikoufard M.](#), "Planarization, passivation and metallization processes in the fabrication of the microwave-photonic integrated circuits," *First National Conference on Optics and Laser Engineering (NCOLE)*, 2009, Shahin-shahr, Iran.
24. Ph.D. thesis titled "Integrated Wavelength Division Multiplexing Receivers", Eindhoven University of Technology, Eindhoven, the Netherlands, March 2008.
25. [Nikoufard M.](#), Xu L., Leijtens, X.J.M., Vries, T. de, Smalbrugge, Nötzel, R., E., Oei, Y.S., Smit, M.K., "High bandwidth waveguide photodetector based on an amplifier layer stack on an active-passive semi-insulating InP at 1.55 μ m," *Proceedings 14th European Conference on Integrated Optics (ECIO)*, 2008, Eindhoven, Holland.
26. [Nikoufard M.](#), Leijtens, X.J., La Porta, A., Binetti P.R.A., Smalbrugge, E., Vries, T. de, Veldhoven, P.J. van, Nötzel, R., Oei, Y.S., & Smit, M.K., "An efficient waveguide photodetector fabricated in an InP-based amplifier layer stack," *proc. IEEE/LEOS Benelux Chapter 2007*. Brussels, Belgium.
27. Binetti, P.R.A., La Porta, A., Leijtens, X.J.M., [Nikoufard M.](#), de Vries, T., Oei, Y.S. Di Cioccio, L., Fedeli, J. M. Lagahe, C., Orobchouk, R., Seassal, C., Van Campenhout, J., Van Thourhout, D., van Veldhoven, P.J., Nötzel, R. and Smit, M.K., "InP-based membrane photodetector for optical interconnections on CMOS ICs," *proc. IEEE/LEOS Benelux Chapter 2007*. Brussels, Belgium.
28. Binetti, P.R.A., Campenhout, J. van, Leijtens, X.J.M., [Nikoufard M.](#), Vries, T. de, Oei, Y.S., Di Cioccio, L., Fedeli, J.-M., Lagahe, C., Orobchouk, R., Letartre, X., Regreny, P., Rojo-Romeo, P., Seassal, C., Veldhoven, P.J. van, Nötzel, R., Thourhout, D. van, Baets, R., Smit, M.K., "An optical interconnect layer on silicon," *Proceedings 13th European Conference on Integrated Optics (ECIO)*, 2007, (pp. 1-3) Copenhagen, Denmark.
29. Binetti, P.R.A., Leijtens, X.J.M., [Nikoufard M.](#), Vries, T. de, Oei, Y.S., Di Cioccio, L., Fedeli, J.-M., Lagahe, C., Orobchouk, R., Seassal, C., Campenhout, J. van, Thourhout, D. van, Veldhoven, P.J. van, Nötzel, R., Smit, M.K., "InP-based membrane photodetectors for optical interconnects to Si," *proc. 4th International Conference on Group IV Photonics. (Vol. WB4, pp. 1-3)*. 2007, Tokyo, Japan.

30. Binetti, P.R.A., Leijtens, X.J.M., [Nikoufard, M.](#), Vries, T. de, Oei, Y.S., Di Cioccio, L., Fedeli, J.-M., Lagahe, C., Orobtcouk, R., Seassal, C., Veldhoven, P.J. van, Nötzel, R., Smit, M.K.," Membrane couplers and photodetectors for optical interconnections on CMOS ICs," *proc. ePIXnet Winter School 2007*. (pp. 1-1). Pontresina, Switzerland.
31. Binetti, P.R.A., Leijtens, X.J.M., [Nikoufard, M.](#), Vries, T. de, Oei, Y.S., Di Cioccio, L., Fedeli, J.-M., Lagahe, C., Orobtcouk, R., Seassal, C., Veldhoven, P.J. van, Nötzel, R., Smit, M.K.," Membrane couplers and photodetectors for optical interconnections on CMOS ICs," *proc. IEEE/LEOS Benelux Symposium 2006*. (pp. 237-240). Eindhoven, The Netherlands: IEEE/LEOS.
32. [Nikoufard, M.](#), Zhu, Y., Bennekom, P.K. van, Kwaspen, J.J.M., Leijtens, X.J.M., & Smit, M.K.," Design and characterization of a high-speed WDM receiver," In *proc. IEEE/LEOS Benelux Chapter 2005* (pp. 145-148). Mons, Belgium.
33. [Nikoufard, M.](#), Besten, J.H. den, Heck, M.J.R., Zhu, Y., Smalbrugge, E., Vries, T. de, Veldhoven, P.J. van, Leijtens, X.J.M., Oei, Y.S., Notzel, R., & Smit, M.K., "InP-based ridge lasers with lateral n-contacts," In *proc. IEEE/LEOS Benelux Chapter 2005* (pp. 261-264). Mons, Belgium.
34. Binetti, P.R.A., Leijtens, X.J.M., [Nikoufard, M.](#), Orobtcouk, R., Benyattou, T., Vries, T. de, Oei, Y.S., & Smit, M.K. , "A compact detector for use in photonic interconnections on CMOS ICs," In *proc. IEEE/LEOS Benelux Chapter 2005* (pp. 233-236). Mons, Belgium.
35. [Nikoufard, M.](#), Leijtens, X.J.M., Zhu, Y., Kwaspen, J.J.M., Bente, E.A.J.M., Groen, F.H., & Smit, M.K. , "An 8 x 25 Ghz polarization-independent integrated multi-wavelength receiver," In *proc. IPR 2004* (pp. iTHB2). San Francisco, USA.
36. [Nikoufard, M.](#), Besten, J.H. den, Leijtens, X.J.M., & Smit, M.K. , " Design and measurement of a reversely biased SOA as high-speed photodetector," In *proc. IEEE/LEOS Benelux Chapter 2004* (pp. 71-74). Gent, Belgium.
37. [Nikoufard, M.](#), Leijtens, X.J.M., Zhu, Y., Bennekom, P.K. van, Kwaspen, J.J.M., Bente, E.A.J.M., Groen, F.H., & Smit, M.K., "An 8x20 GHz polarization independent WDM receiver", In *proc. IEEE/LEOS Benelux chapter 2003, Enschede, The Netherlands* (pp. 153-156). Enschede, The Netherlands.
38. [Nikoufard, M.](#), Leijtens, X.J.M., Zhu, Y., Kwaspen, T., & Smit, M.K, " Modeling and characterization of InP-based high-speed pin-photodiodes," In *proc. IEEE/LEOS Benelux Chapter 2003* (pp. 149-152). Enschede, The Netherlands.

Publications on electromagnetic:

39. [M. Nikoufard](#), A.Hadidi," Simulation of Electromagnetic Waves in the Plasma Media", 6th ICEE, Vol. 2, PP 43-47, 1998, Tehran, Iran.
40. Master Thesis Titled "Propagation of Electromagnetic Waves in Plasma Media", Teheran, Iran, 1994.

Design, processing and characterization of photonic devices:

1. Design of the complicated optical integrated circuits in the conjunction with microwave considerations and plotting mask layout with ADS and CLEWIN software.
2. Experience in the clean room environment for about 5 years based on InP technology: lithography, PECVD machine for the deposition of SiN, RIE machine, SEM machine, optimization of the processing, etc.
3. Experience with optical and microwave equipments: lightwave component analyzer, vector network analyzer, pulse response setup, BER and eye diagram setup, static and dynamic characterization of SOA, photodetector, AWG, laser, etc.

Academic Activities:

- 1- Researcher at Eindhoven University of Technology, Eindhoven, the Netherlands, Since 2000-2008.
- 2- Lecturer in department of Electronic Eng., Faculty of Eng., Kashan University, Kashan, Iran, 1995-2000 & 2008-now.
- 3- Vice director of Faculty of Eng., Kashan University, 1996-1997.

Academic Honors and Awards:

- 1- Received the best article award in the first National Conference on Optic and Laser, Iran.
- 2- Received the best poster award in the 2nd National Conference on Optic and Laser, Iran.

Computer Software Skills:

Advanced Design Systems (ADS), COMSOL, Matlab, and several photonic software packages (Optiwave, FIMMwave, Olympios, ...), FORTRAN.

Subjects Lectured:

Opto-electronic devices, Design of photonic integrated circuits, Electromagnetics, Communication Circuits, Communication Systems, Basics of Electrical Eng., Advanced Engineering Mathematics, Signals and Systems, Digital Circuits.