

UNITED STATES
PATENT AND TRADEMARK OFFICE



Artificial Intelligence and Emerging Technology (AI/ET) Partnership

Impact of the proliferation of AI on prior art and person having ordinary skill in the art (PHOSITA) listening session

July 25, 2024



UNITED STATES
PATENT AND TRADEMARK OFFICE ®

Christyann Pulliam

Management Quality Assurance Specialist, Technology Center 2100

Welcome

Agenda

- Opening remarks
- Overview of the request for comments (RFC)
- Listening sessions
- AI patent policy initiatives
- Listening sessions
- Closing remarks

Vaishali Udupa

Commissioner for Patents

Opening Remarks

Steven Fulk

Legal advisor, Office of Patent Legal Administration

Overview of the RFC on the impact of AI on prior art and PHOSITA

AI/ET partnership

- Artificial Intelligence and Emerging Technology (AI/ET) partnership
 - Formation of AI/ET partnership announced in June 2022 (87 Fed. Reg. 34669)
 - Ongoing cooperative effort between the USPTO and the AI/ET community
 - Past event topics include AI & biotech, AI-assisted inventions, practitioner guidance on use of AI tools, and other patent policy issues

AI's impact on prior art and PHOSITA

- Request for Comments issued April 30, 2024 (89 Fed. Reg. 34,217)
 - 90-day comment period closes this **Monday, July 29, 2024**
- Impact of AI on prior art
 - Prior art requirements under 35 U.S.C. 102
 - Qualifying as a “printed publication”
 - Presumption of operability for prior art
- Impact of AI on the PHOSITA assessment
 - Factors for determining a PHOSITA's level of skill
 - Obviousness determinations
 - Evaluating 35 U.S.C. 112 requirements
 - Claim construction
- Questions for public comment

RFC questions – prior art

1. In what manner, if any, does 35 U.S.C. 102 presume or require that a prior art disclosure be authored and/or published by humans? In what manner, if any, does non-human authorship of a disclosure affect its availability as prior art under 35 U.S.C. 102?
2. What types of AI-generated disclosures, if any, would be pertinent to patentability determinations made by the USPTO? How are such disclosures currently being made available to the public? In what other ways, if any, should such disclosures be made available to the public?
3. If a party submits to the Office a printed publication or other evidence that the party knows was AI-generated, should that party notify the USPTO of this fact, and if so, how? What duty, if any, should the party have to determine whether a disclosure was AI-generated?

RFC questions – prior art (cont'd)

4. Should an AI-generated disclosure be treated differently than a non-AI-generated disclosure for prior art purposes? For example:
 - a. Should the treatment of an AI-generated disclosure as prior art depend on the extent of human contribution to the AI-generated disclosure?
 - b. How should the fact that an AI-generated disclosure could include incorrect information (*e.g.*, hallucinations) affect its consideration as a prior art disclosure?
 - c. How does the fact that a disclosure is AI-generated impact other prior art considerations, such as operability, enablement, and public accessibility?
5. At what point, if ever, could the volume of AI-generated prior art be sufficient to create an undue barrier to the patentability of inventions? At what point, if ever, could the volume of AI-generated prior art be sufficient to detract from the public accessibility of prior art (*i.e.*, if a PHOSITA exercising reasonable diligence may not be able to locate relevant disclosures)?

RFC questions – PHOSITA

6. Does the term “person” in the PHOSITA assessment presume or require that the “person” is a natural person, *i.e.*, a human? How, if at all, does the availability of AI as a tool affect the level of skill of a PHOSITA as AI becomes more prevalent? For example, how does the availability of AI affect the analysis of the PHOSITA factors, such as the rapidity with which innovations are made and the sophistication of the technology?
7. How, if at all, should the USPTO determine which AI tools are in common use and whether these tools are presumed to be known and used by a PHOSITA in a particular art?
8. How, if at all, does the availability to a PHOSITA of AI as a tool impact:
 - a. Whether something is well-known or common knowledge in the art?
 - b. How a PHOSITA would understand the meaning of claim terms?

RFC questions – PHOSITA (cont'd)

9. In view of the availability to a PHOSITA of AI as a tool, how, if at all, is an obviousness determination affected, including when:
 - a. Determining whether art is analogous to the claimed invention, given AI's ability to search across art fields? Does the "analogous" art standard still make sense in view of AI's capabilities?
 - b. Determining whether there is a rationale to modify the prior art, including the example rationales suggested by *KSR* (MPEP 2143, subsection I) (*e.g.*, "obvious to try") or the scientific principle or legal precedent rationales (MPEP 2144)?
 - c. Determining whether the modification yields predictable results with a reasonable expectation of success (*e.g.*, how to evaluate the predictability of results in view of the stochasticity (or lack of predictability) of an AI system)?
 - d. Evaluating objective indicia of obviousness or nonobviousness (*e.g.*, commercial success, long felt but unsolved needs, failure of others, simultaneous invention, unexpected results, copying, etc.)?

RFC questions – PHOSITA (cont'd)

10. How, if at all, does the recency of the information used to train an AI model or that ingested by an AI model impact the PHOSITA assessment when that assessment may focus on an earlier point in time (*e.g.*, the effective filing date of the claimed invention for an application examined under the First-Inventor-to-File provisions of the America Invents Act)?
11. How, if at all, does the availability to a PHOSITA of AI as a tool impact the enablement determination under 35 U.S.C. 112(a)? Specifically, how does it impact the consideration of the *In re Wands* factors (MPEP 2164.01(a)) in ascertaining whether the experimentation required to enable the full scope of the claimed invention is reasonable or undue?

RFC questions – updated guidance and/or legislative change

12. What guidance from the USPTO on the impact of AI on prior art and on the knowledge of a PHOSITA, in connection with patentability determinations made by the Office, would be helpful?
13. In addition to the considerations discussed above, in what other ways, if any, does the proliferation of AI impact patentability determinations made by the Office (*e.g.*, under 35 U.S.C. 101, 102, 103, 112, etc.)?
14. Are there any laws or practices in other countries that effectively address any of the questions above? If so, please identify them and explain how they can be adapted to fit within the framework of U.S. patent law.
15. Should title 35 of the U.S. Code be amended to account for any of the considerations set forth in this notice, and if so, what specific amendments do you propose, and why?



Resources

- AI's impact on prior art and PHOSITA RFC
 - [89 Fed. Reg. 34217 \(Apr. 30, 2023\)](#)
- Manual of Patent Examining Procedure (MPEP) webpage
 - www.uspto.gov/mpep
- USPTO AI Initiatives webpage
 - www.uspto.gov/AI
- Executive Order on the Safe, Secure, and Trustworthy Development and Use of Artificial Intelligence
 - [E.O. 14110 \(Oct. 30, 2023\)](#)



Thomas Krause, Director Review Executive, Patent Trial and Appeal Board

Fahd Patel, Associate Solicitor, Office of the Solicitor

Christian Hannon, Senior Patent Attorney, Office of Policy and International Affairs

Nalini Mummalaneni, Senior Legal Advisor, Office of Patent Legal Administration

Listening session 1

Break – 10 minutes

Matthew Sked, Senior Legal Advisor, Office of Patent Legal Administration

Fahd Patel, Associate Solicitor, Office of the Solicitor

Christian Hannon, Senior Patent Attorney, Office of Policy and International Affairs

Steven Fulk, Legal Advisor, Office of Patent Legal Administration

Listening session 2

Lunch

Matthew Sked

Lead Coordinator – AI/ET Policy Working Group

Senior Legal Advisor, Office of Patent Legal Administration

AI patent policy initiatives

AI/ET policy working group

Patent policy

Ensure the USPTO's treatment of AI-related and AI-enabled inventions is consistent and best incentivizes innovation

Broader IP & technology policy

Ensure the IP ecosystem as a whole maximizes and broadly distributes AI's benefits; Leverage AI effectively and responsibly to serve tomorrow's innovators and entrepreneurs

Workforce development

Provide robust AI technical training offerings and access to expertise across the USPTO workforce

AI/ET partnership

Convene diverse stakeholders together through engagements at the intersection of AI, emerging technology, and IP

Interagency and International efforts



Inventorship guidance for AI-assisted inventions

- Issued on February 13, 2024, and responsive to EO 14110
- AI-assisted inventions are not categorically unpatentable for improper inventorship
- Patent applications and patents for AI-assisted inventions must name the natural person(s) who significantly contributed to the invention as the inventor or joint inventors (i.e., meeting the *Pannu* factors)
- Comment period ended on June 20, 2024, and we received 66 comments.



Practitioner use of AI

- On April 11, 2024, the USPTO issued guidance on Use of AI-Based Tools in Practice Before the USPTO.
- Key takeaways
 - The use of AI-tools by stakeholders are *not* prohibited.
 - The guidance does not introduce any new rules or duties.
 - The USPTO's existing rules and policies are adequate to address potential misconduct.

Subject Matter Eligibility (SME) guidance

- On July 17, 2024, in response to EO 14110, the USPTO issued a 101 guidance update on AI inventions
- Does not reflect any new USPTO practice, but provides further clarity on evaluating SME for AI inventions
- Announces three new examples (Ex. 47-49) to illustrate the application of USPTO's SME guidance to AI inventions

Next steps

- Evaluate public feedback on inventorship, prior art, and a person having ordinary skill in the art (PHOSITA)
- Continued stakeholder engagement
- For further information:
 - www.uspto.gov/artificial-intelligence

Thomas Krause, Director Review Executive, Patent Trial and Appeal Board

Robert Clarke, Director, Office of Patent Legal Administration

Nalini Mummalaneni, Senior Legal Advisor, Office of Patent Legal Administration

Steven Fulk, Legal Advisor, Office of Patent Legal Administration

Listening session 3

Break – 10 minutes

Robert Clarke, Director, Office of Patent Legal Administration

Matthew Sked, Senior Legal Advisor, Office of Patent Legal Administration

Nalini Mummalaneni, Senior Legal Advisor, Office of Patent Legal Administration

Steven Fulk, Legal Advisor, Office of Patent Legal Administration

Listening session

Charles Kim

Deputy Commissioner for Patents, USPTO

Closing Remarks

Special Thank You

Vaishali Udupa, Commissioner for Patents
Charles Kim, Deputy Commissioner for Patents

Presenters, Panelists and Speakers
National Inventors Hall of Fame Museum Staff

Conference Services
Patrick Barcia

Michael Cleveland
Eastern Regional Outreach Office

USPTO AI/ET Partnership Team Members

Matthew Sked
Christyann Pulliam
Srilakshmi Kumar
Renee Murdock
Robert Clarke
Steven Fulk
Fahd Patel
Candace Mundt-Bates
Charesse Evans

Jerry Ma
Aleksandr Kerzhner
Branden Ritchie
Nalini Mummalaneni
Thomas Krause
Christian Hannon
Philippa Olsen
Kathleen Mosser
Claudia Murguia

Survey



