

Single-molecule sensing with nanopores and nanoslits

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Propositions

accompanying the dissertation

SINGLE-MOLECULE SENSING WITH NANOPORES AND NANOSLITS

by

Wayne W. W. YANG

1. Extraordinary optical transmission will drive the development of new single-molecule sensing devices. *(Chapter 2, 7)*
2. Despite the success of biological nanopores in DNA sequencing, solid-state nanopores have unique characteristics for biosensing applications. *(Chapter 2, 4, 5)*
3. Graphene surfaces exhibit only weak lateral interactions with DNA. *(Chapter 6)*
4. Research ideas should be given a protective incubation period before their purpose is questioned.
5. Selecting a good research team is more important than a good research project.
6. All students should be allowed to take *any* course outside the discipline of the degree program offered by their academic institution.
7. Good supervision and mentorship matter more than intrinsic aptitudes in producing good researchers.
8. Directness should not be prioritised over empathy and compassion.
9. The choice for an academic career is enabled by both a passion for science and also by the privileged ability to afford the financial and personal opportunity costs.
10. It is pointless to get researchers to record working hours since most progress in science happens outside working hours.

These propositions are regarded as opposable and defensible, and have been approved as such by the promotor prof. dr. C. Dekker.