Helping clinicians in the era of precision medicine: Overview of the TREC 2017 Precision Medicine Track

Kirk Roberts, Ph.D.
Assistant Professor, UTHealth SBMI

A fundamental difficulty with putting the findings of precision medicine into practice is that, by its very nature, precision medicine creates a huge space of treatment options. These can easily overwhelm clinicians attempting to stay up-to-date with the latest findings, and can easily inhibit a clinician's attempts to determine the best possible treatment for a particular patient. However, the ability to quickly locate relevant evidence is the hallmark of information retrieval (IR). For this reason, the TREC 2017 Precision Medicine track focused on IR for providing clinical decision support for (cancer) precision medicine. Improving patient care in precision oncology requires both (a) a mechanism to locate the latest research relevant to a patient, and (b) a fallback mechanism to locate the most relevant clinical trials when the latest techniques prove ineffective for a patient. The TREC 2017 Precision Medicine track addresses both these cases with two separate document collections. This talk will describe the results of the first year of the track, as well as potential directions for future years.