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Inventorship in patents and the difference to authorship in scientific publications.

There are many guidelines discussing who should be given credit as author on scientific publications, but it remains a complex issue in particular with regard to the legal situation given by IP laws. With increasing complexity of research and international collaboration the average number of authors continues to be on the rise. An analysis and recommendation on authorship is provided by the Swiss Academies of Arts and Sciences[1] and there are many such guidelines published internationally.

Even more complex is the question of inventorship on patents. Across all major countries patent laws leave the question of who should be designated as inventor vague and there are no published guidelines available. In this short article Unitectra provides a short introduction to the question of inventorship and how we are dealing with the question of inventorship at the Universities of Basel, Bern and Zurich.

On average 3 inventors on a patent but more than 6 authors on a scientific publication

It is hard to impossible to find reliable statistics on number of inventors and number of authors, but some data is suggesting that the average number of inventors per patent is 3 while the number of authors on scientific papers is roughly 6. So, there is either a difference in the nature of the scientific paper compared to the nature of a patent application, or there is a difference of who qualifies as inventor versus who qualifies as author. Both statements are true.

Now what is the definition of a patent inventor

Unfortunately, the answer cannot be found in patent laws (many are silent on the concept of inventorship). It is the case law (decisions from previous court cases) that provides some guidance on who is an inventor and who is not an inventor. In this short article we are not able to do justice to the variations between different countries and patent systems, e.g. in Germany, Switzerland, UK, US. To help researchers understand the concept of inventorship (and who cannot be considered an inventor) we have listed a few statements below.

Statements suggesting inventorship

- The key question is who conceived an essential part of the invention. A person who contributes to the conception of the invention, is an inventor.
- Someone who solves a problem that is an important element of the invention, so someone who helps to reduce the invention to practice, with a creative contribution will be an inventor

Statements not suggesting inventorship

- Someone who is conducting an experiment that is based on instructions, using state of the art or routine methodology and not requiring creative and inventive solutioning will not be an inventor.
- A colleague providing biological material will not be an inventor unless the creation of the material is essential and integral part of the invention. However, please note that such provider of biological material may have contractual rights in such a patent (e.g. from a Material Transfer Agreement)

[1] Authorship in scientific publications; by Scientific Integrity Committee of the Swiss Academies of Arts and Science

- Someone who had originally provided some ideas but none of these ideas made it to the final invention / patent application, will not be an inventor
- A group head providing funding will not be an inventor
- Someone who identifies the problem (e.g. suggests to conduct some research in the field) but does not provide inventive elements to the solution is not an inventor

For the interested reader and specific case examples here are several good book chapters and papers discussing further case law and examples. [2][3][4] or a summary of case law from US Patent Office (USPTO)[5].

And how is inventorship finally determined?

The good news is that in most cases inventorship is clear and there is a quick agreement reached between contributors to the invention when they submit the Confidential Invention Disclosure Form[6] (CID). One important aspect of completing the CID is preparing a good summary of the invention and once this is done it is usually straightforward for the contributors to define inventorship and the percentage of their contribution. Should there be a major disagreement between the contributors it might make sense to involve a patent attorney to finally decide on inventorship.

Future Challenge – AI developed inventions

A very interesting case is currently keeping courts and patent offices busy around the world. Can an invention be made by an AI system and can such an invention lists (as sole inventors or among human inventors) an AI system as an inventor. So far patent offices and courts rejected the request and ruled that on a patent human inventors must be designated. Only the future will tell how AI developed inventions will be treated in the patent system, but for the time being we know that no software or analytics software (however significant the contribution was) can be designated as inventor.

For any questions around inventorship, inventions or patent applications, researchers of the Universities of Basel, Bern or Zurich may contact the technology transfer office Unitectra.

[2] The Murky World of Inventorship; Biotechnology Law; Allan Morrison
[3] Autorship versus Inventorship; Patentlens
[4] Sheiness, D., Canady, K. The importance of getting inventorship right. Nat Biotechnol 24, 153–154 (2006). https://doi.org/10.1038/nbt0206-153
[5] Inventorship; US Patent Office
[6] Confidential Invention Disclosure Form by Unitectra – tech transfer office of the Universities of Basel, Bern and Zurich