Propositions accompanying the thesis

1. Whole genome sequencing provides us with a valuable tool to determine clinically relevant molecular features for informed treatment choices, such as high tumor mutational burden, homologous recombination deficiency, microsatellite instability, and actionable mutations in one assay.

   [this thesis]

2. Next generation sequencing of circulating tumor DNA in patients with tissue-tested *RAS* wild type metastatic colorectal cancer can identify additional *RAS* mutation-carriers and select patients likely not responding to anti-EFGR monoclonal antibodies.

   [this thesis]

3. The applicability of whole exome sequencing of cell-free DNA currently mainly resides in a selected group of patients with a high tumor fraction.

   [this thesis]

4. Radiomics is a promising tool for molecular characterization of many tumors, but it is not expected that radiomics can replace or reflect all molecular details present in a tumor.

   [this thesis]

5. Aneuploidy in cerebrospinal fluid-derived cell-free DNA represents a promising biomarker to improve timely detection of leptomeningeal metastases.

   [this thesis]

6. Gathering detailed clinical information is more difficult — and more expensive — than sequencing genomes, particularly in the many countries that lack a unified health-care system.

   The ICGC/TCGA Pan-Cancer Analysis of Whole Genomes Consortium, Nature, 2020 Feb;578(7793):82-93

7. Historically, cancer clinical trials have excluded patients with brain metastases out of concern for poor life expectancy and intervention tolerability. Given the high incidence of secondary brain metastases across cancer types, excluding these patients from clinical trials may limit generalizability of study results.

   Patel et al., Neuro Oncology, 2020 Apr 15;22(4):577-579

8. Genomic alterations do not have the same significance across tumor types.

   Prahallad et al., Nature, 2012 Jan 26;483(7387):100-103

9. The use of tissue biopsies as a reference standard is questionable. Apart from the intratumor heterogeneity of the lesion biopsied which is used as a reference, circulating tumor DNA or circulating tumor cells can be derived from lesions that were not biopsied and may contain a divergent genomic composition.

   Reimers and Pantel, Clin Chem Lab Med, 2019 Feb 25;57(3):312-316.

10. COVID-19 poses an unprecedented challenge to healthcare systems. However, it is also important to realize that mortality from other diseases, such as – but not limited to – cancer, remains substantial.

    van de Haar et al. Nature Medicine 2020 Apr 16 [epub ahead of print]

11. For the things we have to learn before we can do them, we learn by doing them.

    Aristotle; and often used by my dad