

Curriculum Vitae

Jesús Andrés Arenas Busto

Scientific investigator

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SUMMARY

Dr. Jesús Arenas is a scientist researcher dedicated to the study of human pathogens. Dr. Arenas has worked on relevant research projects focused on virulence and vaccine of different microorganisms. Till data, Dr. Arenas published 15 articles, 5 book chapters and 1 book. He is first author of 11 publications (being one as shared first coauthor) and being second author in 4, which reflects his major contribution to the published work. Remarkably, many works were published in journals with high impact factor (IF) in the field of microbiology as PlosPathogens (IF 8.9), Journal proteome Research (IF 6.9), Environ microbiology (IF 6.2), Mol Microbiol (IF 5.0), BMC genomics (IF 4.2) or JBC (IF 4.2). It is remarkable that he is unique author of 1 article and 2 book chapters and corresponding author of 7 publications. Moreover, he contributed to 34 International and National Conferences; in 23 he signed as first author, in 4 as last author, and 10 were oral communications.

Dr. Jesús Arenas has 9 years of International Post-doctoral experience. After complete his PhD studies, he immediately moved to The Netherlands in where worked and collaborated with prestigious groups of different public research institutions, i.e. The Netherlands Vaccine Institute, Utrecht University, Utrecht Medical Center, Free University and Amsterdam Medical Center. It is also remarkable his collaboration with international companies (GlaxoSmithkline and Intravacc), creating an international network connection with private institutions. Dr. Jesús Arenas was awarded with several fellowships during his PhD and PostDoc, and he also has successfully obtained several research contracts abroad in projects of different nature. Others merits include personal invitations to scientific seminars and discussions with public research groups and companies (6), personal invitations to articles (1) and collaboration with scientific journals as referee. Currently, Dr. Arenas is working as team leader. He supervised a large number of research projects (26) to international and national students of diverse education levels (graduated, ungraduated, master students and postdocs) and collaborate in teaching responsibilities.

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1. EDUCATIONAL STUDIES

2003-2006. PhD in Biology. Cum Laude with highest honors. University of Santiago de Compostela (USC), Spain.

2005-2006. Specialization in vaccine expertise (post-graduated Specialist Studies). USC, Spain

2001-2003. Master studies in Prevention of Labour Risks. USC, Spain

2000-2002. Diploma de Estudios Avanzados (Research Advanced Studies, post-graduated Research Master). USC, Spain

1995-2000. Licenciado en Biología, especialista in Biología Molecular y Biotecnología. Graduate in Biology, specialist in Molecular Biology and Biotechnology (equivalent to BsC and MsC). USC, Spain

2. RESEARCH HISTORY / PROJECTS

2008-till date. Postdoctoral Position and Team Leader. Research group of Prf. Dr. Jan Tommassen, Dpt. of Microbiology. Faculty of Science, Utrecht University (UU), The Netherlands. Projects: i) Novel secretion systems in Gram negative bacteria, ii) Role of the secretome of *Neisseria meningitidis* in infection and protection and iii) Vaccine development in *Bordetella pertussis*. Funding: The Netherlands Organisation for Scientific Research (NWO), GlaxoSmithKline Biologicals and Intravacc.

2007. Postdoctoral Position. Research group of Prf. Dr. Jos van Putten, Dpt. of Infection and Immunity. Faculty of Veterinary, UU, The Netherlands. Project: Structural and functional analysis of TLR-4 receptor. Funding: NWO

2006-2007. Postdoctoral Position. Research group of Dr. Peter van der Ley, Laboratory of Vaccine Research, The Netherlands Vaccine Institute (NVI), The Netherlands. Project: Innate Immune Receptors. Funding: NVI and Personal Grant from Spanish Government.

2003-2006. PhD Student Position. Research group of Prf. Dr. Carlos Ferreirós Domínguez. Dpt. of Microbiology, Faculty of Pharmacy, USC, Spain. Project: Protein complexes of outer membrane of *Neisseria meningitidis* strains. Funding: Consellería de Educación e Ciencia and Personal Research Fellow (Spanish Government).

2000-2003. Master Research Student Position. Research group of Prf. Dr. Isabel Santos Rodríguez, Dpt. of Microbiology, Faculty of Biology, USC, Spain. Project: Development of immunoassay techniques for the detection and characterization of fish pathogens. Funding: Consellería de Educación e Ciencia Personal Research Fellow from Spanish Government.

3. SKILLS

Team Leader: Direction of projects, supervision of students and collaboration with several research groups

Autonomous Writing: Preparation of research manuscripts and Project applications.

Lab Manager: Safety, Organization, Equipment and devices, Cost efficiency control

Technical skills:

Bacteria and Eukaryotic cell manipulation. Bacteria manipulation and Identification (conventional and genetic-molecular test). Purification and analysis of bacterial components (protein, LPS, DNA, RNA), Eukaryotic Cell cultures (Macrophages, epithelial and endothelial cell lines).

Genetics and transcriptome. DNA recombinant technologies (cloning, preparation of constructs, production of recombinant proteins), sequencing, assembling, amplification of nucleic acids (PCR, RT-PCR, qRT-PCR).

Proteomics. SDS-PAGE and variants (Diagonal-SDS-PAGE, Native-PAGE, IEF, cross-linking). Protein purification: Expression and purification of recombinant proteins in bacterial systems, purification / renaturalization of outer membrane proteins with detergents / buffers. Protein Identification: MALDI-TOFF and Immune detection systems (dot-blotting, Western-blotting, ELISA, immune-microscopy). Electrophoretic mobility shift assays.

Bioinformatics. Comparative genomics, analysis of recombination sequences, statistical estimations and predictions, specific software for threat different data, e.g. biofilms, QRT-PCR.

FACS. Sorting, typing

Bacteria-bacteria and bacteria-cell interaction. Biofilm formation (static and flow systems), autoaggregation, infection assays [adhesion, intracellular survival, transcytosis], transfection, signalling, contact dependent growth inhibition.

Vaccine development. Design and preparation of antigen presentation systems (nanoparticles, liposomes, denature and native protein preparations). Identification and determination of vaccine candidates (cross reaction, accessibility, conservation, bactericidal activity). Analysis of potential adjuvants. Animal immunization and bleeding.

Microscopy and imaging: fluorescence and confocal microscopy

4. PUBLICATIONS

Arenas J*, de Maat V, Catón L, Krekorian M, Cruz J, Ferrera F, and Tommassen J. 2015. Fratricide activity of MafB protein of *N. meningitidis* strain B16B6. *BMC Microbiology*, 5;15:156.

Arenas J*, Cano S, Nijland R, van Dongen V, Rutten L, van der Ende A, Tommassen J. 2015. The meningococcal autotransporter AutA is implicated in autoaggregation and biofilm formation. *Environ Microbiol*, 25: 1462-2920.

Roussel-Jazédé V#, **Arenas J#**, Langereis JD, Tommassen J, and van Ulsen P. 2014. Variable processing of the IgA protease autotransporter at the cell surface of *Neisseria meningitidis*. *Microbiology*, 160: 2421-31.

Ur Rahman S, **Arenas J**, Oztürk H, Dekker N, van Ulsen P. 2014. The polypeptide Transport-associated (POTRA) Domains of TpsB Transporters determine the system Specificity of Two- partner Secretion Systems. *J Biol Chem*, 289:19799-809

Arenas J*, Schipper K, van Ulsen P, van der Ende A, Tommassen J. 2013. Gene Conversion at the 3' End of the Gene Encoding the Secreted Meningococcal Two-Partner Secretion Protein A. *BMC Genomics*. 14: 622.

Grijpstra J, **Arenas J**, Rutten L, Tommassen J. 2013. Autotransporter secretion: varying on a theme. *Res Microbiol*. 164: 562-82.

Arenas J*, Nijland R, Rodriguez FJ, Bosma T N P and Tommassen J. 2013. Involvement of three meningococcal surface-exposed proteins, the heparin-binding protein NhbA, the a-peptide of IgA protease and the autotransporter protease NalP, in initiation of biofilm formation. *Mol Microbiol*. 87: 254-68.

Arenas J*. 2012. The role of bacterial lipopolysaccharides as immunomodulator in vaccine and drug development. *Endocr Metab Immune Disord Drug Targets*, 12: 221-235.

Arenas J*, van Dijken H, Kuipers B, Jan Hamstra H, van der Ley P. 2010. Coincorporation of LpxL1 and PagL mutant lipopolysaccharides into liposomes with *Neisseria meningitidis* Opacity protein: Influence on endotoxic and adjuvant activity. *Clin Vaccine Immunol*, 17: 487-495.

van Vliet SJ, Steeghs L, Bruijns SCM, Vaezirad MM, Snijders Blok C, **Arenas Busto JA**, Deken M, van Putten JPM, van Kooyk Y. 2009. Variation of *Neisseria gonorrhoeae* lipooligosaccharide directs dendritic cell induced T helper responses. *PLoS Pathog*, 5: e1000625.

Arenas J, Abel A, Sánchez S, Marzoa J, Berrón S, van der Ley P, Criado MT, Ferreirós CM. 2008. A cross-reactive neisserial antigen encoded by the NMB0035 locus shows high sequence conservation but variable surface accessibility. *J Med Microbiol*, 57: 80-7.

Abel A, Sánchez S, **Arenas J**, Criado MT, Ferreirós C. 2007. Bioinformatic analysis of outer membrane proteome of *Neisseria meningitidis* and *Neisseria lactamica*. *Int Microbiol*, 10: 5-11.

Arenas J, Abel A, Sánchez S, Alcalá B, Criado MT, Ferreirós C. 2006. NMB0035 codes for a 47 kDa surface-accessible antigen highly conserved in *Neisseria meningitidis* and commensal *Neisseria*. *Int Microbiol*, 9: 273-80.

Sánchez S, Abel A, **Arenas J**, Criado MT, Ferreirós C. 2006. Cross-linking analysis of high-molecular-weight Outer Membrane Complexes of *Neisseria meningitidis*. *Res Microbiol*, 157: 136-142.

Sánchez S, **Arenas J**, Abel A, Criado MT, Ferreirós C. 2004. Analysis of outer membrane protein complexes and heat-modifiable proteins in *Neisseria* strains using two-dimensional diagonal electrophoresis. *J Proteome Res*, 4: 91-5.

Equal contribution, * Corresponding author

5. BOOKS

Arenas J*. Book Chapter: Bacterial Lipopolysaccharides. *In* Encyclopedia of Inflammatory Diseases. Ed. Michael J. Parnham, Springer. ISBN: 978-3-7643-8530-9. *In press*.

ur Rahman S, **Arenas J**, Tommassen J, van ulsen P. 2014. Book Chapter: The Two Partner Secretion transporter TpsB2 of *Neisseria meningitidis* secretes a non-cognate full-length TpsA1 but not to full functionality. *In* The role of TpsB transporters in Two partner secretion system of *Neisseria meningitidis*, Vree University Amsterdam, ISBN: 978-94-6182-458-5

Arenas J*. 2013. Book Chapter: Bacterial lipopolysaccharide as adjuvants *In* Molecular Vaccines - From Prophylaxis to Therapy Vol II. Ed.Dr. Matthias Giese, Springer-Verlag, New York, LLC, ISBN: 978-3-709114-18-6

van Dam V, Roussel-Jazédé V, **Arenas J**, Bos MP, Tommassen J. 2012. Book Chapter: Outer-membrane-embedded and associated proteins and their role in adhesion and pathogenesis *In* Bacterial membranes. Structural and Molecular Biology. Ed. Han Remaut and Rémi Fronzes, Caister Academic Press, ISBN: 978-1-908230-27-0.

Roussel-Jazédé V; **Arenas J**, Ma L; van Baarle S; Langereis JD; Tommassen J ; van Ulsen P. Book Chapter : Variable processing of the serine-protease autotransporters of *Neisseria meningitidis* *In* Biogenesis and functions of neisserial autotransporters. Biogenesis and functions of neisserial autotransporters. Utrecht University, 2010. ISBN: 978-94-6191-126-1

Arenas Busto JA*. 2006. Book: Caracterización genética y molecular de la lipoproteína P47: Implicación en el desarrollo de una vacuna contra la enfermedad meningocócica. USC, ISBN 84-9750-711-8.

* Corresponding author

6. CONGRESS / CONFERENCE COMMUNICATIONS

Rodríguez A, Tommassen and **Arenas J**. 2015. Analysis of interbacterial interactions within *Neisseria* spp in biofilm formation. FEMS2015, Maastricht, The Netherlands, Poster communication.

Rodríguez P, Tajouri D, Cano S, Tommassen J and **Arenas J**. 2015. Expression of Autotransporter AutB and its impact in biofilm formation. FEMS2015, Maastricht, The Netherlands, Poster communication.

Arenas J. 2014. A novel protein secretion system in Gram negative bacteria: The MafA/B system of *Neisseria meningitidis*. CHAINS2014, Veldhoven, The Netherlands, Oral communication.

Rodríguez A, Tommassen J, **Arenas J**. 2014. New constructs to generate fluorescent bacteria of *Neisseria* spp. as a tool to study interbacterial interactions. CHAINS2014, Veldhoven, The Netherlands, Poster communication.

Catón L, Krekorian M, van houven T, Tommassen J, **Arenas J**. 2014. Characteristics of meningococcal MafA suggests a new mechanism of protein secretion. CHAINS2014, Veldhoven, The Netherlands, Poster communication.

Arenas J. 2013. A novel meningococcal autotransporter implicated in autoaggregation and biofilm formation. NWO CW Study group meeting, 9-10 December, Veldhoven, The Netherlands, Oral communication.

Arenas J. 2013. A novel secretion system in Gram negative bacteria. Secretieplatform Annual Meeting, 7-8 March, Groningen, The Netherlands, Oral communication.

Arenas J. 2012. Intraspecies competition mechanisms in *Neisseria meningitidis*. ALW Platform Molecular Genetics Annual Meeting, 4-5 October, Lunteren, The Netherlands, Oral communication.

Arenas J. 2012. Bacterial warfare: The meningococcal Two-Partner-Secretion Protein A is a versatile fratricide molecule. Secretieplatform Annual Meeting, 29-30 March, Utrecht, The Netherlands, Oral communication

Arenas J. 2011. Regulation of biofilm formation in *Neisseria meningitidis*. ALW Platform Molecular Genetics Annual Meeting, 6-7 October, Lunteren, The Netherlands, Oral communication.

Arenas J. 2011. Role of the meningococcal autotransporter NalP in virulence and its relation to lipoprotein GNA2132. Secretieplatform Annual Meeting, 28-29 March, Amsterdam, The Netherlands, Oral communication.

Arenas J and Jan Tommassen. 2010. The autotransporter NalP, a phase-variable expressed protease, regulates the initiation of meningococcal biofilm formation through eDNA. *Scientific meeting NWO-CW study groups protein*

research, nucleic acids and lipids & biomembranes, 6–7 December, Veldhoven, The Netherlands, Poster communication.

Arenas J. 2010. Gene conversion at the 3' end of the gene for the secreted meningococcal TpsA protein. *ALW Platform Molecular Genetics Annual Meeting*, 14–15 October, Lunteren, The Netherlands, Oral communication.

Arenas J and Jan Tommassen. 2010. Biofilm formation in *Neisseria meningitidis*: Implication of the autotransporter NalP *ALW Platform Molecular Genetics Annual Meeting*, 14–15 October, Lunteren, The Netherlands, Poster communication.

Arenas J. 2010. Role of *Neisseria* autotransporters in the interaction with eukaryotic cells. *Secretieplatform Annual Meeting*, 8-9 April, Haren, The Netherlands, Oral communication.

Arenas J, Schipper K, van Ulsen P, van der Ende A, Tommassen J. 2009. Gene conversion mediates sequence variation at the C terminus of the secreted meningococcal TpsA protein. *Annual Meeting of NWO-CW study groups*, 7–9 December, Veldhoven, The Netherlands, Poster communication.

Arenas J. 2009. The Two-partner Secretion System of *Neisseria meningitidis* and its role on invasion. *Secretieplatform Annual Meeting*, 4-5 February, Utrecht, The Netherlands, Oral communication.

Arenas J, Tommassen J, van Ulsen P. 2008. Processing of the Two-Partner Secretion A (TpsA) proteins of *Neisseria meningitidis* by the autotransporter NalP. *Annual Meeting of NWO-CW study groups*, 7–9 December, Veldhoven, The Netherlands, Poster communication.

Arenas J, van Dijken H, Kuipers B, Jan Hamstra H, van der Ley P. 2008. Coincorporation of LpxL1 and PagL LPS into liposomes with *Neisseria* Opacity protein: Influence on their adjuvant activity. *16th International Pathogenic Neisseria Conference*, 7-12 September, Rotterdam, The Netherlands, Poster communication.

Arenas J, Tommassen J, van Ulsen P. 2008. Processing of the Two-Partner Secretion A (TpsA) proteins of *Neisseria meningitidis* by the autotransporter NalP. *16th International Pathogenic Neisseria Conference*, 7-12 September, Rotterdam, The Netherlands, Poster communication.

Arenas J, Sánchez S, Abel A, Criado MT, Ferreirós CM. 2006. NM0035 gen of *Neisseria meningitidis* codes for an exposure lipoprotein highly antigenic and conserved. *VI Congreso del Grupo de Microbiología Molecular de la Sociedad Española de Microbiología (SEM)*, 13–15 September, Lérida, Spain, Poster communication.

Abel AM, Sánchez S, **Arenas J**, Criado MT, Ferreirós CM. 2006. Immunoproteome maps for the location of common antigens of *Neisseria meningitidis* and *Neisseria lactamica*. *2nd Congress of Federation of European Microbiological Societies (FEMS)*, 4–6 July, Madrid, Spain, Poster communication.

Arenas J, Sánchez S, Abel A, Criado MT and Ferreirós CM. 2005. Flow cytometry analysis of the accessibility of a 47 kDa outer membrane antigen of *Neisseria meningitidis*. *Congresso da Sociedade Iberica de Citomyca*, 5-8 May, O Porto, Portugal, Oral communication.

Arenas J, Sánchez S, Abel A, Criado MT, Ferreirós CM. 2005. Analysis of the correlation of bactericidal activity and surface exposure of a 47Kda lipoprotein of *Neisseria meningitidis*. *Congresso da Sociedade Iberica de Citomyca*, 5-8 May, O Porto, Portugal, Poster communication.

Abel A, **Arenas J**, Sánchez S, Criado MT, Ferreirós CM. 2005. Evaluation of the utility of the two-dimensional electrophoresis as technique for the identification of common antigens in *Neisseria meningitidis* and *Neisseria lactamica* strains. *III Congreso de la Sociedad Española de Vacunología*, 10–12 November, Madrid, Spain, Poster communication.

Arenas J, Sánchez S, Abel A, Criado MT, Ferreirós CM. 2004. Accessibility and expression in the surface of *Neisseria meningitidis* of a protein highly conserved antigenic. *V Congreso del grupo de Microbiología Molecular de la SEM*, 7-9 September, Jaca, Spain, Poster communication.

Abel A, **Arenas J**, Sánchez S, Criado MT, Ferreirós CM. 2004. Comparison of proteome and antigenic maps of outer membrane proteins of *Neisseria meningitidis* and *Neisseria lactamica*. *V Congreso del grupo de Microbiología Molecular de la SEM*, 7-9 September, Jaca, Spain, Poster communication.

Arenas J, Mata M, Santos Y. 2003. Evaluation of an enzyme linked immune assay for serological typing of *Tenacibaculum maritimum*. *11th International Conference of European Association of Fish Pathologists (EAFP)*, 21–26 September, Malta, Poster communication.

Abel A, **Arenas J**, Sánchez S, Criado MT, Ferreirós C. 2003. Analysis of the associations among proteins of outer membrane of *Neisseria meningitidis*. *XXI Congreso de la SEM*, 21-25 September, Santiago de Compostela, Spain, Poster communication.

Sánchez S, **Arenas J**, Abel A, Criado MT, Ferreirós C. 2003. Study of Associations among outer membranes proteins of *Neisseria*: Cross-Linking with Formaldehyde. *XI Congreso de la SEM*, 21-25 September, Santiago de Compostela, Spain, Poster communication.

Arenas J, Abel A, Sánchez S, Criado MT, Ferreirós C. 2003. Detection of the meningococcal Class V proteins (Opa) by Diagonal Electrophoresis. *XI Congreso de la SEM*, 21-25 September, Santiago de Compostela, Spain, Poster communication.

Arenas J, Mata M, Santos Y. 2002. Identification of *Tenacibaculum Maritimum* by an Enzymatic Immunoassay. *X Congreso de la SEM*, 5 September, Sevilla, Spain, Oral communication.

Arenas J, Mata M, García PP & Santos Y. 2001. Enzyme immunosorbent assay for identification of *Flexibacter maritimus* strains. *10th International Conference of the EAFP*, 9-15 September, Dublin, Ireland, Poster communication. Awarded Best poster communication.

Bernardez M, Mata M, **Arenas J**, Santos Y. 2000. Identification of *Flavobacterium psychrophilum* for ELISA. *III Congreso de Microbiología del Medio Acuático*, 5-10 February 2000, Santiago de Compostela, Spain, Oral communication.

7. PERSONAL INVITATION TO SEMINARS / WORKSHOPS

Arenas J. 23 October, 2012. Two component regulator system in vaccine development. Utrecht, The Netherlands. Invitation by GlaxoSmithkline Biologicals. Oral communication

Arenas J. 31 May, 2011. Biofilm formation and interaction with epithelial cells: Implication of the *Neisseria* autotransporter NalP. Utrecht, The Netherlands. Invitation by GlaxoSmithkline Biologicals. Oral communication

Arenas J. 14 December, 2010. Implication of the *Neisseria* autotransporter NalP and its relation with the vaccine candidate GNA2132, Bruxelles, Belgium. Invitation by GlaxoSmithkline Biologicals. Oral communication

Arenas J. 12 October, 2007. Influence of LPS incorporation into liposomes on LPS adjuvant effect. The Netherlands Vaccine Institute, Bilthoven, The Netherlands. Invitation by Dr. Peter van der Ley. Oral communication

Arenas J. 28 November, 2007. Vaccine potential of the lipoprotein P47. Dpt of Microbiology, Utrecht University, Utrecht, The Netherlands. Invitation by Prf. Jan Tommassen. Oral communication

Arenas J. 26 November, 2007. Investigating the vaccine potential of an outer membrane protein against meningococcal disease. Swedish Strategic Research Center, Goteborg, Sweden. Oral communication

8. AWARDS

Awarded with a Post-doctoral Research Fellow from the Department of Educational and Development of Xunta de Galicia (DEDXG, local Government). 2006 – 2007.

Awarded with a PhD Research Fellow from DEDXG 2002 – 2005.

Awarded with a Third-Cycle Research Fellow from DEDXG 2000 – 2002.

Awarded with a Personal Fellow from the Mutua Universal (Private Foundation) 2001 – 2003.

Awarded as Best Poster communication in International Conference of the EAFP, Dublin. 2001

9. SUPERVISION OF RESEARCH PROJECTS / TEACHING

Research Projects

Eline de Jonge (Master Student). 41 ECTS. From 10/11/2015 till 30/07/2016. Dpt. Biology, Section Molecular Microbiology, UU, The Netherlands

Ramon Tichelaar (Bachelor student). 16 ECTS. From 01/09/2015 till 01/11/2016. Dpt. Biology, Section Molecular Microbiology, UU, The Netherlands

Sander Ruiter (Master Student). 51 ECTS. From 01/11/2015 till 30/09/2016. Dpt. Biology, Section Molecular Microbiology, UU, The Netherlands

Eduardo Ribes (Graduated Student). From 01/10/2015 till 30/09/2016. Dpt. Biology, Section Molecular Microbiology, UU, The Netherlands

Raquel Rodríguez (Master Student). 66 ECTS . From 01/09/2015 till 30/08/2016. Dpt. Biology, Section Molecular Microbiology, UU, The Netherlands

Julia Marquina (Guest). From 01/10/2015 till 30/03/2016. Dpt. Biology, Section Molecular Microbiology, UU, The Netherlands

Sandra Ochoa (Guest). From 01/09/2015 till 30/02/2016. Dpt. Biology, Section Molecular Microbiology, UU, The Netherlands

Dr. Isabel mendiara (Guest). From 01/07/2015 till 30/09/2015. Dpt. Biology, Section Molecular Microbiology, UU, The Netherlands

Luis M Sigüenza (Guest). From 01/02/2015 till 30/08/2015. Dpt. Biology, Section Molecular Microbiology, UU, The Netherlands

Jesús Pérez (Master student).51 ECTS. From 01/02/2015 till 30/09/2015. Dpt. Biology, Section Molecular Microbiology, UU, The Netherlands

José Soto (Master student). 51 ECTS. From 01/01/2015 till 30/08/2015. Dpt. Biology, Section Molecular Microbiology, UU, The Netherlands

Anastasios Tsiavos (Master student). 51 ECTS. From 21/10/14 till 14/08/15. Dpt. Biology, Section Molecular Microbiology, UU, The Netherlands

Donia Tajouri (Master student). 51 ECTS. From 21/10/14 till 14/08/15. Dpt. Biology, Section Molecular Microbiology, UU, The Netherlands

Juan Cruz (Graduated Student). 51 ECTS. From 01/08/14 till 31/01/15. Dpt. Biology, Section Molecular Microbiology, UU, The Netherlands

Rafael Gonzalez Tenorio (Graduated Student). 51 ECTS. From 15/07/14 till 15/03/15. Dpt. Biology, Section Molecular Microbiology, UU

Antonio José Rodríguez Sánchez (Graduated student). 51 ECTS. From 01/03/14 till 30/04/15. Dpt. Biology, Section Molecular Microbiology, UU

Massis Krekorian (Master Student). 51 ECTS. From 20/11/13 till 20/07/14. Dpt. Biology, Section Molecular Microbiology, UU

Patricia Rodríguez Castaño (Erasmus Student). 33 ECTS. From 01/11/13 till 30/08/14. Dpt. Biology, Section Molecular Microbiology, UU

Laura Catón (Erasmus Student). 51 ECTS. From 01/10/13 till 31/12/14. Dpt. Biology, Section Molecular Microbiology, UU

Ángel Miranda Asensi (Erasmus Student). 15 ECTS. From 01/02/2013 till 31/04/2013. Faculty of Biological Sciences, UU.

Tom van den Hoeven (Master Student). 45 ECTS. From 15/10/2012 till 31/06/2013. Faculty of Biological Sciences, UU.

Vérène AE van Dongen (Master Student). 42 ECTS. From 15/10/2012 till 31/06/2013. Faculty of Biological Sciences, UU.

Flavio Ferrera (Erasmus Student). 42 ECTS. From 15/10/2012 till 31/06/2013. Faculty of Biological Sciences, UU.

Vincent de Maat (Master student). 51 ECTS. From 01/12/2011 till 01/11/2012. Faculty of Biological Sciences, UU.

Sara Cano Crespo (Erasmus student). 33 ECTS. From 01/09/2011 till 31/05/2012. Faculty of Biological Sciences, UU.

Francisco Javier Rodríguez Baena (Erasmus student). 16 ECTS. From 01/11/2010 till 31/01/2011. Faculty of Biological Sciences, UU.

Leticia Villalba Benito (Erasmus student). 16 ECTS. From 01/11/2010 till 31/01/2011. Faculty of Biological Sciences, UU.

Supervision of Research Proposals to Bachelor students

Ramon Tichelaar (Dutch Bachelor student at UU), 01/2015, 3.5 ECTS, Dpt. Biology, Section Molecular Microbiology, UU, The Netherlands

Massis Krekorian (Dutch Bachelor student at UU). 10/2013, 3.5 ECTS, Dpt. Biology, Section Molecular Microbiology, UU

Vincent de Maat (Dutch Bachelor student at UU). 10/2012, 3.5 ECTS, Dpt. Biology, Section Molecular Microbiology, UU

Vérène van Dongen (Dutch Bachelor student at UU), 11/2012, 3.5 ECTS, Faculty of Biological Sciences, UU, The Netherlands.

*Current Project

Practical Teaching

General Microbiology practical course, 20 h, 2005, Faculty of Pharmacy, USC, Spain

General Microbiology practical course, 60 h, 2004, Faculty of Pharmacy, USC, Spain

General Microbiology practical course, 60 h, 2003, Faculty of Pharmacy, USC, Spain

10. REVIEWER OF JOURNALS

PLoSOne

Future Microbiology

Forum Immunopathological Disease and Therapeutics

Research in Immunology

Int J of Nanomedicine

BMC Microbiology