„The Art of Sequence Alignment"

Abstract (for faculty speech at UMA on May 23, 2014)

Sequence similarity: why are we interested in, how do you define it

Scoring metrics: what is important in similarity

Scoring with DNA: integrating biological knowledge

Scoring with proteins: integrating biological knowledge

PAMs and BLOSUMs: the marriage of statistics and biology

Gaps: how strong do they count?

Constant, affine and concave gap penalties

The dynamic programmig trick

Global versus local

Heuristics to get some speed

Can we trust our alignment?

PSI-BLAST & Co: highlights and traps

Multiple Sequence Alignment: finding and scoring them

The third dimension

From alignments to trees

Beyond alignments

Alois REGL, January 2014