Publications

The PNEUMOPATH project was acknowledged in the following publications:

Almeida JS, Grüneberg A, Maass W, and Vinga S. 2012. Fractal MapReduce decomposition of sequence alignment. *Algorithms for Molecular Biology*. **7**:12

Almeida JS, Deus HF, Maass W. 2010. S3DB core: a framework for RDF generation and management in bioinformatics infrastructures. *BMC Bioinformatics*. 11:387

Bidossi A, Mulas L, Decorosi F, Colomba L, Ricci S, Pozzi G, Deutscher J, Viti C, Oggioni MR. 2012. A functional genomics approach to establish the complement of carbohydrate transporters in *Streptococcus pneumoniae*. *PLoS ONE*. **7(3):**e33320

Burghout P, Cron LE, Gradstedt H, Quintero B, Simonetti E, Bijlsma JJ, Bootsma HJ, Hermans PW. 2010. Carbonic anhydrase is essential for *Streptococcus pneumoniae* growth in environmental ambient air. *Journal of Bacteriology*. **192(15):**4054-62

Camilli R, Bonnal RJP, Del Grosso M, Iacono M, Corti G, Rizzi E, Marchetti M, Mulas L, Iannelli F, Superti F, Oggioni MR, De Bellis G and Pantosti A. 2011. Complete genome sequence of a serotype 11A, ST62 *Streptococcus pneumoniae* invasive isolate. *BMC Microbiology*. **11**(1):25.

Carvalho SM, Kloosterman TG, Kuipers OP, and Neves AR. 2011. CcpA ensures optimal metabolic fitness of *Streptococcus pneumoniae*. *PloS ONE*. **6**:e26707.

Caymaris S, Bootsma HJ, Martin B, Hermans PWM, Prudhomme M, Claverys JP. 2010. The global nutritional regulator CodY is an essential protein in the human pathogen *Streptococcus pneumonia*. *Molecular Microbiology*. **78(2):**344-360

Cron LE, Stol K, Burghout P, van Selm S, Simonetti ER, Bootsma HJ, Hermans PW. 2011. Two DHH subfamily 1 proteins contribute to pneumococcal virulence and confer protection against pneumococcal disease. *Infection and Immunity*. **79(9):**3697-3710

Deus H, Correa M, Stanislaus R, Miragaia M, Maass W, de Lencastre H, Fox R, Almeida J. 2011. S3QL: A distributed domain specific language for controlled semantic integration of life sciences data. *BMC Bioinformatics*. **12:**285

Donati C, Hiller NL, Tettelin H, Muzzi A, Croucher NJ, Angiuoli SV, Oggioni MR, Dunning Hotopp JC, Hu FZ, Riley D, Covacci A, Mitchell TJ, Bentley SD, Kilian M, Ehrlich GD, Rappuoli R, Moxon ER and Masignani V. 2010. Structure and dynamics of the pan-genome of *Streptococcus pneumoniae* and closely related species. *Genome Biology*. **11(10):**R107.

Frazão N, Sá-Leão R, De Lencastre H. 2010. Impact of a single dose of the 7-valent pneumococcal conjugate vaccine on colonization. *Vaccine*. **28(19):**3445-3452

Gualdi L, Kaur Hayre J, Gerlini A, Bidossi A, Colomba L, Trappetti C, Pozzi G, Andrew PW, Ricci S, and Oggioni MR. 2012. Regulation of neuraminidase expression in *Streptococcus pneumoniae*. *BMC Microbiology*. **12(1):**2

Halfmann A, Schnorpfeil A, Muller M, Marx P, Gunzler U, Hakenbeck R, and Bruckner R. 2011. Activity of the two-component regulatory system CiaRH in *Streptococcus pneumoniae* R6. *Journal of Molecular Microbiology and Biotechnology*. **20:**96-104.

Kadioglu A, Cuppone AM, Trappetti C, List T, Spreafico A, Pozzi G, Andrew PW, Oggioni MR. 2011. Sex based differences in susceptibility to respiratory and systemic pneumococcal disease in mice. *Journal of Infectious Disease*. **204(12):**1971-9

Kaur Hayre J, Xu G, Taylor GL, Docquier JD, Andrew PW, Oggioni MR. 2012. Optimization of a direct spectrophotometric method to investigate the kinetics and inhibition of sialidases. *BMC Biochemistry*. **13:**19

Kloosterman TG, and Kuipers OP. 2011. Regulation of arginine acquisition and virulence gene expression in the human pathogen *Streptococcus pneumoniae* by transcription regulators ArgR1 and AhrC. *J Biol Chem*. **286:**44594-44605.

Mellroth P, Daniels R, Eberhardt A, Rönnlund D, Blom H, Widengren J, Normark S, Henriques-Normark B. 2012. LytA, the major autolysin of *Streptococcus pneumoniae*, requires access to the nascent peptidoglycan. *J Biol Chem*. 30;287(14):11018-29.

Molzen TE, Burghout P, Bootsma HJ, Brandt CT, van der Gaast-de Jongh CE, Eleveld MJ, Verbeek MM, Frimodt-Møller N, Ostergaard C, Hermans PW. Genome-wide identification of *Streptococcus pneumoniae* genes essential for bacterial replication during experimental meningitis. 2011. *Infection and Immunity*. 79(1):288-297

Muller M, Marx P, Hakenbeck R, and Bruckner R. 2011. Effect of new alleles of the histidine kinase gene ciaH on the activity of the response regulator CiaR in *Streptococcus pneumoniae* R6. *Microbiology*. 157: 3104-3112.

Ricci S, Janulczyk R, Gerlini A, Braione V, Colomba L, Iannelli F, Chiavolini D, Oggioni MR, Björck L, Pozzi G. 2011. Immunisation with the factor H-binding fragment of PspC protects mice from pneumococcal sepsis by multiple antibody-mediated mechanisms. *Vaccine.* 29: 8241– 8249.

Salter SJ, Hinds J, Gould KA, Lambertsen L, Hanage WP, Antonio M, Turner P, Hermans PW, Bootsma HJ, O'Brien KL, Bentley SD. 2012. Variation at the capsule locus, cps, of mistyped and non-typeable *Streptococcus pneumoniae* isolates. *Microbiology*. 158: 1560-1569

Shafeeq S, Kloosterman TG, and Kuipers OP. CelR-mediated activation of the cellobiose-utilization gene cluster in *Streptococcus pneumoniae*. 2011. *Microbiology*. 157: 2854-2861.

Shafeeq S, Kloosterman TG, and Kuipers OP. Transcriptional response of *Streptococcus pneumoniae* to Zn2+ limitation and the repressor/activator function of AdcR. 2011. *Metallomics*. 3: 609-618.

Shafeeq S, Yesilkaya H, Kloosterman TG, Narayanan G, Wandel M, Andrew PW et al. 2011. The cop operon is required for copper homeostasis and contributes to virulence in *Streptococcus pneumoniae*. *Molecular Microbiology*. 81: 1255-1270.

Simões AS, Pereira L, Nunes, S, Brito-Avô A, de Lencastre H, and Sá-Leão R. 2011. Clonal evolution leading to maintenance of antibiotic resistance rates among colonizing pneumococci in the PCV7 era in Portugal. *Journal of Clinical Microbiology.* 49(8): 2810-2817

Simões AS, Valente C, de Lencastre H, Sá-Leão R. 2011. Rapid identification of non-capsulated *Streptococcus pneumoniae* in nasopharyngeal samples allowing detection of co-colonization and re-evaluation of prevalence. *Diagnostic Microbiology of Infectious Diseases.* 71(3):208-16

Simões AS, Sá-Leão R, Eleveld MJ, Tavares DA, Carriço JA, Bootsma HJ, Hermans PWJ. 2010. Highly penicillin-resistant, multi-drug resistant, pneumococcus-like strains colonising children in Oeiras, Portugal: Genomic characteristics and implications for surveillance. *Journal of Clinical Microbiology*. 48(1):238-46.

Trappetti C, Gualdi L, Di Meola L, Jain P, Korir CC, Edmonds P, Iannelli F, Ricci S, Pozzi G, and Oggioni MR. 2011. The impact of the competence quorum sensing system on *Streptococcus pneumoniae* biofilms varies depending on the experimental model. *BMC Microbiology.* 11(1):75

Planned Publications

Almeida JS et al. A Social Computing Platform for Pneumococcal SNP phenotype-genotype association. Submission planned for October 2012.

Boianelli B, Bidossi A, Gualdi L, Mulas L, Mocenni C, Pozzi G, Vicino A, Oggioni MR. A non-linear deterministic model for regulation of diauxic lag on cellobiose by the pneumococcal multidomain transcriptional regulator CelR. *PLoS ONE.* In production

Bootsma HJ, Zomer A, Eleveld MJ, Hermans PWM. Identification of novel pneumococcal adherence factors by a combination of genome-wide approaches. Submission planned for 2013.

Browall S, Dagerhamn J, Tångroth J, Sjöström K, Hellberg C, Bättig P, Spadafina T, Norman M, Sandgren A, Örtqvist Å, Normark S, Henriques-Normark B. Intraclonal variations affect disease development in pneumococcal infections. Submission planned.

Francisco AP et al. sdLink: An integrated system for managing biological and biomedical linked data. Submission planned for October 2012.

Francisco AP et al. From sequencing data to SNPs. Submission planned for October 2012.

Frazão N et al. Drug-resistant *Streptococcus pneumoniae* clones, selected by the PCV7 vaccine, show colonization and invasive potential in mice. Submission planned for 2013.

Gerlini A, Colomba L, Braccini T, Pammolli A, Pozzi G, Ricci S, Andrew PW, Koedel U, Moxon R, and Oggioni MR. A single bacterium at the origin of invasive pneumococcal disease: macrophage clearance defines the bottleneck during the first hours of infection. Submitted.

Jonsdottir I et al. A rare frameshift mutation disrupting the complement pathway confers a 27 fold risk of invasive pneumococcal disease. Submission planned late 2012.

Jonsdottir I et al. A rare mutation affecting the NADPH oxsidase pathway confers a 10 fold risk of invasive pneumococcal disease. Submission planned late 2012.

Syk A, Fernebro J, Sandgren A, Normark S, Henriques-Normark B. Emergence of hyper-virulent spxB mutants during systemic pneumococcal serotype 1 infection in mice and man.

Tavares DA et al. Identification of genes associated with pneumococcal invasive disease potential using a comparative genomic hybridization approach. Submission planned for 2013

Vaz C et al. Spo: An ontology for describing host-pathogen interactions inherent to *Streptococcus pneumoniae* infections. Submission planned for late 2012.

Vinga S et al. SNP2Pheno - linking genome and phenotype data in bacterial strains. Submission planned for late 2012.