

# Directed assembly and development of engineered tissues using microwell screening platforms

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# Statements

accompanying the dissertation

## Directed assembly and development of engineered tissues using microwell screening platforms

by

**Erik J. Vrij**

Maastricht, 1 December 2016

1. The freedom of *in vitro*-generated tissues to self-deform and remodel permits the formation of tissue architectures akin to their native analogues. (*This thesis*)
2. High numbers of biological replicates are essential in directing the differentiation and development of complex multicellular models. (*This thesis*)
3. Incorporating the embryonic and extraembryonic compartments yields superior *in vitro* models of mammalian preimplantation development ("*blastoids*"). (*This thesis*)
4. The ability to proliferate adult stem cells *in vitro* while maintaining their identity would speed up development of regenerative therapies.
5. Microwell screening platforms based on standard multi-well plate formats can play an important role in catalyzing the study of development and disease in 3D models. (*Valorization*)
6. Preserving earth's biodiversity is key for the tissue engineering field in the long run as it provides genetic templates of the biological workspace.
7. Deterministic understanding of the emergence of organization in multicellular structures is yet in its infancy.
8. The method of directed sequential assembly and development of cell-only building blocks renders the use of synthetic scaffold materials redundant in the formation of large mechanically stable tissues. (*This thesis*)
9. Creativiteit is het leggen van net niet voor de hand liggende associaties en gedijt het beste zonder dirigent