



**Symposium: Beyond Sequence Alignment | 2017-10-16 | Abstracts**

**INFORMATION AND SEMANTICS IN DNA**

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DNA sequences are transcribed into RNA and subsequently either translated into protein (coding sequences) or form directly, biologically active molecules or structures (noncoding sequences). These are obtained by folding of the single-stranded RNA by means of base pairings and it is well known that sequences and structures are not in a one-to-one correspondence.

This suggests that the prevailing framework of sequence alignment, tacitly assuming, that DNA "information" is tantamount to the nucleotide sequence itself, can be augmented, explicitly incorporating structural information.

In this talk we introduce some ideas as to how the interplay between sequences and structures can provide deeper insights into quantifying sequence, as well as structure similarity. We shall shift the paradigm from sequences considered in isolation to studying sequence-structure pairs.

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