

InCeM - RESEARCH TRAINING NETWORK ON <u>IN</u>TEGRATED <u>COMPONENT CYCLING IN EPITHELIAL CELL MOTILITY</u>



Deliverable D6.1

Communication I

| Dissemination | | | | | |
|---------------|---|---|----------------|--|--|
| Lead | Level | Туре | Delivery Month | | |
| UKA | PU (Public) CO (Confidential) CI (Classified) | R (Document, report) DEM (Demonstrator, pilot, prototype) DEC (Websites, patent fillings, videos etc.) OTHER | M30 | | |



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| Version | Date | Author (Name, Institution) | Comments |
|---------|------------|--|--|
| 1.0 | 04.04.2017 | Rudolf Leube (UKA), Reinhard Windoffer (UKA) | First draft |
| 1.1 | 14.06.2017 | Christine Kempchen (UKA) | Addition of information to chapters 1 to 3 ("Introduction", "Publications" and "Presentations at international meetings") |
| 1.2 | 28.06.2017 | Nadieh Kuijpers (UKA), Anne Pora (UKA), Dmytro Kotsur (SCCH), Roman Yakobenchuk (SCCH) | Contribution to chapter 2 "Project publications" and addition of information to chapter 3 "Presentation at international meetings" |

VERSION CONTROL

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1 Introduction

One objective of work package 6 "Communication and dissemination" is the presentation of scientific data at international meetings and in publications. These two aspects are object of deliverable D6.1 "Communication I" and covers the period from month 1 (January 2015) until month 30 (June 2017).

2 Project publications

InCeM research results have been published in different project related publications as shown in the table below.

| No. | Туре | Title of the scientific publication | Authors | Title of the journal / Name of proceedings | Is/will Open Access provided to this publication? |
|-----|--------------------|--|--|--|--|
| 1 | Article in Journal | A computational framework for particle and whole cell tracking applied to a real biological dataset | Feng Wei Yang, Chandrasekhar Venkataraman, Vanessa Styles, Verena Kuttenberger, Elias Horn, Zeno von Guttenberg, Anotida Madzvamuse | Journal of Biomechanics | YES - available in Gold Open Access |
| 2 | Article in Journal | Projected finite elements for systems of reaction-diffusion equations on evolving spheroidal surfaces | Necibe Tuncer, Anotida Madzvamuse | Communications in Computational Physics | YES - available in Green Open Access |
| 3 | Article in Journal | A note on how to develop interdisciplinary collaborations between experimentalists and theoreticians | Anotida Madzvamuse, Sharon R. Lubkin | Interface Focus | YES - available in Green Open Access |

Table 2.1: InCeM project publications

| | | Depletion on Keratin Network Dynamics and Organization | Keinnard Windoffer, Nicole Schwarz, Raphaela Pohl, Andreas Omenzetter, Uwe Schnakenberg, Fabian Herb, Kraisorn Chaisaowong, Dorit Merhof, Lena Ramms, Gloria Fabris, Bernd Hoffmann, Rudolf Merkel, Rudolf E. Leube | | Green Open Access |
|---|--|--|---|--|--|
| 5 | Article in Journal | A robust and efficient adaptive multigrid solver for the optimal control of phase field formulations of geometric evolution law | Yang, F, Venkataraman, C, Styles, V and Madzvamuse, A | Communications in Computational Physics | YES - available in Green Open Access |
| 6 | Article in Journal | Stability analysis of reaction- diffusion models on evolving domains: The effects of cross- diffusion | Anotida Madzvamuse, Hussaini Ndakwo, Raquel Barreira | Discrete and Continuous Dynamical Systems | YES - available in Gold Open Access |
| 7 | Article in Journal | The bulk-surface finite element method for reaction-diffusion systems on stationary volumes | Anotida Madzvamuse, Andy H.W. Chung | Finite Elements in Analysis and Design | YES - available in Gold Open Access |
| 8 | Publication in Conference proceedings/ Workshop | Analysis of variable-order interacting multiple model algorithms for cell tracking | K. Lomanov, J. Martinez del Rincon, P. Miller & H. Gribben | Proceedings of the 18th Irish Machine Vision and Image Processing conference | YES - available in Green Open Access |
| 9 | Article in Journal | Intermediate Filaments as Organizers of Cellular Space: How They Affect Mitochondrial Structure and Function | Nicole Schwarz, Rudolf E. Leube | Cells | YES - available in Green Open Access |

Marcin Moch,

Reinhard



PLOS ONE

YES - available in

Green Open



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Project no. 642866

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Depletion on

Article in Journal



| 10 | Article in Journal | A modular and affordable time- lapse imaging and incubation system | Rodrigo Hernandez-Vera, Emil Schwan, Nikos Fatsis- Kavalopoulos | PLOS One | YES - available in Gold Open Access |
|----|--|---|---|---|--|
| 11 | Chapter in a Book | Intracellular Motility of Intermediate Filaments | Rudolf E. Leube, Marcin Moch, Reinhard Windoffer | The Cytoskeleton | YES - available in Green Open Access |
| 12 | Article in Journal | Analysis and Simulations of Coupled Bulk- surface Reaction- Diffusion Systems on Exponentially Evolving Volumes | A. Madzvamuse, A. H. Chung | Mathematical Modelling of Natural Phenomena | YES - available in Green Open Access |
| 13 | Publication in Conference proceedings/ Workshop | Active contour models for individual keratin filament tracking | Dmytro Kotsur, Rudolf Leube, Reinhard Windoffer, Julian Mattes | Proceedings of the OAGM&ARW Joint Workshop: Vision, Automation and Robotics | YES - available in Green Open Access |



3 Presentations at international meetings

Besides the publication of scientific results, InCeM has been presented to scientists, industry partners and to the general public on different European and international sessions. A complete overview is given in the table below.

Table 3.1: Overview of workshops, conferences and any other (international) meetings on which InCeM results have been presented

| Conferences, Workshops, Symposia, Colloquia, Retreats | Host / Place of event | Date of the event | ESR involved |
|--|--|-------------------------|--------------|
| EMBL symposium "Seeing is Believing - Imaging the Processes of Life" | EMBL Advanced Training Centre (ATC), Heidelberg (Germany) | 06.10.2015 - 10.10.2015 | ESR9 |
| Workshop "Multi-physics geometric PDE using deformable surfaces: Analysis, modelling, numeric and applications" | University of Sussex (United Kingdom) | 04.11.2015 - 06.11.2015 | ESR15 |
| CancerGenoics.nl Meeting (CGC) "Molecular and Cellular Aspects of Cancer" | Royal Tropical Institute, Amsterdam (The Netherlands) | 19.11.2015 - 20.11.2015 | ESR7 |
| Workshop "Chemotaxis Assays and Video Microscopy" | IBIDI, München (Germany) | 25.11.2015 - 26.11.2015 | ESR1 |
| Mechanobiology Colloquium: Opportunities for Interdisciplinary Research from Molecules to Tissues | Uniklinik RWTH Aachen (Germany) | 26.11.2015 | ESR3, ESR4 |
| The Sackler Biophysics Symposium on: Physics of Living Systems | Tel Aviv University, Tel Aviv (Israel) | 15.12.2015 | ESR13 |



| SCCH Forum: people from different projects/teams at SCCH share their knowledge and success in areas such as image processing (including medical imaging), computer vision and machine learning | SCCH in Hagenberg (Austria) | ongoing since January 2016 (once a month) | ESR11, ESR14 |
|--|--|--|--------------|
| Postgraduate research 1st year poster session: gives an opportunity to introduce your research topic to the wider research community within EEECS, whilst also gaining valuable experience in fielding the types of questions that you may encounter during sessions at conferences. | Queen´s University Belfast, Belfast (Ireland) | 25.05.2016 | ESR10 |
| 29th IEEE Conference on Computer Vision and Pattern Recognition (CVPR): attendance at presentations, interactive sessions, plenary talks, demos and exhibitions, as well as attendance at two workshops relevant to our research: Computer Vision for Microscopy Image Analysis and Performance Evaluation of Tracking and Surveillance (PETS). | Las Vegas (United States of America) | 26.06.2016 - 01.07.2016 | ESR10 |
| European Conference on Mathematical and Theoretical Biology (ECMTB 2016) and SMB Annual Meeting | University of Nottingham (United Kingdom) | 11.07.2016 - 15.07.2016 | ESR12, ESR15 |



| CSND PhD Retreat 2016 and poster presentation by ESR7 (no further details on poster title provided) | Biezenmortel (The Netherlands) | 15.07.2016 - 17.07.2016 | ESR7 |
|--|---|-------------------------|--------------|
| Ruhr forum: Chromosome and cytoskeleton - Presentation at the UDE/MPI retreat | Essen (Germany) | 05.08.2016 | ESR9 |
| Irish Machine Vision and Image Processing (IMVIP) 2016 conference: annual event bringing together academics, industry and students from these and related disciplines. We orally presented our paper "Analysis of variable-order interacting multiple model algorithms for cell tracking". | Galway (Ireland) | 25.08.2016 - 26.08.2016 | ESR10 |
| Workshop "CXXIV European Study Group with Industry (ESGI)" | National Research Council, Rome (Italy) | 29.08.2016 - 02.09.2016 | ESR12, ESR15 |
| 623th WE-Heraus Seminar on Cellular Dynamics | Physikzentrum Bad Honnef (Germany) | 04.09.2016 - 07.09.2016 | ESR3, ESR4 |
| BioDynamics Workshop 2016 | University of Exeter (United Kingdom) | 07.09.2016 - 09.09.2016 | ESR15 |
| EMBL symposium "Actin in Action: From Molecules to Cellular Functions" | EMBL Advanced Training Centre (ATC), Heidelberg (Germany) | 07.09.2016 - 10.09.2016 | ESR9 |
| Conference "BioSoft Frontiers: Physics of Soft and Biological Matter" | Weizmann Institute of Science, Rehovot (Israel), Tel Aviv University, Tel Aviv (Israel) | 18.09.2016 - 21.09.2016 | ESR8, ESR13 |
| Annual meeting of the German Society for Biomaterials | RWTH Aachen University, Aachen (Germany) | 28.09.2016 - 01.10.2016 | ESR4 |



| Austrian Computer Science Day ACSC2016: an annual assembly that aims to bring together computer scientists across Austria and beyond to improve networking. The special topic this year is Biomedical Computing. | JKU in Linz (Austria) | 10.10.2016 | ESR11, ESR14 |
|--|---|-------------------------|--------------|
| Joint retreat "Curie meets Hubrecht" between the Hubrecht Institute and Curie Institute with 85 participants. The aim of the retreat was to learn about work done at the different institutes, and to get to know each other better, ultimately as an effort to stimulate collaborations between European researchers. | Doorwerth (The Netherlands) | 10.11.2016 - 12.11.2016 | ESR7 |
| Southern Africa Mathematical Sciences Association (SAMSA) - Masamu Program | Court Classique and University of Pretoria (South Africa) | 18.11.2016 - 27.11.2016 | ESR12, ESR15 |
| SPP 1782 Methods in Mechanobiology workshop | Forschungszentrum Jülich (Germany) | 03.04.2017 - 06.04.2017 | ESR9 |
| OAGM & ARW Joint Workshop 2017 on "Vision, Automation & Robotics" | Technical University of Vienna, AIT Austrian Institute of Technology and UAS Technikum Wien (Austria) | 10.05.2017 - 12.05.2017 | ESR14 |



| 10th European meeting on Intermediate Filaments Poster presentations "Keratin intermediate filament dynamics during epithelial cell migration" (ESR3), "Mechanophysical Regulation of the Keratin Network in Migrating Keratinocytes" (ESR4), "Tracking the Dynamics of Individual Keratin Filaments" (ESR11, ESR14) and "Keratin filament nucleation during desmosome assembly" (UKA, Leube & Windoffer) Presentation "Keratins and Actins: Foes or Friends?" (UKA, Leube) | Le Palais du Grand Large, Saint Malo, France | 14.06.2017 - 17.06.2017 | ESR4, UKA (Windoffer) for ESR3, ESR11 and ESR14, UKA (Leube) |
|--|---|-------------------------|---|
| Symposium "Mechanobiology: How cells and tissues respond to and deal with mechanical stress" | Uniklinik RWTH Aachen (Germany) | 07.04.2017 | ESR3, ESR4 |
| When Development meets Cell Biology | Société Française de Biologie du Développement (SFBD) and Société de Biologie Cellulaire de France (SBCF), Lyon (France) | 26.04.2017 - 29.04.2017 | ESR3, ESR4 |