Short Communication

In theory–Sharing AI's black box sounds great–But in reality it's not

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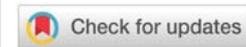
In theory, the concept of sharing scientific information and knowledge seems safe [1]. However, in reality those who seek to obtain that knowledge are not always so pure in motive – consider Nobel's experience with dynamite (Patent # 78317) - something driven home at every meeting we present *The Fleming Method for Tissue and Vascular Differentiation and Metabolism* (FMTVDM) at [2], an example of which is shown in Figure 1.

Figure 1: An example of FMTVDM for coronary artery disease quantified measurement.
FMTVDM derived measurements for specific regions-of-interest (ROIs). Further details are explained elsewhere [2].

Last year during the 2018 ASNC Conference, we presented research information on an AI for quantification of nuclear imaging utilizing Quantitative Coronary Arteriography (QCA) and FMTVDM for Machine-to-Machine (M2M) learning [3,4]. The proprietary equations derived over two decades are a key component to the application of the intellectual property of the utility patent–FMTVDM [5-7]–and are continuing to evolve. Fortunately these proprietary equations remain separate from the patent. Providing a double safe guard against those whose motives is less focused on providing better patient care and more attentive on making money.

Every time we present–either at conferences or publications–we receive the same request for the raw data, from which these proprietary equations could be derived. Many people are so bold as to ask for the actual proprietary equations themselves incorrectly believing they have the right to that knowledge. When they ask what the proprietary equations are–we simply tell them– *they're proprietary*.

During the Artificial Intelligence (AI) session at the same conference, one of the younger investigators in the audience asked IBM, Google, Apple and others–the panelists for the AI session – during the Q & A, why researchers should share their raw data with these corporations, who will then use the data to produce patented products. Products, which the researchers–and others–will then have to pay to use? The original researcher does the work, while these corporations and BigPharma, will take that research for the purpose of making money. The original researcher will no longer be able to afford to use their own research because it will be legally owned by these corporations; corporations who did none of the original work.
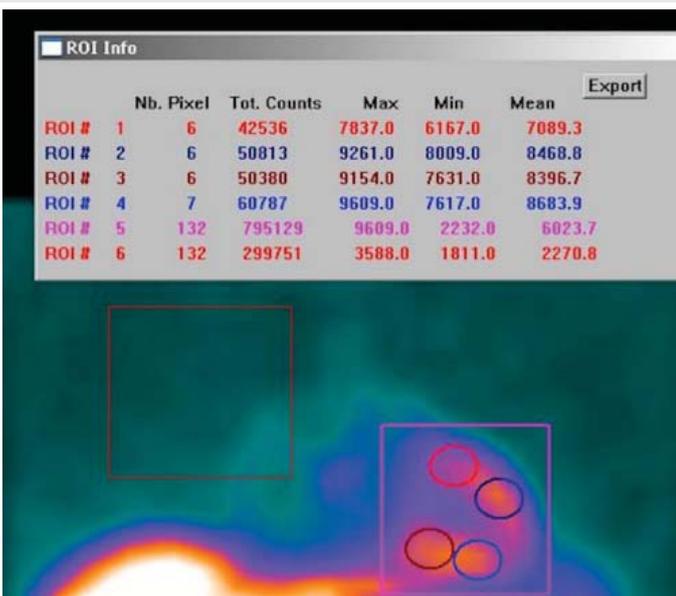
For research studies not including potential intellectual property we would agree with the potential availability of raw data. The first author has provided such data on multiple occasions–e.g. dietary research NCT00324545–to assist with a better understanding of the impact of certain diets.

The next question becomes whom such data should be made available to. Just because someone owns a computer and can run analytic programs does not mean they are qualified to analyze, interpret or discuss the data. As was true during the time of Nobel, there are many who believe–particularly during this era of social media–that their voice should be heard in the discussion of topics, which they–many times–have a vested financial interest in. Science is not elevated by such discussions and progress is retarded through such financial interests.

That being said–we agree with the release of raw data under circumstances where legitimate scientists and physician-scientists are asking to see the data for the purpose of understanding outcomes. We also agree with the release of non-IP data to appropriate journals and conferences, so the journals and conferences can determine research validity–all of which should occur prior to the conference or publication, to address any legitimate questions or concerns.

However, we do not agree with the release of IP data absent NDA and contractual agreements–and then believe such IP needs to be carefully protected from contamination and abuse [8] by individuals and corporations, whose motivations are not patient driven. Something guaranteed under Article I, Section 8, Clause 8 of the U.S. Constitution.

Acknowledgment

FMTVDM is a utility patent 9566037, issued to Dr. Fleming on 2-14-2017. Figure reproduced with expressed consent of first author.

Disclosures

FMTVDM is a utility patent issued to first author. Authors MR Fleming, TK Chaudhuri have no disclosures.

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