W33 – Bioimage Computing

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Bioimage Computing is a series of workshops that focuses on the on the interface between engineering, biology and computer science. State-of-the-art light microscopy (LM) can deliver 2D and 3D image sequences of living cells with unprecedented image quality and ever growing resolution in space and time. The emergence of novel and quite diverse LM modalities has provided biologists with formidable means to explore cell mechanisms, embryogenesis, or neural development, to quote just a few fundamental biological issues. Electron microscopy (EM) supplies information on the cell structure down to the nanometer resolution.

Computer vision techniques play a key part in addressing some of these challenges. This motivates why this workshop has been held in conjunction the the European Conference for Computer Vision in Munich 2018. As organisers we are very grateful that the proposal to host this workshop at ECCV had been accepted. It provided the community with an opportunity to learn about the recent challenges in biological image computing.

In particular we would like to thank our invited speakers for their contributions to the conference. Although these talks are not captured in these proceedings we would like to list these in this preface:

- **Rene Vidal** - Blood Cell Reconstruction, Detection, Classification and Counting in Holographic Images
- **Virginie Uhlmann** - Mathematical models for bioimage analysis
- **Julia Mahamid** - Interpreting Molecular Landscapes by In-Cell Cryo-Electron Tomography
- **Florian Jug** - Content-aware Image Restoration

From all research papers submitted, the organisers nominated six papers as oral presentations. All papers were presented in a dedicated poster session. Given the high level of attendance we are keen to continue with this workshop series and aim to hold a workshop at one of the major computer vision conferences in 2019.

We would like to express our gratitude to all our colleagues for submitting papers to the Bioimage Computing 2018, as well as to the members of the Program Committee for providing valuable reviews. In addition we would like to thank Mariia Dmitrieva, Sharib Ali, Felix Zhou, Avelino Javer and Korsuk Sirinukunwattana for providing additional reviews.

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