

Interview

An Interview with Professor Gerhard Litscher: “How High-Tech and Digitalization Are Revolutionizing the Future of Acupuncture”

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Abstract

In this interview Professor Gerhard Litscher discusses how new technologies like laser acupuncture and electroacupuncture, artificial intelligence (AI), and robotics are revolutionizing acupuncture by enhancing precision and personalization. He emphasizes the potential for digital tools to improve treatment outcomes and training while maintaining the human aspect of this holistic practice. Litscher highlights the importance of interdisciplinary collaboration and ongoing education to successfully integrate these innovations into clinical use.

Keywords

High-tech acupuncture; digital Chinese medicine; laser acupuncture; artificial intelligence (AI); robotics; personalized therapy; interdisciplinary collaboration; clinical integration



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Prof. Dr. Gerhard Litscher, EiC

(Photo: office of OBM ICM, Qingdao, China)

Ellen Zhang: Welcome, Professor Litscher. It is a great pleasure for me to conduct an interview with you as Editor-in-Chief today for our emerging journal. I am Ellen Zhang, Managing Editor of *Integrative and Complementary Medicine*. Since February 2024, you have been appointed as a Full Professor of High-Tech Acupuncture and Digital Chinese Medicine at the Swiss University of Traditional Chinese Medicine in Switzerland, and you are considered one of the world's leading experts in the integration of new technologies into acupuncture. You have had an impressive career in medical research and teaching at the Medical University of Graz in Austria, with numerous internationally recognized publications and projects. I am excited to discuss a very current topic with you today: the future of acupuncture and the influence of digitalization.

Gerhard Litscher: Thank you very much, Ms. Zhang, for your kind words. I am very pleased to talk today about a topic that is very close to my heart and in which I have been actively researching for many decades. The combination of traditional healing methods like acupuncture with cutting-edge technology offers many exciting possibilities.

Ellen Zhang: Professor Litscher, could you first give us a brief overview of how new technologies are currently being applied in the field of acupuncture? Which innovations do you find particularly promising?

Gerhard Litscher: New technologies have significantly changed the way acupuncture has been practiced and researched in recent decades. Laser acupuncture, electroacupuncture, and various imaging techniques come to mind, which help to make treatment more precise and individualized [1-6]. I find developments such as the combination of acupuncture with robotics technologies for stimulation and the use of mobile health devices, which enable continuous monitoring of treatment outcomes, particularly promising [3].

Ellen Zhang: We are seeing an increasing integration of digital tools, such as laser or electroacupuncture devices. What role do these technologies play in practice, and how do they differ from traditional methods?

Gerhard Litscher: Laser and electroacupuncture devices allow for partially painless or pain-reduced and very precise stimulation of acupuncture points. Unlike traditional needles, these devices are particularly suitable for sensitive patients or children. Additionally, these technologies can precisely control the frequency, intensity, and dose of stimulation, enabling personalized therapy. Traditional needles have their invaluable value, but digital tools significantly expand the range of treatments.

Ellen Zhang: What progress do you see in research in the field of acupuncture and new technologies? Are there any new scientific findings or studies supporting the use of digital technologies?

Gerhard Litscher: There are now a number of studies that demonstrate the effectiveness of technologies such as laser and electroacupuncture. Research has shown that digital technologies can help increase the efficiency of acupuncture, especially in pain management and mental health conditions. The use of real-time imaging to visualize acupuncture points and also investigating effects of acupuncture hold great potential for research, in my opinion [7-11].

Ellen Zhang: The application of artificial intelligence (AI) and machine learning is increasing in medicine in general. How do you think this development could impact the field of acupuncture in the coming years?

Gerhard Litscher: AI and machine learning could revolutionize acupuncture by creating personalized treatment plans based on large datasets of patient data and therapy outcomes. They could help identify patterns that are difficult for the human mind to perceive or interpret, thus further enhancing the effectiveness and safety of acupuncture. Additionally, AI-based systems could improve the training of acupuncturists by offering learning programs and simulations [4].

Ellen Zhang: How do you assess the acceptance and trust of patients in these new technologies? Are there differences in perception between traditional acupuncture methods and new digital approaches?

Gerhard Litscher: Patient acceptance and trust in new technologies are steadily growing, especially among younger and more tech-savvy patients. However, there is also a group of patients also in Europe who prefer traditional methods because they value the personal connection with the therapist. Good communication about the benefits and safety of new technologies is crucial to gaining patients' trust.

Ellen Zhang: When you think about the future of acupuncture, what developments and innovations do you expect to see in the next 5 to 10 years? Are there any particular technologies that you believe could be especially revolutionary?

Gerhard Litscher: I believe we will see an increasing integration of acupuncture into telemedicine, where remote monitoring and consultation will be possible through sensors and wearable devices. The further development of AI-assisted training programs for acupuncturists and the application of nanotechnology to precisely stimulate individual acupuncture points could also have revolutionary effects [7-11].

Ellen Zhang: Every new technology brings challenges and ethical issues. What concerns do you see regarding digitalization and automation in the field of acupuncture?

Gerhard Litscher: A major challenge is ensuring that technology does not replace the human component of treatment. Acupuncture is not only a technical practice but also a very personal and holistic form of therapy. Data protection and data security are also central issues when it comes to using digital health data. It is important that patients understand how their data is used and protected.

Ellen Zhang: How do you see the integration of these new technologies into daily clinical practice? Are there certain prerequisites or training required to successfully implement these changes?

Gerhard Litscher: The integration of new technologies requires thorough training of acupuncturists in the use of these devices and technologies. Acceptance by medical professionals is just as important as that by patients. A solid technical infrastructure must also be in place to successfully implement new technologies. Ongoing education and continuous training are essential in this regard.

Ellen Zhang: The development and implementation of new technologies often require close collaboration between different disciplines. How important is interdisciplinary collaboration in acupuncture research and practice, especially concerning digitalization?

Gerhard Litscher: Interdisciplinary collaboration is essential to fully exploit the advantages of digitalization. The combination of physicians, engineers, computer scientists, and other professionals leads to innovative solutions and new approaches. For example, in the future, it will be essential for medical researchers to work more closely with technicians and computer scientists to develop and test new digital tools.

Ellen Zhang: Is there anything else you would like to share with our readers about the future of acupuncture and the influence of new technologies?

Gerhard Litscher: Acupuncture has a history spanning thousands of years and has great potential to gain even more significance through new technologies. It is important that we see digitalization as an opportunity to expand and enhance the possibilities of acupuncture while preserving the traditional values and holistic approach that make this method so unique.

Ellen Zhang: Thank you, Professor Litscher, for sharing your valuable insights and visions with us. We look forward to seeing how acupuncture will continue to evolve with the use of new technologies.

References

1. Litscher G. Mechanisms of laser acupuncture—Hypotheses and evidence. *OBM Integr Complement Med.* 2024; 9: 027.
2. Litscher G. Acupuncture in oncology—Update 2024. *OBM Integr Complement Med.* 2024; 9: 022.
3. Litscher G. ‘Digital Chinese Medicine (DCM)’: From acupuncture to algorithms and the digital transformation of traditional Chinese medicine (TCM). *OBM Integr Complement Med.* 2023; 8: 054.

4. Litscher G. Which way does a generation of acupuncture researchers influenced by computers and robots go? *Med Acupunct.* 2023; 35: 105-106.
5. Litscher G. The future of laser acupuncture-robot-assisted laser stimulation and evaluation. *Life.* 2022; 13: 96.
6. Chen YL, Lan KC, Hou MC, Tsai HH, Litscher G. Reflex Auriculo-Cardiac (RAC) induced by auricular laser and needle acupuncture: New case results using a smartphone. *Life.* 2023; 13: 853.
7. Litscher G, Cheng G, Wang L, Cheng W, Su H, Niu Q, et al. Biomedical teleacupuncture between China and Austria using heart rate variability-part 2: Patients with depression. *Evid Based Complementary Altern Med.* 2012; 2012: 145904.
8. Wang L, Valentini J, Sugimoto K, Cheng W, Cheng G, Geng H, et al. Biomedical teleacupuncture between China and Austria using heart rate variability, part 1: Poststroke patients. *Evid Based Complementary Altern Med.* 2011; 2011: 782489.
9. Litscher G. Transcontinental and translational high-tech acupuncture research using computer-based heart rate and “Fire of Life” heart rate variability analysis. *J Acupunct Meridian Stud.* 2010; 3: 156-164.
10. Litscher G. Transcontinental acupuncture research using teleacupuncture. *Promed Komplementär.* 2009; 2: 8-11.
11. Litscher G. Teleacupuncture: A new approach for transcontinental long-distance cooperation between Graz, Austria and Beijing, China (7,650 km). *Med Acupunct.* 2009; 21: 223-224.