Research profile

Ata Chizari was born in Tehran, Iran, in 1990. He received his B.Sc. degree (Hons.) in Electronics from Tafresh University in 2013 and his M.Sc. degree in Communication Systems from Shahid Beheshti University in 2015.
From 2014 to 2016, he served as a Visiting Research Assistant at the Optical Networks Research Laboratory, Sharif University of Technology.
In 2021, he received his Ph.D. degree in Biomedical Optics from the University of Twente, Enschede, The Netherlands, where he carried out his postdoctoral research until 2025.
He is currently a Veni Postdoctoral Fellow at Delft University of Technology.
His research interests include biomedical optics, including laser speckle contrast, laser Doppler, and near-infrared imaging, biomedical signal processing and wearables, optical wireless communications and positioning, and metamaterials.

Qualifications

Doctorate, Handheld laser speckle contrast perfusion imaging, University of Twente
1 Feb 2017 → 30 Apr 2021
Award Date: 14 Oct 2021

Master's degree, Designing A Dimmable OPPM-Based VLC System Under Channel Constraints, Shahid Beheshti University
1 Sept 2013 → 1 Sept 2015
Award Date: 1 Sept 2015

Bachelor's degree, Design and Implementation of a Remote Control Switching Device for Electricity Keys with Capability of Easy Installation, Tafresh University
1 Sept 2009 → 1 Sept 2013
Award Date: 1 Sept 2013

Employment

Optical Technologies

Delft University of Technology

1 Sept 2025 → 31 Aug 2028

Prizes

Best Oral Communication Award in LALS, Nancy, France
Chizari, A. (Recipient), 2 Apr 2022

NWO Talent Programme – Veni
Chizari, A. (Recipient), 17 Jul 2025

Research outputs

Enhanced Optical Sensing Methodology for Wearable Cardiovascular Monitoring: Initial Outcomes
De Bont, M., Knop, T., Fredriksson, I., Steenbergen, W., Bhattacharya, N. & Chizari, A., 2026.

Influence of external contact pressure in reflection mode photoplethysmography: a multidimensional manufacturing approach
Bangari, R., Knop, T., Steenbergen, W., Bhattacharya, N. & Chizari, A., 2026, *Design and Quality for Biomedical Technologies XIX*. Vargas, G. (ed.). SPIE, 5 p. 138400A. (Proceedings of SPIE; vol. 13840).

Methodology for enhanced optical signal acquisition in wearable cardiovascular monitoring: initial findings
De Bont, M., Knop, T., Fredriksson, I., Steenbergen, W., Bhattacharya, N. & Chizari, A., 2026, *Dynamics and Fluctuations in Biomedical Photonics XXIII.* Tuchin, V. V., Leahy, M. J. & Wang, R. K. (eds.). SPIE, 4 p. 138500G. (Proceedings of SPIE - The International Society for Optical Engineering; vol. 13850).

Towards reliable handheld optical microcirculatory blood flow Imaging
Chizari, A., Schaap, M. J., Knop, T., Seyger, M. M. B. & Steenbergen, W., 31 Jan 2025.

Assessing DIEP flap perfusion using handheld wireless laser speckle contrast imaging: A proof of principle study
Rook, A. R. D., Chizari, A., Knop, T., Teunissen, S. E. M., Wijbenga, J. G., Evers, D. J., Steenbergen, W. & Rakhorst, H. A., 2025, In: Journal of Plastic, Reconstructive and Aesthetic Surgery. 106, p. 426-434 9 p.

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Mitigation of Motion Artifacts in Handheld Laser Speckle Contrast Imaging Illustrated on Psoriasis Lesions
Chizari, A., Schaap, M. J., Knop, T., Seyger, M. M. B. & Steenbergen, W., 2025, In: IEEE Transactions on Biomedical Engineering. 72, 1, p. 70-78 9 p.

Multi-spectral optical transmission to investigate the origin of the photoplethysmography signal
Kaya, M., Knop, T., Steenbergen, W. & Chizari, A., 2025.

Handheld wireless laser speckle contrast imaging (LSCI) during DIEP flap breast reconstruction: a pilot study
Rook, A. R. D., Chizari, A., Knop, T., Evers, D. J., Rakhorst, H. A. & Steenbergen, W., 2024, *Optical Diagnostics and Sensing XXIV: Toward Point-of-Care Diagnostics.* Cote, G. L. & Baba, J. S. (eds.). SPIE, 128500B. (Progress in Biomedical Optics and Imaging - Proceedings of SPIE; vol. 12850).

Modelling movement artefacts in handheld laser speckle contrast imaging
Chizari, A., Tsong, W., Knop, T. & Steenbergen, W., 2023, *Dynamics and Fluctuations in Biomedical Photonics XX.* Tuchin, V. V., Leahy, M. J., Wang, R. K. & Zalevsky, Z. (eds.). SPIE, 1237804. (Progress in Biomedical Optics and Imaging - Proceedings of SPIE; vol. 12378).

Prediction of motion artifacts caused by translation in handheld laser speckle contrast imaging
Chizari, A., Tsong, W., Knop, T. & Steenbergen, W., 2023, In: Journal of biomedical optics. 28, 4, 046005.

Speed detection to suppress motion artifacts (MA) in laser speckle contrast imaging (LSCI)
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Modeling movement artefacts in handheld laser speckle contrast perfusion imaging: Influence of wavefront types
Chizari, A., Tsong, W., Knop, T. & Steenbergen, W., 2022, *Dynamics and Fluctuations in Biomedical Photonics XIX.* Tuchin, V. V., Tuchin, V. V., Leahy, M. J. & Wang, R. K. (eds.). SPIE, 1195905. (Progress in Biomedical Optics and Imaging - Proceedings of SPIE; vol. 11959).

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Schaap, M. J., Chizari, A., Knop, T., Groenewoud, H. M. M., van Erp, P. E. J., de Jong, E. M. G. J., Steenbergen, W. & Seyger, M. M. B., 2022, In: Skin Research and Technology. 28, 1, p. 104-110 7 p.

Reliability of handheld laser speckle contrast perfusion imaging demonstrated in psoriasis lesions
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Assessment of flow within developing chicken vasculature and biofabricated vascularized tissues using multimodal imaging techniques
Padmanaban, P., Chizari, A., Knop, T., Zhang, J., Trikalitis, V. D., Koopman, B., Steenbergen, W. & Steenbergen, W., 2021, In: Scientific Reports. 11, 1, 18251.

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Exploration of movement artefacts in handheld laser speckle contrast perfusion imaging
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GOPA: Geometrical Optics Positioning Algorithm Using Spatial Color Coded LEDs (Extended Version)
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Let me Join Two Worlds! Analyzing the Integration of Web and Native Technologies in Hybrid Mobile Apps
Pouryousef, S., Rezaiee, M. & Chizari, A., 2018, *Proceedings - 17th IEEE International Conference on Trust, Security and Privacy in Computing and Communications and 12th IEEE International Conference on Big Data Science and Engineering, Trustcom/BigDataSE 2018.*

Statistical studies of fading in underwater wireless optical channels in the presence of air bubble, temperature, and salinity random variations
Jamali, M. V., Mirani, A., Parsay, A., Abolhassani, B., Nabavi, P., Chizari, A., Khorramshahi, P., Abdollahramezani, S. & Salehi, J. A., 2018, In: IEEE Transactions on Communications. 66, 10, p. 4706-4723

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Vahid Jamali, M., Mirani, A., Parsay, A., Abolhassani, B., Nabavi, P., Chizari, A., Khorramshahi, P., Abdollahramezani, S. & A. Salehi, J., 2018, ArXiv.

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Performance Analysis of Multi-Hop Underwater Wireless Optical Communication Systems
Jamali, M. V., Chizari, A. & Salehi, J. A., 2017, In: IEEE Photonics Technology Letters. 29, 5, p. 462-465

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Dorche, A. E., Abdollahramezani, S., Chizari, A. & Khavasi, A., 2016, In: IEEE Photonics Technology Letters. 28, 22

Designing a dimmable OPPM-based VLC system under channel constraints
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Fazelian, M., AbdollahRamezani, S., Bahrani, S., Chizari, A., Vahid Jamali, M., Khorramshahi, P., Tashakori, A., Shahsavari, S. & A. Salehi, J., 2016, ArXiv.

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Jamali, M. V., Khorramshahi, P., Tashakori, A., Chizari, A., Shahsavari, S., Abdollahramezani, S., Fazelian, M., Bahrani, S. & Salehi, J. A., 2016, *IWCIT 2016 - Iran Workshop on Communication and Information Theory.*

Two Quasi Orthogonal Space-Time Block Codes with Better Performance and Low Complexity Decoder
Lotfi-Rezaabad, A., Talebi, S. & Chizari, A., 2016, ArXiv.