AI in the life sciences: on the up, or over-hyped?

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Recently I found myself having a fascinating conversation about the potential artificial intelligence (AI) holds for drug discovery. A field that is plagued by high failure rates and thus high costs, AI has the potential to drastically improve the efficiency of the drug discovery process. However, that's not the only field seeing AI's potential.

Deep learning has recently been used in engineering, to try to predict material properties without having to physically create the structure. It has been suggested for use in predicting risk of early death in a bid to improve preventative healthcare. It also has shown potential for use in individualizing brain tumor treatment, and in predicting survival for those with ovarian cancer.

On the face of it, it sounds like AI will be able to revolutionize most of the fields within the life sciences, and this is already happening in some. However, as we walk further down the AI path, plenty of questions are arising.

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For example, just how much can a machine learn – a tool might be successful in the short term, but how can we tell if it continues to be so? How will its use affect intellectual property? Given that data will be core to many AI-based processes, how will it affect data privacy, as well as value? And how will it impact the employment landscape?

These questions will certainly need to be considered carefully if AI's star continues to rise, and I'm inclined to think it does indeed have a bright future in the life sciences. However, it also has the potential to fall foul of its own fame, something that has affected concepts such as CRISPR and organs-on-chip, where hype has outshone the results.

Regardless of the questions, it seems that AI is here to stay, and I'm looking forward to seeing how scientists continue to harness it in ever new ways, albeit while trying not to think too hard about the inevitable plot lines of most AI-related films....

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