

### 3. Addressing Challenges and Ethical Implications

**Managing Dependence on AI Tools:** Over-reliance on AI suggestions may limit students' creative input and reduce their independent decision-making skills in translation. Educators can counteract this by promoting exercises that require justification of students' own choices over ChatGPT's suggestions. For example, after reviewing a ChatGPT translation, students must articulate why they might select a different phrasing based on factors such as audience or formality [3, p. 223–224].

**Ensuring Data Privacy and Accuracy:** When using AI, students and instructors must consider the ethical implications, especially with sensitive or confidential texts. Instructors can foster ethical awareness by discussing how AI processes and retains data, and by encouraging students to avoid inputting real-world, sensitive materials into public AI tools [1, p. 51]. To avoid this, the instructor can use Case Study Discussions in which instructors can present ethical scenarios, such as translating confidential medical documents using AI. Students can discuss potential risks of inputting sensitive information into AI tools and evaluate best practices for maintaining confidentiality while leveraging AI [4, p. 152–153].

Integrating ChatGPT into translation practice offers substantial benefits for skill-building, linguistic accuracy, and efficiency. However, careful guidance, supervision, and ethical training are essential to maximize its educational value. ChatGPT can serve as an effective educational supplement when used judiciously, promoting professional skills and encouraging a balanced approach to AI-assisted translation. Further research could explore how ChatGPT's adaptive features could be customized for advanced translation curricula [2, p. 118].

### References

1. Calzada M., Casellas E. AI in Translation: Challenges and Future Directions. New York : Language Technology Press, 2021. 234 p.
2. Koehn P. Neural Machine Translation and Applied AI. Cambridge : Cambridge University Press, 2020. 328 p.
3. Vasconcelos A. Ethics in AI-Assisted Translation: An Educational Perspective. Translation Studies Review. 2022. № 8(3). P. 215–229.
4. Zhang T., Zhao L. Emerging Trends in AI and Language Education. Journal of Language Technology. 2019. № 7(2). P. 145–157.

## ARTIFICIAL INTELLIGENCE TECHNOLOGIES IN SCIENTIFIC RESEARCH

### Vasylenko Oksana

Candidate of Pedagogical Sciences, Associate Professor, Research Staff of the Electrical Engineering, Mechanical Engineering and Industrial Engineering Department,  
Anhalt University of Applied Sciences (Koethen, Germany),  
Oksana.Vasylenko@hs-anhalt.de

Artificial intelligence is a field that studies various systems and algorithms that can improve human cognitive functions, including learning, perception, communication and creativity. Artificial intelligence is also used in the research process as a tool and object of study.

AI technologies are significantly transforming text visualisation in various fields, improving the way information is presented and analysed. They use deep learning, natural language processing, and generative models to create interactive and dynamic visuals based on data [1].

Many areas of human activity have been augmented by discoveries made by artificial intelligence. Science is no exception. It has been supplemented by new research that did not exist before. AI applications offer researchers tools to easily understand and solve complex research problems.

In the course of our research, we have identified the benefits of artificial intelligence in science (Fig. 1).



*Fig. 1. Advantages of artificial intelligence in scientific research*

Artificial intelligence involves the use of advanced methods and algorithms that require appropriate skills and resources. The future of artificial intelligence in academic research has enormous potential for transformational achievements:

**Interdisciplinary collaboration:** AI fosters cooperation among researchers from various fields, leading to groundbreaking discoveries.

**Data-driven insights:** AI algorithms analyse massive datasets to uncover valuable information.

**Personalized and adaptive learning:** AI tailors learning experiences by evaluating student performance and providing targeted feedback.

**Accelerating scientific progress:** AI aids researchers in formulating hypotheses, designing experiments, and analyzing results, streamlining the research process.

**Ethical and responsible AI use:** Researchers address concerns like bias, transparency, privacy, and accountability to ensure AI is used ethically.

**Optimizing workflows through automation:** AI enhances efficiency by automating tasks like data collection and analysis.

**Addressing global challenges:** AI supports solutions for issues such as climate change, health, and poverty through data analysis and resource optimization.

**Boosting creativity:** AI serves as a creative collaborator, generating ideas, synthesizing information, and pushing boundaries in fields like art and design.

**Improving peer review and communication:** AI streamlines peer review processes, facilitates translations, and recommends relevant scientific literature.

As an example, let's look at the use of artificial intelligence technology Scopus AI. Scopus AI is a unique tool that allows you to learn about new topics in accordance with a scientific problem. Scopus AI uses metadata and materials from the Scopus database, which has been available since 2003 [2]. The database is updated in real time, providing users with constant access to relevant and up-to-date information.

The principles of Scopus AI are:

- data confidentiality
- strict content verification;
- Transparency and reliability.

The use of Scopus AI opens up many opportunities for authors. The tool increases the productivity and efficiency of research activities, provides authors with convenient tools for searching and analysing scientific content.

Thanks to the use of artificial intelligence on the Scopus platform, scientists have quick access to up-to-date information, which improves the quality of their research and contributes to the overall development of science.

The integration of artificial intelligence into scientific research promises to bring significant benefits, accelerating progress and the discovery of new knowledge and innovations. However, it is crucial that researchers also use these technologies in accordance with the principles of academic integrity.

### References

1. Pigola A., Scafuto I. C., da Costa P. R., & Nassif V. M. J. Artificial Intelligence in academic research. *International Journal of Innovation*. 2023. 11(3).
2. Scopus AI. URL: <https://elsevier.libguides.com/Scopus/ScopusAI>

## ПРО ВИКОРИСТАННЯ ІНСТРУМЕНТІВ НАУКОВОГО КАРТОГРАФУВАННЯ

**Барна Ольга Василівна**

кандидат педагогічних наук, доцент кафедри інформатики та методики її навчання,  
Тернопільський національний педагогічний університет імені Володимира Гнатюка,  
[barna\\_ov@fizmat.tnpu.edu.ua](mailto:barna_ov@fizmat.tnpu.edu.ua)

**Кузьмінська Олена Геронтіївна**

доктор педагогічних наук, професор, професор кафедри інформаційних систем і технологій,  
Національний університет біоресурсів і природокористування України,  
[o.kuzminska@nubip.edu.ua](mailto:o.kuzminska@nubip.edu.ua)

Одним із важливих етапів у науковому дослідженні є аналіз публікацій за обраною темою. Одним із методів, який дозволяє визначити взаємозв'язки між компонентами дослідження, виявити взаємодію та структурні зв'язки, а також здійснити аналіз цитування, бібліографічний зв'язок, аналіз співавторства та аналіз співавторства є побудова наукових карт [1; 2]. Наукові карти дозволяють дослідити декілька аспектів:

- взаємозв'язок між темами;
- розвиток досліджень протягом певного періоду;
- перелік ключових авторів (дослідників, журналів, установ) з обраної тематики;
- розвиток міждисциплінарних областей;