

# ANDREW G. CLARK, PHD

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EMBO Postdoctoral Fellow, Institut Curie

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## EDUCATION

9.2008-3.2013      **Technische Universität Dresden / Max Planck Institute for Molecular Cell Biology and Genetics**, Dresden, Germany

*Ph.D.*

- Department: Biology
- Final Grade: *summa cum laude*

9.2003-5.2007      **University of Wisconsin-Madison**, Madison, Wisconsin, USA

*B.S. with honors*

- Major: Molecular Biology
- Cumulative GPA: 3.97/4.00

## RESEARCH EXPERIENCE

9.2014-Present      **Postdoctoral Fellow**  
**Institut Curie, Subcellular Structure and Cellular Dynamics Unit**  
**(UMR 144)**, Paris, France

Regulation of Cell Migration during Tumor Invasion and Metastasis

Advisor: Dr. Danijela Matic Vignjevic

5.2013-8.2014      **Postdoctoral Fellow**  
**MRC Laboratory of Molecular Cell Biology (LMCB)**, University College  
**London**, London, UK

Regulation of Actomyosin Cortex Thickness and Organization

Advisor: Professor Ewa K. Paluch

11.2008-5.2013      **Predoctoral Research Assistant**  
**Max Planck Institute for Molecular Cell Biology and Genetics (MPI-CBG)**,  
Dresden, Germany

Thickness, Dynamics and Mechanics of the Actomyosin Cortex

Advisor: Dr. Ewa K. Paluch

9.2004-8.2008      **Undergraduate Research Assistant / Technician**  
**Dept. of Zoology, University of Wisconsin-Madison**, Madison, Wisconsin, USA

Identification of novel small-molecule inhibitors of cytokinesis and wound healing;  
cooperative multicellular wound healing in the *Xenopus* embryo

Advisor: Professor William M. Bement

8.2007                    **Research Assistant**  
**Center for Cell Dynamics, Friday Harbor Labs**, Friday Harbor, Washington, USA

Characterization of small-molecule inhibitors of cytokinesis in echinoderms

Advisors: Professors William M. Bement, George von Dassow and Victoria Foe

9.2003-5.2004           **Undergraduate Research Assistant**  
**Dept. of Animal Health and Sciences, University of Wisconsin-Madison**,  
Madison, Wisconsin, USA

The relationship between chronic salt loading and serotonin receptor expression

Advisor: Professor Mark S. Brownfield

## **RESEARCH SKILLS**

- basic tissue culture
- preparation and use of *Xenopus laevis* oocytes and embryos
- preparation and use of sand dollar and sea urchin embryos
- fixation and preparation of brain tissue from whole rats
  
- 4-D and high-resolution fluorescent confocal microscopy
- sub-resolution image analysis
- restriction enzyme- and recombination-based genetic cloning
- micropipette aspiration for biophysical measurements
- preparation and use of microchannels for single-cell imaging
- immunohistochemistry
- Western blotting
- cell-based assays for drug screening
- *in vitro* mRNA synthesis
- microinjection

## **PROGRAMMING LANGUAGES**

Python - Advanced

Matlab - Intermediate

Fiji/ImageJ Macro - Intermediate

LaTeX - Intermediate

## PUBLICATIONS

Clark A.G. and D.M. Vignjevic (2015) Modes of Cancer Cell Invasion and the Role of the Microenvironment. *Current Opinion in Cell Biology*. **36**:13-22.

Clark A.G., Wartlick O., Salbreux G. and E.K. Paluch (2014) Stresses at the Cell Surface during Animal Cell Morphogenesis. *Current Biology*. **24(10)**:R484-R494.

Clark A.G., Dierkes K. and E.K. Paluch (2013) Monitoring Actin Cortex Thickness in Live Cells. *Biophysical Journal*. **105(3)**:570-580.

Clark A.G., Sider J.R., Verbrugghe K., Fenteany G., von Dassow G. and W.M. Bement (2012) Identification of Small Molecule Inhibitors of Cytokinesis and Single Cell Wound Repair. *Cytoskeleton*. **69(11)**:1010-1020.

Clark A.G. and E. Paluch (2011) Mechanics of Cell Shape Regulation During the Cell Cycle. In: Kubiak JZ (1.ed) *Cell Cycle in Development*. Springer, Berlin.

Clark, A.G., Miller, A.L., Vaughan, E., Yu, H.-Y.E., Penkert, R., and W.M. Bement (2009) Integration of Single and Multicellular Wound Responses. *Current Biology*. **19**:1389-1395.

\*Faculty of 1000 *F1000Prime* Recommended Article

Bement, W.M., Yu, H.-Y.E., Burkel, B.M., Vaughan, E.M., and A.G. Clark (2007) Rehabilitation and the Single Cell. *Current Opinion in Cell Biology*. **19**:95-100.

## PUBLIC TALKS

"Regulation of actomyosin cortex architecture in animal cell morphogenesis" Annual Meeting of the American Society for Cell Biology (12.2013, New Orleans, Louisiana, USA)

"Monitoring actin cortex thickness in live cells" Conference: Mechanical Manipulations and Responses at the Scale of Cells and Beyond (4.2013, Bangalore, India)

"Thickness and dynamics of the actomyosin cortex" Annual Meeting of the German Society for Cell Biology (3.2012, Dresden, Germany)

"Dynamics and organization of the actomyosin cortex" Circle Meeting on Biophysics (4.2011, Saarbrücken, Germany).

"Mechanics and regulation of cortical actin turnover" Workshop: Mechanisms of cytoskeleton dynamics and intracellular trafficking (10.2010, Warsaw, Poland).

## POSTERS

"Regulation of collective cell chemotaxis during tumor invasion" Labex CelTisPhyBio Workshop: Cell Motility (3.2015, Paris, France)

"Regulation of the thickness and organization of the cellular actin cortex" Annual Meeting of the American Society for Cell Biology (12.2013, New Orleans, Louisiana, USA)

"Monitoring actin cortex thickness in live cells" European Cytoskeletal Forum: The Cytoskeleton in Tissue Repair and Diseases (9.2013, Fribourg, Switzerland)

"Monitoring actin cortex thickness in live cells" Annual Meeting of the American Society for Cell Biology (12.2012, San Francisco, California, USA)

"Thickness and dynamics of the actomyosin cortex" Circle Meeting on Biophysics (4.2012, Paris, France)

"Thickness and dynamics of the actomyosin cortex" Annual Meeting of the American Society for Cell Biology (12.2011, Denver, Colorado, USA)

"Mechanics, dynamics and organization of the actomyosin cortex" Gordon Research Conference: Motile & Contractile Systems (6/7.2011, New London, New Hampshire, USA)

"Roles for Myosin-2 in cell surface tension and cortical actin turnover" The Cellular Cytoskeleton: Common Organizing Principles in Mitosis, Migration and Cell Polarization (6.2010, Pingree Park, Colorado, USA)

"Roles for Myosin-2 in cell surface tension and cortical actin turnover" Circle Meeting on Biophysics (4.2010, Amsterdam, The Netherlands)

"A pipeline for exploring regulators of cortex tension" EMBO Conference: Physics of the Cell (9.2009, Primosten, Croatia)

"Regulation of the cell cortex and cellular mechanics" Physical Biology Circle Meeting (4.2009, Dresden, Germany)

"Using novel inhibitors to understand membrane-cortex interactions in single-cell wound healing and cytokinesis" (10.2008, Blebs and Cell Cortex Mechanics in Cell Movement Workshop, Dresden, Germany)

"Identification of novel inhibitors of cellular wound healing and cytokinesis" (12.2007, American Society for Cell Biology Annual Meeting, Washington DC, USA)

## TEACHING EXPERIENCE

- 4.2011-7.2011*      **Instructor and Teaching Assistant (undergraduate course)**  
**Seminar "Physics in Biology," Technische Universität Dresden,**  
Dresden, Germany
- 9.2009-11.2009*      **Practical Course Instructor (undergraduate/beginning PhD student courses)**  
**Methods and analysis of FRAP experiments, Max Planck Institute for Molec-**  
**ular Cell Biology and Genetics**  
Dresden, Germany
- 9.2006-5.2007*      **Course Instructor (undergraduate course)**  
**Undergraduate Research Scholars Program, University of Wisconsin-Madison,**  
Madison, Wisconsin, USA

## SUPERVISION EXPERIENCE

- 2.2010-4.2011*      **Steve Simmert, Master's Student (co-supervised with Ewa Paluch)**  
Max Planck Institute for Molecular Cell Biology and Genetics/  
Technische Universität Dresden  
Current Position: PhD Student, Technische Universität Dresden
- 9.2011-8.2014*      **Priyamvada Chugh, PhD Student (co-supervised with Ewa Paluch)**  
Max Planck Institute for Molecular Cell Biology and Genetics/  
Technische Universität Dresden; MRC Laboratory of Molecular Cell Biology (LMCB),  
University College London  
Current Position: PhD Student, University College London

## **HONORS AND AWARDS**

<i>2015-2017</i>	Long-Term Postdoctoral Fellowship, European Molecular Biology Organization (EMBO)
<i>2013</i>	Poster Prize, European Cytoskeletal Forum
<i>2012</i>	Travel Award, Dresden International Graduate School for Biomedicine and Bioengineering (DIGS-BB)
<i>2011</i>	Predoctoral Travel Award, American Society for Cell Biology (ASCB)
<i>2003-2007</i>	Dean's List Wisconsin Academic Excellence Scholars Program William F. Vilas Scholarship Medical Scholars Statewide Summer Research Fellowship

## **PROFESSIONAL MEMBERSHIPS**

The American Society for Cell Biology (ASCB)

## **SPOKEN LANGUAGES**

English - Native Speaker  
German - Fluent  
Spanish - Basic