


CURRICULUM VITAE

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Valery V. Tuchin DOB: Feb. 4, 1944	The corresponding member of the Russian Academy of Sciences; Professor, Head of Department, Head of Laboratory, Director of Institute and Science Medical Center, Saratov State University (SSU); tuchinvv@mail.ru		
Education: Univ.	Degree	Year	Field of study
SSU, Saratov, RF	MS	1966	Radiophysics and Electronics
SSU, Saratov, RF	PhD	1974	Optics
SSU, Saratov, RF	Dr. Sci., Phys. & Math.	1982	Quantum Electronics

PROFESSIONAL EXPERIENCE

1966–1982 Engineer, Research Institute of Mechanics and Physics, Saratov State University (SSU), Assistant Professor, Senior Lecturer, Associate Professor, Department of Optics, SSU

1982–1989 Dean of Faculty of Physics, SSU

1983–present Professor, Head of Department of Optics and Biophotonics, SSU

1989–present Head of Laboratory of Laser Diagnostics of Technical and Living Systems, Institute of Precision Mechanics and Control, FRS “Saratov Scientific Centre of the Russian Academy of Sciences”

2000–2015 Director on International Links, CRDF Research-Education center REC-006, “Nonlinear Dynamics and Biophysics,” SSU

2007–present Director of International Research-Educational Center of Optical Technologies for Industry and Medicine “Photonics”, SSU

2011–2014 FiDiPro Professor (Finland Distinguished Professor), University of Oulu, Finland

2014–present Supervisor of Interdisciplinary Laboratory on Biophotonics of Tomsk State University, Tomsk

2017–2020 Supervisor of Laboratory of FemtoMedicine of ITMO University, St.Petersburg

2020–present Director of Science Medical Center of SSU

PROFESSIONAL ACTIVITIES

Chairman of the Council Committee at SSU for the defense of doctoral dissertations in the field of optics and biophysics (physical and mathematical sciences).

Member of the Academic Council of SSU

Member of the Council of the Institute of Physics of SSU

Member of the Academic Council of the Institute of Precision Mechanics and Control of the Federal State Budgetary Institution Federal Research Center "Saratov Scientific Center of the Russian Academy of Sciences"

Member of the international council of the scientific and educational school "Photon and quantum technologies. Digital Medicine" Moscow State University named after M.V. Lomonosov

Member of the expert council of the special economic zone of technology-innovation type, created in the territories of the Engelsky, Balakovskiy municipal districts and the municipal formation "City of Saratov" of the Saratov region

Vice-President of the Russian Photobiological Society (2005 to present).

Member of SPIE, OSA, and IEEE

Editor-in-Chief of *J. Biomedical Photonics & Engineering*

Editor-in-Chief of *The Open Biomedical Engineering Journal*

Editor-in-Chief on *Optics and Photonics of MDPI Journal Materials*

Topical Editor/ Senior Advisory Editor of *Journal of Biomedical Optics*

Associated-Ed.-in-Chief/Member of Advisory Board of *J. Innovative Optical Health Sciences*

Deputy Editor-in-Chief of the *News of Saratov University. Ser. Physics*

Member of Advisory Board of *Quantum Electronics; Laser Medicine.*

International Advisory Board member of *Phys. Med. Biology* (2013-2016)

Member of Editorial Board of *J. of Biophotonics; Translational Biophotonics; Izvestiya VUZ Applied Nonlinear Dynamics; Optics and Spectroscopy; Letters to Journal of Technical Physics; Journal of Technical Physics; J. of X-Ray Science and Technology – Clinical Applications of Diagnosis and Therapeutics; Journal of Applied Scientific Reports; Light: Advanced Manufacturing (LAM); Current Pharmaceutical Biotechnology; Frontiers of Optoelectronics.*

Guest or associated editor of *Phys. Med. Biol., Medical Physics, Cytometry A, Biomed. Opt. Express., JIOHS, J. of Applied Nonlinear Dynamics, J. of Biomedical Optics, J. of Biophotonics, J. of X-Ray Science and Technology – Clinical Applications of Diagnosis and Therapeutics, Adv. Opt. Technol., Medical Laser Application., Journal of Physics: Conference Series, Quantum Electronics, Optics and Spectroscopy, Photon. Lasers Med., IEEE J. Selected Topics in Quantum Electronics, Materials, Optical Engineering, JBPE, Light: Applications and Science.*

Reviewer of peer-reviewed journals: *Science, Science Advances, Nature Communications, Science Translational Medicine, Nature Protocols, Nature Scientific Reports, Opt. Communications, Optics Letters, Optics Express, Biomed. Opt. Express, Applied Optics, JOSA, J. of Biomedical Optics, J. Biophotonics, Laser Surgery and Medicine, Applied Physics, IEEE J. of Selected Topics in Quantum Electronics, Physics in Medicine and Biology, Optics and Spectroscopy, Quantum Electronics, J. of Applied Nonlinear Dynamics, Optics & Laser in Engineering (Singapore), International Journal of Spectroscopy, Laser Photonics Rev., Light: Applications and Science, PLoS ONE etc.*

Member of International Advisory and Executive Organizing Committees:

1. SPIE BIOS Symposium of Photonics West Symposia, USA (1997-2024);
2. SPIE Photonics Europe (2008-2024);
3. Member of Council Committee of SPIE Russian Chapter (1992-2004);
4. Has been a Member of SPIE Symposia Committee;
5. Has been a Member of SPIE Publication Committee;
6. Has been a Member of SPIE European President Appointed Advisory Committee;
7. Member/Chair of OSA Robert E. Hopkins Leadership Award Committee (2017/2018).
8. Member of OSA/SPIE Joseph W. Goodman Book Writing Award Committee (2018/2024)
9. Node Leader of Biophotonics4Life Worldwide Consortium (BP4L).
10. Member of the Board of Consortium Photonics4Life of the 7th Framework Programme
11. Member of Photonics21 – The European Technology Platform, Work Groups 3 and 7
12. Member of Russian Federation Technology Platform “Photonics”, Work Group on Biophotonics
13. Member of Russian Federation Technology Platform “Medicine of Future”, Work Group on International Links
14. Member of EPIC Biophotonics Committee, EPIC – European Photonics Industry Consortium
15. Member of the International Advisory Board, Britton Chance Center for Biomedical Photonics, Huazhong University of Science and Technology (HUST) (2013-2015).
16. Member of Advisory Board of School of Engineering Sciences, Wuhan National Laboratory for Optoelectronics, Huazhong University of Science and Technology (HUST) (2014-2019).
17. Member of the working group on Biological and Medical Sciences of Committee for Evaluation of Research Infrastructures for Inclusion in a National Roadmap of Germany (2016).
18. Expert of Israel Science Foundation (3 Projects).
19. Expert of European Union projects in the 7th Framework Programme and Horizon 2020
20. Expert of SFI Research Professorship Programme, Science Foundation of Ireland
21. Member of the Subcommittee “Thermal Medicine” of American Society of Mechanical Engineers (since 2020).
22. The H2020 Project “(AMPLITUDE – Advanced Multimodal Photonics Laser Imaging Tool for Urothelial Diagnosis and Endoscopy [Grant Agreement: 871277] (2020-2023).

Founder and co-Founder, Chair and co-Chair of International conferences

Founder and co-Founder, Chair and co-Chair of 9 International conferences; member of Advisory and Organizing Committees of more than 20 International Conferences. Since **1987** has organized more than **50** International Meetings in Russia, USA, China and Europe, and done more than **200** plenary and invited lectures.

1. Saratov Fall Meeting (Chair: V.V. Tuchin) (1996-2024).
2. Optical Coherence Tomography and Coherence Domain Optical Methods in Biomedicine, SPIE, Photonics West, USA (Chairs: V.V. Tuchin, J.G. Fujimoto, J.A. Izatt) (1997-2019).
3. Dynamics and Fluctuations in Biomedical Photonics, SPIE, Photonics West, USA (Chairs: V.V. Tuchin, M.J. Leahy, R.K. Wang) (2005-2025).
4. International Conference on Photonics and Imaging in Biology and Medicine (PIBM), (Chairs: Q. Luo, L.V. Wang, V.V. Tuchin), China (2001-2024).

5. Biophotonics: Photonic Solutions for Better Health Care, SPIE Photonics Europe (Chairs: J.Popp, W. Drexler, V.V. Tuchin, D.L. Matthews, F. Pavone) (2008-2018).
6. Biophotonics, Programme track (Chairs: J.Popp, S. Gioux, V.V. Tuchin), SPIE Photonics Europe, Strasburg, France, 2020, 2022.
7. Tissue Optics and Photonics (Chairs: V.V. Tuchin, W.C. P. M. Blondel, Z. Zalevsky, SPIE Photonics Europe, Strasburg, France, 2020, 2022, 2024, 2026).
8. Honorary co-chair of OPORTO 22 – 1st Spring Biophotonics Conference in Porto (Chairs: Luis Oliveira and Igor Meglinski) <https://stemm.tech/oporto22/>
9. International Symposium FLAMN-22, Fundamentals of Laser Assisted Micro- & Nanotechnologies, June 27 - 30, 2022, St. Petersburg, Russia, The 3rd International Scientific School “Biomedical Laser Technologies” (S02) (Chairs: Andrey Belikov, Valery Tuchin, Vadim Veiko); <https://flamn.itmo.ru/>
10. Chinese-Russian Workshop on Biophotonics and Biomedical Optics (Chairs: Dam Zhu and Valery V. Tuchin) (2006-2024), Saratov, Wuhan, Samara, Hainan.
11. BRICS Workshop on Biophotonics (Chairs: Valery V. Tuchin, Qingming Luo, Vanderlei Salvador Bagnato, Santhosh Chidangil, Heidi Abrahamse) (2019-2024), Saratov, Manipal.

Advisory Board and Program Committee member

1. BIOS Symposium of Photonics West Symposia, CIHA (1997-2024)
2. International Conference Laser Applications in Life Sciences (2010-2024)
3. International Photonics and OptoElectronics Meetings (POEM), Wuhan, China
4. The Conference on Laser Surgery and Medicine 2012 (CLSM 2012), Yokohama, Japan, on April 25–27, 2012
5. 4th International Conference “Smart Materials, Structures and Systems” CIMTEC 2012, Montecatini Terme, Italy, June 10 to 15, 2012
6. The H2020 Project “(AMPLITUDE – Advanced Multimodal Photonics Laser Imaging Tool for Urothelial Diagnosis and Endoscopy [Grant Agreement: 871277] (2020-2023).
7. The 9th International Conference on Perspectives in Vibrational Spectroscopy (<https://icopvs2022.in/>), Indore, India, December 13-17, 2022.
8. The 2nd Edition of the International Conference on Nanoscience and Photonics for Medical Application (ICNPMA-2022, 28-30th Dec. 2022).
9. International Conference on Advanced Laser Technologies (2005-2024), Annual, September.
10. International Conference on Nanoscience and Photonics for Medical Applications – ICNPMA”, Manipal Academy of Higher Education, Manipal, India (28-30th December, 2019, 2022); <https://conference.manipal.edu/icnpma2019/Default> .
11. Biophotonics and Imaging Graduate Summer School (BIGSS 2020), *National University of Ireland, Galway*, 25-29 August 2020, Digital Forum. <https://optics.org/events/2020/895>
12. The 8th International Conference on Photonics, Optics and Laser Technology - PHOTOPTICS 2020, 27 - 29 February, 2020 - Valletta, Malta. <http://www.photoptics.org/Biophotonics.aspx?y=2020>
13. **Moderator** of Seeing Through Tissue, JBO Webinar Series, Hot Topics in Biomedical Optics.
14. Member of Organizing Committee of SPIE Poincaré Webinar Series on Optical Polarization and Related Phenomena. <https://groups.google.com/g/the-henri-poincare-webinar-series?pli=1>
15. The 3rd International Conference “Biophotonics Riga – 2020”, 24-25 August, 2020, Riga.

16. The 4-th International Conference Terahertz and Microwave Radiation: Generation, Detection and Applications (TERA), August 24-26, 2020, Tomsk. <http://tera2020.tsu.ru/>
17. VII Троицкая конференция с международным участием "Медицинская физика" (ТКМФ-7), 19–21 октября 2020 г. <http://www.medphys.troitsk.ru/>
18. ICLO, St. Petersburg, November 2-6, 2020, <https://laseroptics.ru/general-information.html>
19. XII Международная конференция “Фундаментальные проблемы оптики” ФПО-2020, Санкт-Петербург, 19- 23 октября 2020 года.
20. SPIE Photonics Asia Conferences, Optics in Health Care and Biomedical Optics X (PA110), 11 - 13 October 2020, Beijing International Convention Center, Beijing, China
21. The International Conference on Spectroscopic Ellipsometry (ICSE), May 22-28, 2022, South Tower of Junefield Plaza, Beijing, China; <http://www.icse-9.com/En/Menu/11a22a2d-bb5e-4e6a-a1db-ee1f6680e3fa>
22. International Symposium Fundamentals of Laser Assisted Micro- & Nanotechnologies (FLAMN-22), June 27 - 30, 2022, St. Petersburg, Russia <https://flamn.itmo.ru/>
23. 25th Congress of the International Commission for Optics (ICO) and 16th Conference of International Society on Optics Within Life Sciences (OWLS), 5 - 9 September 2022; Program Committee Subcommittee Chair on Biomedical Optics <https://ico25.org/?s=program-committee-subcommittees>
24. Asia Communications and Photonics Conference/2023 International Photonics and Optoelectronics Meetings (ACP/POEM), Wuhan, November 4-7, 2023.
25. Label-free Biomedical Imaging and Sensing (LBIS) 2025 (Chairs: [Natan T. Shaked](#), Tel Aviv Univ. (Israel), [Oliver Hayden](#) Technische Univ. München (Germany)), Conference BO508, SPIE Photonics West, 25 - 30 January 2025, San Francisco, California, US.
26. Optical Coherence Tomography and Coherence Domain Optical Methods in Biomedicine, SPIE Photonics West, US (Chairs: J.G. Fujimoto, J.A. Izatt) (2020-2025), 25 - 30 January 2025, San Francisco, California, US.
27. Photonics Asia: Optics in Health Care and Biomedical Optics XIV, 12–14 October 2024, Nantong, Jiangsu, China (PA111) www.spie.org/pa111call

AWARDS

The recipient of the **2007 SPIE Educator Award** in recognition of his unparalleled global contributions to education and dissemination of technical information in the field of biomedical optics and biophotonics, and his pioneering work for SPIE's biomedical optics educational programs. <http://spie.org/x15039.xml>

In **2016** was awarded by the biennial **Joseph W. Goodman Book Writing Award, OSA/SPIE** for *Tissue Optics: Light Scattering Methods and Instruments for Medical Diagnostics*, 3rd edition, **PM 254**, SPIE Press, Bellingham, WA, 2015, that recognizes a recent and outstanding book in the field of optics and photonics that has contributed significantly to research, teaching, and the optics and photonics industry. http://www.osa.org/en-us/awards_and_grants/awards/award_description/goodmanbookaward/ (**2860** citations).

In **2019** was awarded by OSA Michael S. Feld Biophotonics Award for pioneering research in biophotonics, particularly in the field of tissue optics and tissue optical clearing, and for promoting biophotonics by educating future researchers through seminal monographs and reviews. https://www.osa.org/en-us/awards_and_grants/awards/award_description/michaelsfeld/

The recipient of the Russian Federation individual grants for the leading scientists, **1994-2003**; the Russian Federation Presidential grants NN 25.2003.2, 208.2008.2, 1177.2012.2, 703.2014.2, and 7898.2016.2 “Supporting of Scientific Schools” (**1996-2017**); the Russian Ministry of Science and Education grant “Leading Research-Educational Teams” N 2.11.03 (**2003-2014**); George Soros Professor awards (**1997-1999**).

Professor **Tuchin** is the recipient of Award of International Academic Publishing Company “Nauka” for the best article: A collection of papers on Biomedical Optics published in “Optics and Spectroscopy” (**2011**); Chime Bell Prize of Hubei Province, China (**2014**), in appreciation of the positive contribution to the economic and social development in Hubei Province; and the NANQIANG Life Science Series Lectures Award of Xiamen University, China (**2016**).

In **2012**, the book V.V. Tuchin, *Lasers and Fiber Optics in Biomedical Science*, 2nd edition, Fizmatlit, Moscow, 2010, was awarded by a certificate as the top publication on tutorials, handbooks and scientific-popular publications on laser topic by the Russian Laser Association and nominated by industrial enterprise.

Laureate of the National Award “Professor of the Year” in the category “Physical and Mathematical Sciences” (**2023**).

Short-term visiting professorships (**1990–2023**) at universities and companies in the USA (36), Europe (21), Japan (4), China (15), South Korea (4), Singapore and Brazil, including Wellman Laboratories in 2002 (MGH Photomedicine Lecture Series), Rose-Hulman Institute of Technology 2007 (Indiana, USA), University of Science and Technology (HUST), Wuhan, China, 2012, 2016, 2017, 2023; University of Oulu, Finland, 2011-2014, 2019; India (4 universities) 2020; Hainan University, Sanya, China (2023), Academy of Sciences of Armenia, Yerevan, Armenia (2023).

HONORS

The corresponding member of the **Russian Academy of Sciences (2019)**; Honored Science Worker of the Russian Federation (**1999**); Honored Professor of SSU, The active member of the International Academy of Informatization (**1994**) and Academy of Natural Sciences (**1996**). Medal for Labor (**1976**); Order of the Red Banner of Labor (**1986**); Order of Friendship (**2005**).

SPIE Fellow (**2004**); OSA (OPTICA) Fellow (**2016**).

Finland Distinguished Professor (FiDiPro Professor), awarded by TEKES (**2011-2014**).

In **2018** was awarded by the Medal of D.S. Rozhdestvensky of the Optical Society named after D.S. Rozhdestvensky, in **2021** by the Medal of A.M. Prokhorov of the Academy of Engineering Sciences named after A.M. Prokhorov, and in **2022** by the Medal of S.I. Vavilov of the Optical Society named after D.S. Rozhdestvensky, Jubilee medal “300 years of the Russian Academy of Sciences” (**2024**).

Guest Professor of HUST (Wuhan) and Tianjin Universities of China; Adjunct Professor of the Limerick University (Ireland) and National University of Ireland (Galway).

Special issue in honor of Professor **Valery V Tuchin’s** contribution to the field of biomedical optics, Eds. R.K. Wang, A.V. Priezhev and S. Fantini, *J. Phys. D: Appl. Phys.*, vol. 38, **2005**, pp.

2497-2747; Special issues on Laser Biophotonics, dedicated to the 70th anniversary of **V.V. Tuchin**, Eds. A.V. Priezzhev, A.N. Bashkatov, E.A. Genina, *Quantum Electronics*, **44** (7 & 8), **2014**; In Honor of **Valery V. Tuchin's** 70th Birthday, Ed. K. Larin, *J. Biophotonics*, **8** (4), **2015**; Celebrating Prof. **Valery Tuchin's** 70th Birthday, Eds. K. V. Larin and D. Zhu, *J. Innovative Optical Health Sciences* **8** (4), **2015**; Special issue (33 papers) dedicated to Prof. **Valery V. Tuchin**: Recent progress in optical probing and manipulation of tissue, Eds. K.V. Larin, D. Zhu, A. Priezzhev, and D.D. Sampson, *Biomed. Opt. Express* (**10**(9), **2019**): “a comprehensive overview of current research in tissue optics, much of it inspired and informed by the pioneering work of Prof. Valery Tuchin”; A special issue on Biophotonics dedicated to Prof. **Valery V. Tuchin**, Ed. N. Ghosh, *Asian Journal of Physics* **29** (1 & 2), **2020**, pp.1-128.

Letter of gratitude from the President of the RF for his contribution to the development of regional science, many years of fruitful activity and in connection with the 300th anniversary of the founding of the Russian Academy of Sciences (**2024**).

RESEARCH INTERESTS

Biophotonics, biological and medical physics, tissue optics, tissue optical clearing, nanobiophotonics, speckle optics, OCT, polycapillary optics and photonic crystals, laser spectroscopy and imaging in biomedicine, nonlinear dynamics of optical and biological systems, optical and laser measurements, blood flow measurements.

TEACHING EXPERIENCE

He trained **12** doctors of science and **41** candidates of science, delivered over 100 short courses and educational lectures for Russian and international audiences (in over 20 countries) on Optics and Spectroscopy of Tissues and Biophotonics.

Short-course instructor for PhD students, teachers, employees of companies and medical professionals (**1991-2023**) within the educational programs of SPIE, OSA, Optical Societies of Russia and China, the most recent: Greece (2015), UK (2016), Lithuania (2017), Latvia (2017), Italy (2018), Germany (2015, 2018, 2019, 2021), USA (2015, 2016, 2018, 2020), Israel (2015, 2016, 2018), France (2017, 2018), Poland (2016), Spain (2017, 2018), Finland (2019), Republic of Korea (2016, 2017), Macau (2016), China (2016-2018), Japan (2016), Brazil (2019), India (2020), Switzerland (2020), Perm (Russia)(2021), Iran (2021, 2022, 2023), Turkey (2022), Mexico (2023), Armenia (2023).

Lecturing in SSU: General course of physics - Optics; special courses for undergraduate, MS and PhD students: Introduction to specialty - Biophotonics, Tissue Optics, Medical Lasers and Fiber Optics, Microstructured Optical Fibers for Medicine, Optical Measurements in Biomedicine, Optical Cytometry, Microspectral Analysis for Biomedicine.

PUBLICATIONS

Author or editor of over **37** monographs and textbooks, **91** book chapters, **64** special issues of journals, **100** proceedings, **35** tutorials, 75 patents of RF, Belarus, USA, and Portugal, and **1500** scientific papers and analytical reviews, h-index is **88** (Google Scholar), **66** (Scopus) and **57** (WoS) with over 40,000 citations.

Google Sch. (19.05.2024) <https://scholar.google.com/citations?user=wkUfJAYAAAAJ&hl=en>

Number of publications (since 2019)	Number of citations (since 2019)	h-index (since 2019)	Mean number of citations per paper (since 2019)	Mean number of citations per year (since 2019)
1804 (550)	40831 (17599)	88 (57)	18.8 (28.4)	1007.4 (2832.6)

Scopus (19.05.2024) <https://www.scopus.com/authid/detail.uri?authorId=36048347000>

Number of publications	Number of citations	h-index	Mean number of citations per paper	Mean number of citations per year
1374	22220	66	13.9	598.3

WoS CC (19.05.2024) <https://publons.com/researcher/1353614/valery-v-tuchin/metrics/>

Number of publications	Number of citations	h-index	Mean number of citations per paper	Mean number of citations per year
1179	16394	57	12.5	289.3

MOST CITED PAPERS AND BOOKS:

V.V. Tuchin, *Tissue Optics: Light Scattering Methods and Instruments for Medical Diagnostics*, 3rd ed., **PM 254**, SPIE Press, Bellingham, WA, 2015– 988 p. (**2889** citations).

A.N. Bashkatov, E.A. Genina, V.I. Kochubey, **V.V. Tuchin**. Optical properties of human skin, subcutaneous and mucous tissues in the wavelength range from 400 to 2000 nm, *J. Phys. D: Appl. Phys.* **38**, 2543-2555 (2005) (**2011** citations, **17741** downloads); in a shortlist of the 12 most important papers published in *J.Phys, D*, one of the most influential papers published last 50 years (IOP).

J.T. Alander, I. Kaartinen, A. Laakso, T. Pätilä, T. Spillmann, **V. V. Tuchin**, et al., A Review of Indocyanine Green Fluorescent Imaging in Surgery, *Int. J. Biomed. Imaging*, 2012, 940585, 26 p. (**69749** views, **15955** downloads, **1384** citations in Google Scholar). <https://doi.org/10.1155/2012/940585>

A.N. Bashkatov, E.A. Genina, and **V.V. Tuchin**, Optical properties of skin, subcutaneous, and muscle tissues: a review, *J. Innov. Opt. Health Sci.* **4**(1), 9–38 (**2011**) (**929** citations).

V.V. Tuchin (Ed.), *Handbook of Optical Biomedical Diagnostics. Light-Tissue Interaction*, vol.1, 2nd ed., SPIE Press **PM262**, Bellingham, WA, USA, 2016 – 864 p. *Methods*, vol.2, 2nd ed., SPIE Press **PM263**, Bellingham, WA, USA, 2016 – 688 p. (**877** citations).

V.V. Tuchin, I.L. Maksimova, D.A. Zimnyakov, I. L. Kon, A. H. Mavlutov, and A. A. Mishin, “Light propagation in tissues with controlled optical properties,” *J. Biomed. Opt.* **2**(4), pp.304-321, 1997 (**612** citations).

B Khlebtsov, V Zharov, A Melnikov, V Tuchin, N Khlebtsov, Optical amplification of photothermal therapy with gold nanoparticles and nanoclusters, *Nanotechnology* **17** (20), 5167, 2006 (**514** citations).

Dan Zhu, Kirill V. Larin, Qingming Luo, and Valery V. Tuchin, Recent progress in tissue optical clearing, *Laser Photonics Rev.* **7**, No. 5, 732–757 (2013) (**515** citations).

Tuchin, V.V. (ed.) *Coherent-Domain Optical Methods: Biomedical Diagnostics, Environmental Monitoring and Material Science*, vols. 1&2, Second edition. Berlin, Heidelberg, N.Y.: Springer-Verlag, 2013, over **71000** downloads on SpringerLink to 17.05.2024.

V.V. Tuchin, *Optical Clearing of Tissues and Blood*, **PM 154**, SPIE Press, Bellingham, WA, 2005 – 254 p. <https://spie.org/Publications/Book/637760?SSO=1> (**504** citations).

V.V. Tuchin, L. Wang, and D.A. Zimnyakov, *Optical Polarization in Biomedical Applications*, Springer-Verlag, Berlin, Heidelberg, N.Y., 2006 - 275 p. (**443** citations).

SELECTED BOOKS

1. A.V. Priezzhev, V.V. Tuchin, and L.P. Shubochkin, *Laser Diagnostics in Biology and Medicine*, Moscow, Nauka, 1989. 238 p.
2. V.V. Tuchin (Ed.), *Tissue Optics: Applications in Medical Diagnostics and Therapy*, Book of selected papers, SPIE Milestone Series **MS 102**, Bellingham, WA, USA, 1994.
3. V.V. Tuchin, *Tissue Optics: Light Scattering Methods and Instruments for Medical Diagnosis*, SPIE Tutorial Texts in Optical Engineering **TT38**, Bellingham, WA, USA, 2000.
4. V.V. Tuchin (Ed.), *Handbook of Optical Biomedical Diagnostics*, SPIE Press **PM107**, Bellingham, WA, USA, 2002 – 1093 pp.
5. B. Wilson, V. Tuchin, S. Tanev, Eds., *Advances in Biophotonics*, NATO Science Series I. Life and Behavioural Sciences – Vol. 369, IOS Press, Amsterdam, 2005, 283 p.
6. V.V. Tuchin, *Optical Clearing of Tissues and Blood*, **PM 154**, SPIE Press, Bellingham, WA, 2005 – 254 p.
7. V.V. Tuchin, L. Wang, and D.A. Zimnyakov, *Optical Polarization in Biomedical Applications*, Springer-Verlag, Berlin, Heidelberg, N.Y., 2006 - 275 p.
8. V.V. Tuchin (ed.), *Handbook of Optical Sensing of Glucose in Biological Fluids and Tissues*, CRC Press, Taylor & Francis Group, London, 2009 – 709 p.
9. V.V. Tuchin, *Lasers and Fiber Optics in Biomedical Science*, 2nd ed., Fizmatlit, Moscow, 2010 – 488 p.
10. Valery V. Tuchin (ed.), *Handbook of Photonics for Biomedical Science*, CRC Press, Taylor & Francis Group, London, 2010 – 815 p.
11. V.V. Tuchin (ed.), *Advanced Optical Flow Cytometry: Methods and Disease Diagnoses*, WILEY-VCH Verlag GmbH & Co. KGaA, Weinheim, 2011 – 701 p.
12. J. Popp, V.V. Tuchin, A. Chiou, and S.H. Heinemann (Eds.), *Handbook of Biophotonics*, vol.1: *Basics and Techniques*, WILEY-VCH Verlag GmbH & Co. KGaA, Weinheim, 2011- 665 p.
13. J. Popp, V.V. Tuchin, A. Chiou, and S.H. Heinemann (Eds.), *Handbook of Biophotonics*, vol. 2: *Photonics for Health Care*, WILEY-VCH Verlag GmbH & Co. KGaA, Weinheim, 2013 – 1131 p.

14. J. Popp, V.V. Tuchin, A. Chiou, and S.H. Heinemann (Eds.), *Handbook of Biophotonics*, vol. 3: *Photonics in Pharmaceutics, Bioanalysis and Environmental Research*, WILEY-VCH Verlag GmbH & Co. KGaA, Weinheim, 2012, 304 p.
15. V.V. Tuchin, *Dictionary of Biomedical Optics and Biophotonics*, SPIE Press, Bellingham, WA, 2012 – 576 p.
16. Tuchin, V.V. (Ed.) *Coherent-Domain Optical Methods: Biomedical Diagnostics, Environmental Monitoring and Material Science*. V. 1-2, 661+669 p., 2nd ed., Springer Reference, Science + Business Media, NY (2013), more than **60000** chapter downloads.
17. R.K. Wang and V.V. Tuchin, eds, *Advanced Biophotonics: Tissue Optical Sectioning*, CRC Press, Taylor & Francis Group, London, 2013 – 681p.
18. V.V. Tuchin, *Tissue Optics: Light Scattering Methods and Instruments for Medical Diagnostics*, 3rd ed., **PM 254**, SPIE Press, Bellingham, WA, 2015– 988 p. (**2630** citations)
19. V.V. Tuchin (Ed.), *Handbook of Optical Biomedical Diagnostics. Light-Tissue Interaction*, vol.1, 2nd ed., SPIE Press **PM262**, Bellingham, WA, USA, 2016 – 864 p.
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1. V. Tuchin, Creation and improvement of tissue optical windows for laser probing and treatment using immersion optical clearing, The 25th International Conference on Advanced Laser Technologies (ALT'17), September 10-15, 2017, Busan, Korea (invited).
2. V.Tuchin, Tissue Optical Clearing/Contrasting for Image Enhancement in the Ultra-Broad Wavelength Range, Asia Communications and Photonics Conference (ACP), November 10-13, 2017, Guangzhou, China (invited).
3. V.V. Tuchin, Optical clearing as a promising technology for *in vivo* laser diagnostics and treatment of hidden pathologies, Advanced Laser Technologies (ALT'18), September 09-14, 2018, Tarragona, Spain (plenary).
4. V.Tuchin, Tissue optical clearing as a platform for *in vivo* optical imaging and treatment of hidden pathologies: from UV to terahertz, Int. Conference on Laser Applications in Life Sciences (LALS), November 18-20, 2018, Bar-Ilan University, Israel (plenary).
5. V. Tuchin, Tissue optics and optical clearing for functional imaging, 30th International SAOT Workshop, Functional Optical Imaging in Medical Engineering, November 29 – 30, 2018, Friedrich-Alexander Universität Erlangen-Nürnberg, Germany (plenary).
6. V. Tuchin, Optical clearing of tissues in a broad spectral range from UV to THz, International Conference on Bio Sensing and Imaging (ICOBSI), Dec. 17-19, 2018, Florence (plenary).
7. V.Tuchin, Advances in tissue optical clearing: towards broadband multimodal imaging techniques and *in vivo* applications, The VII International Symposium "Topical Problems of Biophotonics – 2019" (TPB-2019), July, 27-31 2019, Nizhny Novgorod (invited).

8. V.V. Tuchin, “Tissue optical clearing aiming multimodal imaging: moving from *in vitro* to *in vivo*”, The VIII International Conference on Perspectives in Vibrational Spectroscopy (ICOPVS-2020)), Bangalore, India, Feb.24-28, 2020 (plenary).
9. V. Tuchin, Towards multimodal tissue imaging with optical clearing, Frontiers in Photonics Science & Technology 2021, A Virtual Symposium hosted by the Fitzpatrick Institute for Photonics, May 16-18, 2021 (plenary)
10. V.V. Tuchin, S.V. Zar’kov, Yu.A. Avetisyan, A.N. Yakunin, I.G. Meerovich, D.Fixler, A.P. Savitsky, The fluorescent protein/plasmon nanoparticle complexes as multimodal optical sensors, 7-9 June 2021, Photonics Days Israel, online event (invited).
11. V.V. Tuchin, Advances in tissue optical clearing for laser diagnostics and treatment, B-I-32 The 28th International Conference on Advanced Laser Technologies, September 06-10, 2021, Moscow, Russia (invited).
12. Valery V. Tuchin, Optical Clearing as a Tool for Multimodal Tissue Imaging, BRICS Workshop on Biophotonics -2021, September 27–29, 2021, Saratov, Russia (invited).
13. V.V. Tuchin, Optical Clearing of Tissues: Benefits and challenges, International School of Lasers and Biomedical Photonics, LBMP2021 Online, October 9-11, Tehran 2021(invited).
14. V.V. Tuchin, Multimodal tissue imaging supported by optical clearing, Asia Communications and Photonics Conference (ACP) 2021, 24-27 October 2021, Pudong Shangri-La Hotel, Shanghai, China (invited).
15. V.V. Tuchin, New perspectives in laser medicine Russian Science and Technology Innovation Matchmaking Meeting, Thursday, November 4, 2021, Dingxiang Hall, East Lake International Conference Center, Department of Science and Technology of Hubei Province (invited).
16. V. V. Tuchin, Optical clearing of tissues as a new approach in antimicrobial and antifungal phototherapy, VIII International Symposium on Coherent Optical Radiation of Semiconductor Compounds and Structures, FI RAS, Moscow Nov. 23-25, 2021, Invited
17. V.V. Tuchin, Analytical biophotonics based on optical clearing of tissues and instrumental multimodality, 15th International Conference on Photonics and Imaging in Biology and Medicine (PIBM 2021), December 2-4, 2021, Hainan University, Haikou, China (plenary)
18. V.V. Tuchin, Advances and prospects of multimodal biomedical imaging and treatment based on tissue optical clearing, 6th West-Lake Photonics Symposium (WPS), Dec. 10, 2021, Zhejiang University, Hangzhou, P.R.China (keynote).
19. V.V. Tuchin, “Transparency windows and optical clearing of biological tissues: issues of medical diagnostics and phototherapy”, Scientific session of the General Meeting of the Physical Sciences Department of the Russian Academy of Sciences, Moscow, December 13, 2021 (invited).
20. Valery Tuchin, Towards multimodal tissue imaging with optical clearing, International Day of Light, Symposium on Photonics Science and Technology 2021, Fitzpatrick Institute for Photonics (FIP) Annual Meeting, May 16-18, 2021, Duke University, Durham, NC (Plenary lecture).
<https://www.youtube.com/watch?v=OXXaK-G4-HM>
<https://fitzpatrick.duke.edu/2021-fip-symposium-frontiers-photonics>
21. Valery Tuchin, Multimodal MRT/CT/optical tissue imaging, AspectImaging Inc. The Pre-clinical Webinar Series Program, featured speaker, July 13, 2021.
https://twitter.com/Aspect_imaging/status/1407820773688029187/photo/1 (Invited lecture).

22. Valery Tuchin, Optical clearing methods in the Biophotonics field and its possibilities for translation into clinical application, LIFE-Seminar R&D to get a view beyond your horizon, University of Munich, July 26, 2021 uni-muenchen.de/LIFE-Zentrum (Invited lecture).
23. Valery V. Tuchin, Optical Clearing of Tissues for the Improvement of Laser Medical Technologies, 3rd International Conference on Light and Light-based Technologies (ICLLT-22), Ankara, Turkey, 25-27 May, 2022 (invited).
24. I. Carneiro, S. Carvalho, R. Enrique, A.R. Botelho, H. Silva, I. Martins, L. Oliveira, and V. Tuchin, Measurement of optical properties of human kidney from the deep-UV to NIR, [16th International conference on Laser Applications in Life Sciences](#), 1st -2nd April 2022, Nancy (France), Abstracts Book, p. 81 (2022) (invited).
25. E.A. Genina, V.D. Genin, E.A. Kolesnikova, S.M. Zaytsev, Y.I. Surkov, I.A. Serebryakova, V.V. Tuchin, Advanced approaches to skin *in vivo* optical clearing, [16th International conference on Laser Applications in Life Sciences](#), 1st -2nd April 2022, Nancy (France), Scientific Program, p. 14 (2022) (invited).
26. Isa Carneiro, Sónia Carvalho, Rui Enrique, Ana Rita Botelho, Hugo Silva, Inês Martins, Luís Oliveira and Valery Tuchin, Measurement of optical properties of human kidney from the deep-UV to NIR, [16th International conference on Laser Applications in Life Sciences](#), 1st -2nd April 2022, Nancy (France), Scientific Program, p. 9 (2022) (invited).
27. Valery V. Tuchin, Optical clearing of tissues: Issues of diagnostics, phototherapy, and monitoring of implants, OPORTO 22 – 1st Spring Biophotonics Conference in Porto, April, 20-23, 2022 (keynote - online).
28. L.M. Oliveira, T.M. Gonçalves, A.R. Botelho, I.S. Martins, H.F. Silva, I. Carneiro, S. Carvalho, R. Henrique, V.V. Tuchin, Spectroscopic detection of pigments in tissues: correlation with tissue aging and cancer development (Invited paper), # TuSYB-12, 7th International A. M. Prokhorov Symposium on Biophotonics, 20th International Conference Laser Optics ICLO 2022, St. Petersburg, Russia, 20—24 June, 2022 (invited).
29. I.S. Martins, M.R. Pinheiro, H.F. Silva, V.V. Tuchin, L.M. Oliveira, Evaluation of OCA diffusivity in tissues through diffuse reflection spectroscopy (Invited paper), # WeSYB-22, 7th International A. M. Prokhorov Symposium on Biophotonics, 20th International Conference Laser Optics ICLO 2022, St. Petersburg, Russia, 20—24 June, 2022 (invited).
30. H.F. Silva, D.S. Teixeira, I.S. Martins, V.V. Tuchin, L.M. Oliveira, Evaluation of optical clearing potential of natural oils and gels (Invited paper), #WeSYB-26, International A. M. Prokhorov Symposium on Biophotonics, 20th International Conference Laser Optics ICLO 2022, St. Petersburg, Russia, 20—24 June, 2022 (invited).
31. I.D. Solovyev, N.I. Kazachkina, V.V. Zherdeva, I.G. Meerovich, D.K. Tuchina, A.A. Bogdanov Jr., V.V. Tuchin, A.P. Savitsky, Simultaneous measurement of fluorescent and magnetic resonance 3D images (Invited paper), # WeSYB-21, International A. M. Prokhorov Symposium on Biophotonics, 20th International Conference Laser Optics ICLO 2022, St. Petersburg, Russia, 20—24 June, 2022 (invited).
32. V.V. Tuchin, Tissue optical clearing opens new avenues for laser technologies in medicine, PL-3, International Symposium Fundamentals of Laser Assisted Micro- & Nanotechnologies (FLAMN-22), June 27 - 30, 2022, St. Petersburg, Russia (plenary).
33. N.V. Chernomyrdin, M. Skorobogatiy, V.V. Tuchin, K.I. Zaytsev, Terahertz solid immersion microscopy: Recent achievements and challenges (Invited), # S02-13, International Symposium Fundamentals of Laser Assisted Micro- & Nanotechnologies (FLAMN-22), June 27 - 30, 2022, St. Petersburg, Russia (invited).

34. V.V. Tuchin, In vivo tissue optical clearing as a tool for laser diagnostics and therapeutics, The 29th International Conference on Advanced Laser Technologies, September 11-16, 2022, Moscow, Russia [Invited] <https://altconference.org/program-22> .
35. E.A. Genina, V.D. Genin, A.B. Bucharskaya, N.A. Navolokin, G.S. Terentyuk, N.G. Khlebtsov, V.V. Tuchin, The study of laser-assisted skin optical clearing in vivo, The 29th International Conference on Advanced Laser Technologies, September 11-16, 2022, Moscow, Russia [Invited] <https://altconference.org/program-22> .
36. M.A. Ansari, M. Samani, S. Ziaee, E.A. Lazareva, Yu.I. Surkov, I.A. Serebryakova, E.A. Genina, V.V. Tuchin, Refractive index measurement of the mouse skin in the visible wavelength range, The 29th International Conference on Advanced Laser Technologies, September 11-16, 2022, Moscow, Russia [Invited] <https://altconference.org/program-22> .
37. V.V. Tuchin, New optical biomedical technologies based on optical clearing of tissues), HOLOEXPO 2022, St. Petersburg, Russia, 20-23 September, 2022 (plenary).
38. L. M. Oliveira, T. M. Gonçalves, A. R. Botelho, L. R. Oliveira, I. S. Martins, H. F. Silva, I. Carneiro, S. Carvalho, R. Henrique, V. V. Tuchin, Spectroscopic evaluation of pigment content in tissues and its role in cancer detection, VI Photonics meets Biology, Summer School and Workshop, 27 July -1 August 2022, Spetses Island, Greece (Invited lecture). <https://www.farsarilab.com/summerschool>
39. V.V. Tuchin, Optical clearing as a tool for multimodal tissue imaging, Summer School on Lasers and Biomedical Photonics (LBMP 2022), The National Lasers in Medicine Research Network, September 18-22, 2022, Tehran, Iran (Plenary lecture).
40. A.P. Savitsky, I.D. Soloviev, I.G. Meerovich, I.E. Granovsky, N.K. Marynich, D.K. Tuchina, A.B. Konovalov, V.V. Vlasov, V.V. Tuchin, Multimodal MRI and life-time fluorescence sensors for theranostic applications, OASIS8 - International conference & Exhibition on Optics & Electro-Optics, 12-13 December 2022, David InterContinental Hotel, Tel Aviv, Israel [Invited]. <https://www.oasis8.org.il/dab>
41. Valery Tuchin, Optical clearing of tissues: multimodality and in vivo applications, International Conference on Nanoscience and Photonics for Medical Applications (ICNPMA-2022), Manipal Academy of Higher Education, Manipal, Karnataka, India, December 28-30, 2022. Plenary lecture. <https://conference.manipal.edu/ICNPMA2022/>
42. Alexei A. Bogdanov, Valery V. Tuchin, Natalia I. Kazachkina, Victoria V. Zherdeva, Lilya G. Maloshenok, Daria K. Tuchina, Irina G. Meerovich, Ilya D. Solovyev, Alexander P. Savitsky, [Clinical MRI contrast agent improves fluorescent imaging of red fluorescent protein expression in-vivo due to the effect of tissue optical clearing](#) (Invited Paper), Conference 12378, Dynamics and Fluctuations in Biomedical Photonics XX, 29 - 30 January 2023, 29 January 2023 • 3:50 PM - 4:20 PM PST, BiOS, SPIE Photonics West Symposia, 28 January - 2 February 2023, San Francisco, California, United States
43. Valery V. Tuchin, Modern trends in biomedical optoelectronics: to see deeper and treat more precisely, New Year Workshop, Frontiers of Optoelectronics, 9-10 January, 2023, Wuhan, China (invited).
44. Valery V. Tuchin, K.I. Zaitsev, I.V. Reshetov, Terahertz biophotonics, The 5th International Conference Terahertz and Microwave Radiation: Generation, Detection and Applications" (TERA-2023), 27 February – March 2, 2023, Moscow, MPhI (Plenary lecture).

45. Valery Tuchin, Welcome speech, 16th International Conference on Photonics and Imaging in Biology and Medicine — PIBM-2023, Chairs: Q. Luo, V. Tuchin and L. Wang, March 29 - April 1, 2023, Haikou, Hainan, China (invited).
46. Valery Tuchin, Recent advances in optical clearing of tissues: Towards in vivo applications, Chinese-Russian Workshop on Biophotonics and Biomedical Optics, Chairs: V. Tuchin and D. Zhu, March 29 - 31, 2023, Haikou, Hainan, China (invited).
47. Valery V. Tuchin, New Achievements in Tissue Optics and Optical Clearing in a Wide Spectral Range from Deep UV to Terahertz, BRICS Workshop on Biophotonics II, May 16-18, 2023, Saratov, Russia, Hainan, China, San Paulo, Brazil, Manipal, India, Johannesburg, RSA (Plenary- Online).
48. Valery Tuchin, Advances in tissue optics and optical clearing in ultra-wide spectral range from deep UV to terahertz, SBC 2023 - The 2nd Spring Biophotonics Conference, June 15-17 2023, Espinho, Portugal (Keynote - Online).
49. Valery V. Tuchin, Spectroscopy of tissues in a wide spectral range from deep UV to THz, The XX Symposium on High Resolution Molecular Spectroscopy, July 03-07, 2023, Lake Baikal, Irkutsk, Russia (invited). <https://symp.iao.ru/en/hrms/20/progpdf>
50. Valery Tuchin, Tissue optics and optical clearing modalities, Light Conference Week 2023, Track 3 Optical Imaging and Metrology, August 11-16, 2023, Changchun, China, p. 58. <http://lightconference.cn/> (invited)
51. Valery V. Tuchin, Tissue photonics: on the way to multimodal imaging and therapy using optical clearing, The 11th School of BioPhotonics, Instituto Nacional de Astrofísica, Óptica y Electrónica (INAOE), San Andrés Cholula, Pue., Mexico, August 9-11, 2023 (plenary lecture). <https://www-optica.inaoep.mx/~EscuelaBiofotonica/index.php>
52. V. Tuchin, P. Dyachenko, A. Bucharskaya, D. Tuchina, Optical technologies for monitoring vital complications in diabetes mellitus, The 30th International Conference on Advanced Laser Technologies September 18-21, 2023 Samara, Russia [Invited] [PROGRAM of ALT'18 the 26th International Conference on Advanced Laser Technologies \(altconference.org\)](https://altconference.org/)
53. A. Yakunin, S. Zarkov, Y. Avetisyan, G. Akchurin, I. Meerovich, A. Savitsky, V. Tuchin, Enhancement of Near Field and Local Absorption in Plasmonic Nanoparticle-Protein Fluorescent Complexes, The 30th International Conference on Advanced Laser Technologies September 18-21, 2023 Samara, Russia [Invited] [PROGRAM of ALT'18 the 26th International Conference on Advanced Laser Technologies \(altconference.org\)](https://altconference.org/).
54. E. Genina, I. Serebryakova, Y. Surkov, Y. Kuzinova, O. Konopatskova, V. Tuchin, Multimodal approach to the diagnosis of human skin cancer in vivo, The 30th International Conference on Advanced Laser Technologies September 18-21, 2023 Samara, Russia [Invited] [PROGRAM of ALT'18 the 26th International Conference on Advanced Laser Technologies \(altconference.org\)](https://altconference.org/).
55. Valery Tuchin, Advances in Tissue Optics and Photonics: Forward to New Medical Technologies Through Optical Clearing, European Summit on Laser Optics & Photonics Technology, Xperts Meetings (ELOPS-2023 – Hybrid Edition), both on-site and virtually, September 25-27, 2023, Barcelona, Spain <https://elops.org/> (plenary lecture). [Final Program-ELOPS2023.pdf](https://elops.org/program-ELOPS2023.pdf)
56. Tuchin V.V., Fundamental principles of the method of optical clearing of biological tissues: tasks of diagnosis and therapy of pathological processes, All-Russian scientific conference with international participation “Nevskaya Photonics - 2023”, October 9-13, 2023 St. Petersburg, ITMO University (invited) [chrome-extension://efaidnbmnnnibpcajpcglclefindmkaj/https://nevphoton.ru/docs/programNF2023.pdf](https://nevphoton.ru/docs/programNF2023.pdf)

57. V.V. Tuchin, Control of the optical properties of biological tissues: new applications in multimodal imaging and phototherapy, Fifth International Conference “Physics - Life Sciences” with the School of Young Scientists, October 16-19, St. Petersburg, Physics and Technology Institute. A.F. Ioffe (invited). <https://phls2023.ioffe.ru/ru/programma/vtornik-17102023/>
58. E. Genina, V. Genin, A. Bucharskaya, N. Navolokin, G. Terentyuk, N. Khlebtsov, V. Tuchin, New approaches to the laser plasmon resonance phototherapy of cancer, 17th International conference on Laser Applications in Life Sciences, 15-17 October 2023, Muğla, Turkey (invited).
59. Tuchin V.V. Control of optical properties of biological tissues: new applications in multimodal imaging and phototherapy, International conference [Physica.SPb/2023](https://physica.spb.ru/2023/) 23-27 October, 2023 (Invited)
60. Valery Tuchin, Optical Clearing in PDT and PTT, International Seminar of Lasers and Biomedical Photonics, LBMP 2023, 18-20 October 2023, Tehran, Iran (invited)
61. Valery Tuchin, Tissue optics and optical clearing in a wide spectral range: from deep UV to THz, Asia Communications and Photonics Conference /The International Photonics and OptoElectronics Meetings (ACP/POEM 2023), Nov.4-7, 2023, Wuhan, China (tutorial) [chrome-extension://efaidnbmnnnibpcajpcglclefindmkaj/http://acpconf.com/public/upload/ueditor/file/20231030/1698642331289875597.pdf](http://acpconf.com/public/upload/ueditor/file/20231030/1698642331289875597.pdf)
62. Walter Blondel, Sergey Zaytsev, Valery Tuchin, Elina Genina, Dan Zhu, Marine Amouroux, Experimental evaluation of human skin optical clearing in vivo efficiency using biocompatible agents and optical coherence tomography, Asia Communications and Photonics Conference /The International Photonics and OptoElectronics Meetings (ACP/POEM 2023), Nov.4-7, 2023, Wuhan, China (invited) [chrome-extension://efaidnbmnnnibpcajpcglclefindmkaj/http://acpconf.com/public/upload/ueditor/file/20231030/1698642331289875597.pdf](http://acpconf.com/public/upload/ueditor/file/20231030/1698642331289875597.pdf)
63. Valery Tuchin, Advanced Biomedical Imaging and Tomography at Tissue Optical Clearing, The 16th International Conference on Machine Vision (ICMV2023), Yerevan, Armenia, November 15-18, 2023, Russian-Armenian University (keynote lecture). <https://icmv.org/>
64. Valery V. Tuchin, Tissue optical clearing technologies: perspectives for *in vivo* biomedical applications, Light Conference on Advanced Optical Manufacturing, Rugao, Jiangsu Province, China, 16th-17th April, 2024 (invited).

SUPERVISION

Doctor of Science

1. Ulyanov Sergey Sergeevich
2. Dmitry Zimnyakov
3. Utz Sergey Rudolfovich
4. Tatyana Petrovna Denisova
5. Maksimova Irina Leonidovna
6. Avetisyan Yuri Artashesovich
7. Galanzha Ekaterina Ivanovna
8. Kochubey Vyacheslav Ivanovich
9. Berezin Kirill Valentinovich
10. Simonenko Georgy Valentinovich
11. Genina Elina Alekseevna – 2018
12. Zaytsev Kirill Igorevich – 2023

PhDs

1. Melnikov Leonid Arkadyevich
2. Akchurin Garif Gazizovich
3. Rabinovich Emmanuil Moiseevich
4. Chetverikov Vitaly Ivanovich
5. Shubochkin Lev Petrovich
6. Sinichkin Yury Petrovich
7. Gusev Valery Viktorovich
8. Maksimova Irina Leonidovna
9. Toronov Vladislav Yurievich
10. Tatarkova Svetlana Alekseevna
11. Yaroslavsky Ilya Vladimirovich
12. Izotova Vera Filippovna
13. Tatarintsev Sergey Nikolaevich
14. Kon Irina Lvovna
15. Alexander Sokolov
16. Meglinsky Igor Vladislavovich
17. Smolyakov Gennady Alexandrovich
18. Yaroslavskaya Anna Nikitichna
19. Radchenko Elena Yurievna
20. Peshkova Anna Yurievna
21. Genina Elina Alekseevna
22. Bashkatov Alexei Nikolaevich
23. Fedosov Ivan Vladlenovich
24. Surmenko Elena Lvovna - 2004
25. Cherkasova Olga Alekseevna - 2007
26. Akchurin Georgy Garifovich - 2009
27. Malinin Anton Vladimirovich - 2013
28. Yanina Irina Yurievna - 2013
29. Erokhin Pavel Sergeevich - 2015
30. Zhernovaya Olga Sergeevna - 2015
31. Postnov Dmitry Dmitrievich - 2015
32. Trunina Natalya Andreevna - 2016
33. Timoshina Polina Alexandrovna - 2017
34. Selifonov Alexey Andreevich - 2021
35. Sdobnov Anton Yurievich - 2021
36. Abdurashitov Arkady Sergeevich - 2022
37. Salem Samia Faruk Ibrahim - 2022
38. Yakovlev Dmitry Dmitrievich - 2022
39. Genin Vadim Dmitrievich - 2022
40. Sergey Michailovich Zaitsev – 2022 (France)
41. Ekaterina Nikolaevna Lazareva - 2023

SELECTED PROJECTS (LAST 10 YEARS)

1. RFBR grant: 11-02-12248-ofi-m-2011 "Development of modern practical methods of terahertz diagnostics for the purposes of application in detection systems for hazardous and narcotic substances, biological protection systems", 2011-2012. PI
2. RFBR grant: 12-04-91200-GFEN_g "Organization and holding of the Russian-Chinese seminar on biphotonics and biomedical optics", 2012. PI

3. Development of a computer diagnostic complex for detecting early pathological changes in the blood flow of the brain, 2012 - 2013, Federal Target Program "Research and development in priority areas of development of the scientific and technical complex of Russia for 2007-2013", state. contract 11.519.11.2035. Under an international treaty with Australia. PI
4. Development of the physical foundations and applications of high-resolution tomographic and polarization microscopy for submicron analysis of the volumetric structure of objects of technical and biological origin, 2012 - 2013, Federal Target Program "Scientific and scientific-pedagogical personnel of innovative Russia" for 2009 - 2013, state. contract 14.B37.21.0728. PI
5. Development of coherent-optical biosensors at the genetic, cellular and organismal levels of organization, 2012 - 2013, Federal Target Program "Scientific and scientific-pedagogical personnel of innovative Russia" for 2009 - 2013, state. contract 14.B37.21.0563. PI
6. Laser transfection of cells and tissues labeled with gold nanoshells, 2012 – 2013, RFBR, grant 12-02-92610-KO_a. PI
7. Biophotonic technologies for novel diagnostic and therapeutic applications, FiDiPro (Finland Distinguished Professor) Program, awarded by TEKES, No. 40111/1 (2011-2014), V.V. Tuchin - FiDiPro. PI
8. RFBR grant: 13-02-91176-GFEN_a, Mechanisms of optical clearing of the skin in normal and pathological conditions, quantitative assessment, 2013-2014. PI
9. Scientific project for the organization of the International Symposium on Optics and Biophotonics "Saratov Fall Meeting 2013". RFBR grant, 13-02-06107Y_2013. 2013. PI
10. Development of scientific and technical foundations for non-contact terahertz diagnostics of common human diseases (including oncological and endocrine) based on the study of the spectral characteristics of skin tissue and blood, 2013, Federal Target Program "Research and development in priority areas of development of the scientific and technical complex of Russia for 2007-2013 ", contract 14.512.11.0022. PI
11. "Exploring for the technology in the field of in-vivo optical clearing for fat tissue" OLYMPUS CORPORATION (43-2, Hatagaya 2-Chome, Shibuya-ku, Tokyo, Japan) (2013-2015), 84,000 USD. PI
12. "Investigation of the optical and biophysical properties of biological tissues and fluids aimed at creating the fundamental foundations of optical medical diagnostics and laser therapy, including point-of-care medicine", grant of the President of the Russian Federation for state support of leading scientific schools of the Russian Federation NSh-703.2014.2 (2014-2015). PI
13. RFBR grant: No. 14-02-00526a, Development of sensitive methods for diagnosing the risk of developing intracranial hemorrhages in the first days after birth (2014-2016). PI
14. "Remotely controlled nanostructured systems for targeted delivery and diagnostics", grant of the Government of the Russian Federation 14. Z50.31.0004 for state support of scientific research conducted under the guidance of leading scientists (G.B. Sukhorukov) in Russian educational institutions of higher professional education, scientific institutions of state academies of sciences and state scientific centers of the Russian Federation, (2014-2018), head of the research group.
15. RSF grant: 14-15-00186, Precision metrology of space-time optical and thermal processes induced by pulsed laser irradiation of biological tissues and cells doped with nanoparticles (2014-2016). PI
16. RSF grant: 14-15-00128, Gates of the blood-brain barrier: regulatory mechanisms, their dependence on the state of the body and age, methods of correction using supramolecular transport systems (2014-2016) - researcher.

17. Scientific project for the organization of the International Symposium on Optics and Biophotonics "Saratov Fall Meeting 2014". RFBR grant, 14-02-20101_2014. 2014. PI
18. Scientific project for the organization of the International Symposium on Optics and Biophotonics "Saratov Fall Meeting 2015". RFBR grant, February 15, 20633, 2015. 2015. PI
19. Grant of the President of the Russian Federation for state support of leading scientific schools of the Russian Federation No. 14.Z57.16.7898-NSh "Optics and biophotonics of biological tissues: methods of medical diagnostics and therapy" (2016-2017). PI
20. RFBR grant: 16-02-20591_2016. Scientific project for the organization of the International Symposium on Optics and Biophotonics "Saratov Fall Meeting 2016". 2016. PI
21. RFBR grant: No. 16-32-50128 mol_nr, "The influence of nanoparticles used for biomedical applications on the microrheological properties of blood", 2016. PI
22. RFBR grant: 17-02-20536_2017. Scientific project to organize the International Symposium on Optics and Biophotonics "Saratov Fall Meeting 2017". 2017. PI
23. RFBR grant: No. 17-02-00358, "Technology for "opening" the blood-brain barrier using laser generation of singlet oxygen," 2017-2019, 2100 t.rub., PI
24. State task of the Ministry of Education and Science of the Russian Federation: 17.1223.2017/PC, "Development of technologies for optical "opening" of the blood-brain barrier and personalized treatment of aggressive forms of glial tumors", 2017-2019. Researcher.
25. RFBR grant: No. 17-00-00275 (17-00-00272) "Image formation of biological tissues (bioimaging) using magnetic nanoparticles and hyperosmotic agents", within the framework of the complex project 17-00-00275 (K) "Informative signs of socially significant diseases in the terahertz frequency range: multispectral studies of biological tissues, fluids and exhaled air", 2017-2020. Researcher
26. RFBR grant: 18-02-20120_2018. Scientific project to organize the International Symposium on Optics and Biophotonics "Saratov Fall Meeting 2018". 2018. PI
27. RFBR grant: No. 18-52-16025 NTsNIL_a "Research and development of effective optical technologies for diagnostics in dermatology", 2018-2021. 3400 t.rub. PI
28. Research work "Laser femtosecond optoporation of cells and biological tissues for in situ cell transfection". Fundamental research program of the Presidium of the Russian Academy of Sciences No. 32 "Nanostructures: physics, chemistry, biology, fundamentals of technology" subprogram "Nanobiotechnologies", 2018-2020. PI
29. RFBR grant: No. 18-29-02060 MK, "Combined thermographic and terahertz imaging of biological tissues in the diagnosis of neoplasms of the skin and mucous membranes", 2018-2021. Researcher.
30. RFBR grant: No. 19-32-50075 mol_nr, "Search for optimal agents for immersion optical clearing of biological tissues in the terahertz range", 2019-2020. Postgraduate student of Moscow State Technical University Bauman Chernomyrdin N.V., 720 t.rub., scientific adviser.
31. "Photoacoustic technologies for early theranostics of metastatic tumors", grant of the Government of the Russian Federation 14. Z50.31.0044 for state support of scientific research conducted under the guidance of leading scientists (V.P. Zharov) in Russian educational institutions of higher professional education, scientific institutions of state academies of sciences and state scientific centers of the Russian Federation (2018 - 2021), head of the research group. №075-15-2021-617
32. "Visualization and engineering of eukaryotic genomes", grant of the Government of the Russian Federation 14.W03.31.0023 for state support of scientific research conducted under the guidance of leading scientists (A.A. Bogdanov) in Russian educational

- institutions of higher professional education, scientific institutions of state academies of sciences and state scientific centers of the Russian Federation (2018 - 2021), head of the research group.
33. “Discovery of the fundamental mechanisms of sleep for breakthrough technologies in neurorehabilitation medicine” grant of the Government of the Russian Federation 075-15-2019-1885 for state support of scientific research conducted under the guidance of leading scientists (Penzel Thomas Walter Friedel) in Russian educational institutions of higher professional education, scientific institutions of state academies of sciences and state scientific centers of the Russian Federation (2019 - 2022), researcher. Continued 075-15-2022-1094.
 34. RFBR grant: No. 20-32-90058-post-graduate students, “Investigation of the optical properties of blood proteins and their glycosylated fractions by refractometric and fluorescent methods in a wide range of wavelengths and temperatures”, PhD student Lazareva E.N., scientific adviser – 2020-2021 - 1200 t.rub.
 35. RFBR grant: No. 20-02-22044 - Scientific events, "Project for organizing and holding the International Symposium "Optics and Biophotonics - VIII" (Saratov Fall Meeting - SFM'20)", 2020 - 876 t.rub. PI
 36. RFBR grant: No. 20-12-50328-expansion, Methods for studying the superweak glow of biological objects (analytical review) - researcher, 2020-2021 - 300 t.rub.
 37. "Development of methods for screening non-invasive diagnosis of viral and bacterial respiratory infections using laser spectroscopy and artificial intelligence methods" grant of the Government of the Russian Federation (No. 075-15-2021-615) for state support of scientific research conducted under the guidance of leading scientists (Igor K. Lednev) in Russian educational institutions of higher professional education, scientific institutions of state academies of sciences and state scientific centers of the Russian Federation (2021 - 2023), head of the research group.
 38. “Interaction of light with tissues: A hyper-spectral approach,” ARC Projects DP210103342 The University of Queensland Investigators: Prof Aleksandar Rakic; Dr Karl Bertling; Dr Isaac Afar; Prof Dr Valery Tuchin, Funding: \$473,712, 12/31/2020 - 12/31/2023; Final Report: 31/12/2024.
 39. "Bioresorbable implantable devices based on triboelectric nanogenerators", Grant of the Ministry of Science and Higher Education of the Russian Federation No. 13.2251.21.0009 in the field of science in the form of a subsidy from the federal budget to ensure the conduct of scientific research by Russian scientific organizations and (or) educational organizations of higher education jointly with organizations from EU Member States in the framework of multilateral cooperation in the Horizon 2020 program, including ERA-NET initiatives, in the framework of ensuring the implementation of the program of bilateral and multilateral scientific and technological cooperation. 2021-2023 - researcher; (30 + 43.5) mln. rub.
 40. Development Program of Saratov State University (Priority-2030), research direction "Technologies of personalized medicine", PI
 41. Development Program of Tomsk State University (Priority-2030), Laboratory of TSU Priority 2030, PI
 42. Advanced Research Grant Project No. 21AG-1C082 “Implementation of laser-optical techniques for development of medical diagnostic devices” (2021-2026) funded by the Committee of Science of the Republic of Armenia, Prof. Aram Papoyan from the Institute for Physical Research (IPR), NAS of Armenia (PI from the Russian side), 15000 USD (Russian mobility funding).

43. “Enhancement of optical monitoring of blood brain barrier opening and (g)lymphatic system” (2020-2023) funded by Academy of Finland (Mobility funding), University of Oulu (PI from the Russian side), 20000 Eur (Russian mobility funding).
44. “Diagnostics and monitoring of pathological processes in tissues and organs using multimodal imaging methods and their automation using machine learning” (02/01/2023 – 12/31/2025), Ministry of Education and Science of Russia as part of the state assignment (project No. FSRR-2023-0007), PI.
45. “Development of the fundamental principles of the method of optical clearing of biological tissues and its application to solving problems of diagnostics and therapy of pathological processes,” Russian Science Foundation grant No. 23-14-00287 (2023-2025), PI.
46. “Development of optical methods for studying glycation and hemodynamics of biological tissues in diabetes mellitus” (RSF grants No. 24-44-00082 and NSFC No. 3231101812 (China)) (2024-2026), PI.



Valery Tuchin,
Saratov, May 2024