

# Alexis Caspar (Alex) Faesen, PhD

(August 2017)

## Personal Data

Born in Amsterdam, 7th March 1982  
Dutch citizenship  
afaesen@mpibpc.mpg.de

## Scientific experience and education

**Max-Planck Research Group Leader**  
**Max-Planck Institute of Biophysical Chemistry, Göttingen**  
Since August 2017

**Post-doctoral fellow**  
**Max-Planck Institute of Molecular Physiology, Dortmund**  
Jan. 2012 – July 2017  
Advisor: Prof. Dr. Andrea Musacchio.

**Graduate Student**  
**Netherlands Cancer Institute, Amsterdam**  
Sept. 2005 to Dec. 2011  
Advisor: Prof. Dr. Titia Sixma

**Masters and Bachelor Studies (cum laude (top 5%))**  
**Eindhoven University of Technology**  
**Faculty of BioMedical Engineering**  
Sept. 2000 to August 2005  
Advisor Master studies: Dr. Maarten Merkx

**Research trainee**  
**School of Life Sciences, University of Dundee**  
Feb. to May 2004  
Advisor: Prof. Dr. D. M. F. van Aalten

**Degree in Technical Management**  
**Eindhoven University of Technology (NL)**  
2003 - 2004

## Scientific skills and expertise

- Structural biology – X-ray crystallography and SAXS
- Protein expression in *E.coli*, insect and mammalian cell systems
- Protein purification, including large macromolecular complexes
- Protein biochemical and biophysical methods (e.g. binding assays and kinetic assays)
- Confocal / TIRF Microscopy

## Patents held

Musacchio A, Petrovic A, Weir JR, **Faesen AC**. “In vitro assembly of a kinetochore complex”. European Patent Applications No. EP 14 176 039.7, EP 14 188 221.7 and EP 14 191 392.1

## Publications

Overlack K, Bange T, Weissmann F, **Faesen AC**, Maffini S, Primorac I, Müller F, Peters JM, Musacchio A. “BubR1 promotes Bub3-dependent APC/C inhibition during spindle assembly checkpoint signaling” *in press in* **Curr. Biol.** (2017)

**Faesen AC**<sup>#</sup>, Thanasoula M, Maffini S, Breit C, Müller F, van Gerwen S, Bange T, Musacchio A<sup>#</sup>. “Basis of catalytic assembly of the mitotic checkpoint complex” **Nature** (2017) Feb 23;542(7642):498-502. doi: 10.1038/nature21384

<sup>#</sup> *Co-corresponding author*

Weir JR\*, **Faesen AC**\*, Klare K\*, Basilico F, Fischböck, Pentakota S, Keller J, Petrovic A, Pesenti M, Vogt D, Wohlgemuth S, Herzog F, Musacchio A. “Insights from biochemical reconstitution into the architecture of human kinetochores” **Nature** (2016) Aug 31;537(7619):249-253

\* *Equal contribution*

Friese A, **Faesen AC**, Huis in 't Veld P, Fischböck J, Prumbaum D, Petrovic A, Raunser S, Herzog F, Musacchio A. “Molecular requirements for the inter-subunit interaction and kinetochore recruitment of SKAP and Astrin” **Nature Communications** (2016) Apr 20;7:11407

Meyer R, **Faesen AC**, Vogel K, Jeganathan S, Musacchio A, Niemeyer CM. “DNA-directed assembly of capture tools for constitutional studies of large protein complexes” **Small** (2015) Jun 10; 11(22):2669-74

**Faesen AC** and Musacchio A. “The (phospho) needle in the (MELT) Haystack” **Mol Cell** (2015) Mar 5; 57(5):765-6

Clerici M, Luna-Vargas MP, **Faesen AC**, Sixma TK. “The Dusp-Ubl domain of USP4 enhances its catalytic efficiency by promoting ubiquitin exchange” **Nature Communications**. (2014) Nov 18; 5:5399

**Faesen AC**, Luna-Vargas MPA and Sixma TK. “The role of UBL domains in Ubiquitin-Specific Proteases” **Biochemical Society Transactions** (2012) June 1; 40(3): 539-545

**Faesen AC**\*, Luna-Vargas MPA\*, Geurink PP, El Oualid F, Clerici M, Ovaa H, Sixma TK. “The differential modulation of USP activity by internal regulatory domains, interactors and seven Ub-chain types”. **Chem. Biol** (2011) Dec 23; 18(12): 1550-61

\* *Equal contribution*

**Faesen AC**, Dirac MG, Shanmugham A, Ovaa H, Perrakis A, Sixma TK. “The auto-activation mechanism of USP7/HAUSP by its ubiquitin-like (HUBL) domain is allosterically promoted by GMPS”. **Mol Cell**. (2011) Oct 7; 44(1): 147-59

*Evaluated by the faculty of F1000 as a “Very good”.*

**Faesen AC**, Sixma TK, Everett RD. “Ubiquitin Specific Protease 7”. Handbook of Proteolytic Enzymes edited by Neil Rawlings and Guy Salvesen, volume 3 (2011)

Shanmugham A, Fish A, Luna-Vargas MPA, **Faesen AC**, El Oualid F, Sixma T.K., Ovaa H. “Non-hydrolyzable Ubiquitin-isopeptide isosteres as Deubiquitinating enzymes probes” **J. Am. Chem. Soc.** (2010) Jul 7 ;132(26) :8834-5

Evers TH, Dongen van EMWM, **Faesen AC**, Meijer EW, Merckx M. “Quantitative understanding of energy transfer between fluorescent protein domains connected via flexible peptide linkers using the worm-like chain model”. **Biochemistry**. (2006) Nov 7;45 (44): 13183-92