

Contents

Abstract	3
1 Introduction	13
1.1 Next-Generation Sequencing in transcriptomics	15
1.2 lrrRNA-Seq	20
1.2.1 PacBio sequencing	21
1.2.2 ONT sequencing	24
1.3 Bioinformatic tools for lrrRNA-Seq	29
1.3.1 Tools for transcriptome reconstruction	30
2 Motivation, aims and contributions	37
2.1 Motivation	39

2.2 Aims	42
2.3 Contributions.....	43
2.3.1 Main publications.....	43
2.3.2 Other publications	44
2.3.3 Conferences	45
2.3.4 Software development	46
2.3.5 Master's thesis supervision	47
2.3.6 Courses.....	47
3 SQANTI3	49
3.1 Reference and author contribution.....	51
3.2 SQANTI3 Brief Communication paper (author's version)	53
3.3 SQANTI3 Supplementary Information.	87
4 LRGASP	119
4.1 Reference and author contribution.....	121
4.2 LRGASP Registered Report paper (author's version).....	125
4.3 LRGASP Supplementary Figures: Challenges 1 and 3	181
5 Global discussion of the results	253
6 Conclusions	267

References **282**