

Post-doc Position (2 years) The relationship between small RNAs, methylation and genome size in Norway spruce (*Picea abies*)

Position details: A post-doc position is open at the Umeå Plant Science Centre (UPSC; www.upsc.se) in the group of Nathaniel Street. The position is funded by the Kempe Foundations and is for one year renewable. The fellowship will be 20 000 SEK/month, tax-free. The position should start in September 2014. **Deadline for application is 20th of July 2014.**

Project description: Within the Norway spruce genome project, we have identified remarkably little evidence for unequal (UR) or illegitimate recombination (IR) of transposable element (TE) repeats, suggesting that gymnosperms lack the ability to shrink their genomes by deletion of inserted repeats. We further showed that 24 nt siRNAs are produced but at significantly lower levels than in angiosperms and in a highly tissue specific manner.

This project will use methylation-sensitive Restriction site Associated DNA Sequencing (RAD-Seq) and sRNA-Seq to profile the epigenetic state of the Norway spruce genome and to ascertain their relation to repeat content. In depth analysis of existing and newly generated sRNA data will explore the potential existence of a currently uncharacterised class of gymnosperm-specific siRNAs associated with high copy number repeats. Analyses will also include detailed *in silico* characterisation of genes involved in sRNA biogenesis, methylation and recombination including their promoter regions within a comparative genomics context.

Requirements: Highly motivated candidates with expertise in bioinformatics, genetics and molecular biology are welcomed. The position will involve extensive bioinformatics and computational analyses. Existing experience with NGS data is beneficial as is at least a basic knowledge of statistics. Relevant wet lab skills are also highly desirable. To qualify for the position you should have a PhD degree or equivalent. Very good English communication and writing skills are required.

Application: The application should include (1) a Curriculum Vitae, (2) copies of degree certificates, (3) a statement of previous research achievements and interests, (4) a publication list, (5) reprints/copies of published work according to this list, and (6) contact information for three referees willing to provide letters of reference.

The application should be written in English and sent by email as a single PDF file to: nathaniel.street@umu.se