

AI and Inventorship: Assessing the Present Framework and Shaping Future Policy

Dr Arul George Scaria

WIPO, November 5, 2025

The Expanding Role of AI - Two Scenarios



AI-Assisted Inventions

AI as a powerful tool supporting human inventors

Example: Use of AI tools for analysing molecular structures and predicting drug interactions



AI-Generated Inventions

AI systems autonomously conceive and develop inventions with minimal or no human interventions

Example: DABUS patent applications





Inventorship

- Historically, invention by individual **human inventors** - **central to patent law** in most jurisdictions

The Statute of Monopolies (1623)

"... any declaration before mentioned shall not extend to any letters patents and grants of privilege for the term of fourteen years, or under, hereafter to be made, of the sole working or making of any manner of new manufactures within this realm, to the **true and first inventor** and inventors of such manufactures, which others at the time of making such letters patents and grants shall not use ..."

Why Inventorship Assessment Matters

📄 Amy R. Motomura, 'The Inventorship Fallacy' (2025)

Direct Functions

- Attribution allocation
- Allocating initial ownership of rights
- Applicability of exceptions for prior disclosures
- Determining validity challenges
- ...

Indirect Functions

- Defines relationships between related patent filings

Invention and Inventorship

Most patent systems remain ambiguous about who qualifies as an inventor/ joint inventor

Conception as the cornerstone of inventorship — a mental act or the mental part of invention

Intrinsic linkage between inventorship and invention





The DABUS Applications: A Global Experiment

Food Container and Devices and Methods for Attracting Enhanced Attention

- **PCT Abstract:** A container (10) for use, for example, for beverages, has a wall (12) with an external surface (14) and an internal wall (16) of substantially uniform thickness. The wall (12) has a fractal profile which provides a series of fractal elements (18-28) on the interior and exterior surfaces (14-16), forming pits (40) and bulges (42) in the profile of the wall and in which a pit (40) as seen from one of the exterior or interior surfaces (12, 14) forms a bulge (42) on the other of the exterior or interior surfaces (12, 14). The profile enables multiple containers to be coupled together by inter-engagement of pits and bulges on corresponding ones of the containers. The profile also improves grip, as well as heat transfer into and out of the container. Devices for attracting enhanced attention include: an input signal of a lacunar pulse train having characteristics of a pulse frequency of approximately four Hertz and a pulse-train fractal dimension of approximately one-half; and at least one controllable light source configured to be pulsatingly operated by the input signal; wherein a neural flame emitted from at least one controllable light source as a result of the lacunar pulse train is adapted to serve as a uniquely-identifiable signal beacon over potentially-competing attention sources by selectively triggering human or artificial anomaly-detection filters, thereby attracting enhanced attention.

Inventor Listed: DABUS
(Device for the Autonomous Bootstrapping of Unified Science)

Applicant: Stephen Thaler (DABUS's owner)

Approach: Patent applications ~ 18 jurisdictions

United Kingdom: Natural Persons Only

2018: **Filing of two applications**

Both applications did not designate any human inventor
Grant forms mentioned that Dr Thaler was not an inventor

2020: Dismissal of the appeal by **High Court**

Upheld the UKIPO decision

December 2023: **Supreme Court**

Inventor under the Patents Act must be a natural person
Doctrine of accession not applicable. It concerns new tangible property produced by existing tangible property. It cannot confer on Dr Thaler the property in or the right to apply for and obtain a patent for any technical development autonomously made by DABUS

2019: **UKIPO Refusal**

UK Intellectual Property Office refused the applications - failure to meet requirements concerning inventorship and entitlement

2021: **Court of Appeals**

Upheld the High Court decision

United States: Natural Persons Only

2019: **Filing of two applications**

2019-20: **USPTO** Notice and Review of USPTO decision
Notice to file missing parts for each application
35 U.S.C. § 100(f) definition of inventor conveys that the inventor must be a natural person

2021: **District Court**

U.S. District Court for Eastern District of Virginia
Summary judgment in favour of USPTO

2022: **Court of Appeals for the Federal Circuit**
Affirmed the decision of the District Court - an inventor must be a human being

2023: **Supreme Court**

Denied petition for writ of certiorari

Japan: Natural Persons Only

2020: **Application**



2021: **JPO** Objection and Rejection



Only natural persons can be listed as inventors - Orders correction - Appeal filed - Appeal rejected

2024: Tokyo **District Court**



Tokyo District Court rules that 'inventor' under Patent Act does not include AI — limited to natural persons

January 2025: **IP High Court**



Intellectual Property High Court dismissed the appeal and affirmed the decision of the District Court

China: Natural Persons Only

2019: **Application**

April 2021: **CNIPA** - Initial Rejection

China National Intellectual Property Administration's preliminary examination division rejects application

July 2021: **Re-examination**

Reexamination request on grounds including Art. 7 of the Civil Code of China
Request for re-examination rejected

2024: Appeal - **Beijing Intellectual Property Court**
Appeal filed - Case No. 2024 Jing 73 Xing Chu 6353)

December 31, 2024: **New Guidelines**

CNIPA - *Guidelines for Patent Applications for AI-Related Inventions (Trial Implementation)*

Section 4.1.2, Chapter 1, Part 1: inventor must be an individual

India: Ongoing Examination

2020: **Application**

2021: **IPO** First Examination Report
True and first inventor of the invention is AI - not a person
as per section 2 and section 6 of the Patent Act 1970
Proof of right not submitted by applicant

July 2022: Response to FER
Response filed by Dr Stephen Thaler

October 2022: Pre-grant opposition
Submitted by Dr Kalyan C Kankanala

2024: Hearing and written submissions

Pre-grant hearing

Written submissions filed by the applicant and the opponent

South Africa: The Outlier



July 2021

Grant of Patent (No. 2021/03242) by the South African Companies and Intellectual Property Commission (CIPC)



The Collaborative Context We Cannot Ignore

Dan L. Burk, 'Causation and Conception in American Inventorship' (2022)



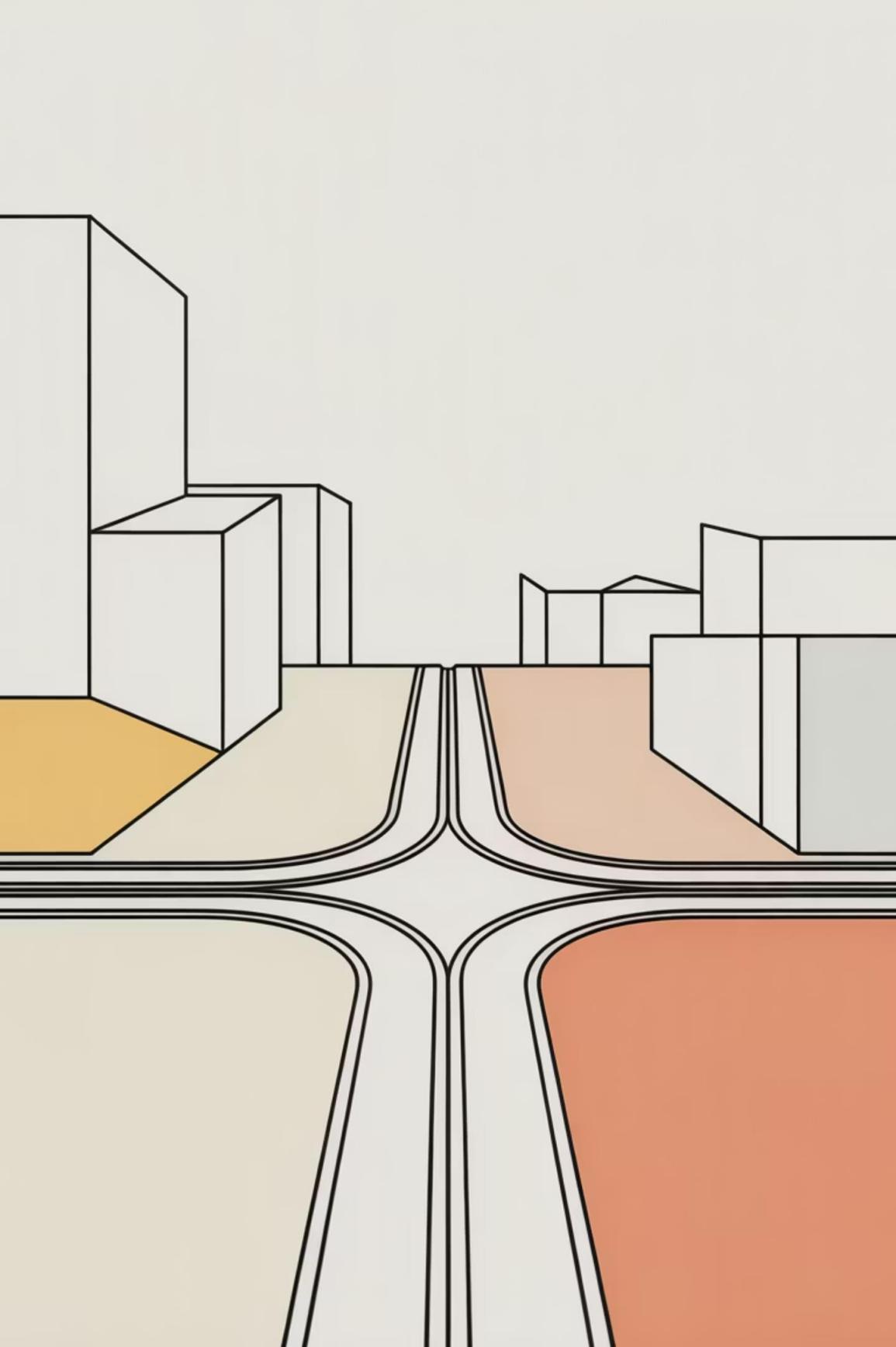
Collaborative reality

Most inventions result from collaborations among **human and non-human actors**



“As machine learning has advanced, aspects of research that were once undertaken by human labor are increasingly automated.”

“Conception is the work of the inventor. Reduction to practice, whether done by the inventor herself, by a flock of lab technicians, or by an AI device, is neither necessary nor sufficient for inventorship.”



Potential Policy Paths

📄 WIPO, *Getting the Innovation Ecosystem Ready for AI: An IP Policy Toolkit* (2024)

1 Status Quo

Continue to recognise **human inventors only**, maintaining decades of legal tradition

2 Direct Recognition

Revise patent laws to allow an AI system to be named as an **inventor or joint inventor** on patent applications

3 Proxy Approach

Revise patent laws to require a **legal person as proxy** for the AI (joint) inventor, while recording the AI system's inventive contribution

4 New Framework

Work towards a *sui generis* intellectual property law for AI-generated inventions

What About AI-Assisted Inventions?

Example: USPTO Inventorship Guidance for AI-Assisted Inventions (2024)

"While AI systems and other nonnatural persons **cannot be listed as inventors** on patent applications or patents, the use of an AI system by a natural person(s) **does not preclude a natural person(s) from qualifying as an inventor** (or joint inventors) if the natural person(s) **significantly contributed to the claimed invention...**"



Focus on Human Contribution

Applications must name the natural person(s) who significantly contributed to the invention as inventor or joint inventors meeting the *Pannu factors*



AI Exclusion Maintained

Applications **cannot** list any entity that is not a natural person as inventor



Support for collaborative creativity

Generally supports collaborative creativity and incentive concerns

Most significant challenge?

Proper disclosure



What all to be disclosed?

Algorithms, training data, user inputs, ...



Distinguishing inputs

Ability to distinguish the human inventor's inputs from AI inputs.



Global standards & enforceability

Developing clear and consistent standards across jurisdictions on what constitutes "proper disclosure"

Enforceability concerns to be addressed

Thank You



Questions & Comments:

Dr Arul George Scaria

Professor, National Law School of India University

Bengaluru, India

<https://www.nls.ac.in/faculty/dr-arul-george-scaria/>

Email: arul.scaria@nls.ac.in

These slides are released under Creative Commons Attribution 4.0 International license.

Note: Views expressed are personal. Gamma.app was used for the designing of slides and creation of images. Mistakes, if any, are my own!