



**Saving Oseberg Phase II – From Lab to Pilot - 2017-2019.
Positions – revised plan – October 2016.**

Research Group	Type of Position	Affiliation	Role	Basic qualifications and preferences
-	Project manager*	KHM, UiO	Budget administration, personnel administration, administration of collaborations, reporting to project owner. Overall responsibility for project progress	PhD in conservation, conservation science or chemistry, wood science or other relevant area. Experience from project management in interdisciplinary and/or innovative research projects. Experience from working with cultural heritage research.
*Innstilling behandles i tilsetningsrådet 24. november 2016 – oppstart 1. januar 2017.				
Group 1	Post-doctoral researcher (Conservation) Until May 31 st 2018	KHM, UiO	Testing of existing and new conservation materials. Developing testing protocols. Responsible for design and undertaking of condition survey. Develop retreatment protocols based on survey results and pilot studies. Undertake materials testing.	PhD in conservation or conservation science. Extensive conservation experience in hands-on treatment of organic materials, preferably archaeological wood.
Group 1	Conservator (substitute position) (KHM financed) Until May 31 st 2018	KHM, UiO	Contribute to design of condition survey. Carry out survey and categorize objects. Contribute to design of retreatment protocol. Undertake pilot retreatment tests. Undertake materials testing.	MSc in conservation, experience in the conservation of organic materials, preferably archaeological wood. Experience in experimental set-up.
Group 1 New position	Conservator 2017-2019	KHM, UiO	Contribute to design of condition survey. Carry out survey and categorize objects. Contribute to design of retreatment protocol. Undertake pilot retreatment tests. Undertake materials testing.	MSc in conservation, experience in the conservation of organic materials, preferably archaeological wood. Experience in experimental set-up.
The above position is added as the development of retreatment protocols is a substantial part of Saving Oseberg Phase II. Extensive tests will be required to be carried out in the form of pilot studies on sacrificial fragments of original Oseberg material, which will provide the basis for the retreatment protocol. The conservators will also contribute to the evaluation of <i>New Materials</i> to determine (together with the chemists) optimal methods of applying the polymer to the wood, and of curing/drying methods, in addition to assisting in wood characterization before and after retreatment.				

Group 1 & 2	Researcher (Chemistry)	KHM, UiO	Maintenance of instruments, training of group members on instruments, analysis of organic components of Oseberg wood, mechanical testing, analytical protocols.	PhD in chemistry. Experience with maintenance and setting/use of advanced analytical equipment, i.e. SEM, Raman, FT-IR, XRD and XRF. Experience in organic analysis, such as HPLC and GC-MS. Experience in working with cultural heritage materials, especially wood, and knowledge of archaeological wood conservation. Experience from interdisciplinary projects in cultural heritage.
Group 1 & 2	Post-doctoral researcher (Conservation Science)	KHM, UiO	Further development of Ca(OH) ₂ nanoparticles for the de-acidification of Oseberg wood, silanes as consolidants and cross-linking with nanoparticles to form a hybrid material, assist conservators in testing of these materials. Explore alternative de-acidification methods.	PhD on conservation science or chemistry. Experience in working with nanoparticles in relation to cultural heritage. Basic knowledge and experience of archaeological wood conservation. Experience from interdisciplinary projects preferably in cultural heritage.
Group 2 **	Post-doctoral researcher in chemistry	KHM, UiO	Hybrid/composite materials of bio-polymers and inorganics; cross-linking of lignin-like materials with silanes to develop stronger materials, silanes as a cross-linker for lignin to calcium hydroxide nanoparticles, testing protocols.	PhD in chemistry. Expertise in polymer synthesis and functionalisation. Ability to design and execute practical experiments. Experience in working with cultural heritage materials, especially wood, and knowledge of archaeological wood conservation. Experience from interdisciplinary projects preferably in cultural heritage.
<p>The above position (Post-doctoral researcher in chemistry (Group 2**)) will be withdrawn, as this research will be divided between KHM/Saving Oseberg and the University of Nottingham and Professor Stephen Harding. By strengthening the collaboration between our two laboratories, the work load between synthesis and analysis of new materials can be streamlined across the PhD student in Nottingham (financed by Nottingham) and the post-doctoral researcher planned for the Saving Oseberg Group 2 in 2017 (**). Previously it was proposed that one chemist would pursue pectin-lignin composites and one chemist would pursue lignin-silane hybrids as determination of the potential of each approach would take time. In collaboration it has been proposed that the rheological properties of current consolidation materials will be assessed here in Oslo and their molecular weight and physical properties will be assessed by the PhD student in Nottingham, where they have more equipment for such analysis available. By assessing all the information about current consolidants across the two universities it is expected that key parameters will be determined for potential consolidation both in rheological and physical properties of a material. Once this has been achieved the materials produced from the two methods mentioned above can be assessed for their potential. As a result of this the polymer chemistry post is deemed to no longer be essential to the development of new materials for this phase of the Saving Oseberg project.</p>				
Group 1 & 2	Post-doctoral Researcher (Chemistry)	University of Pisa	Analysis of organic components in Oseberg wood, primarily by Pyrolysis GC-MS	PhD in chemistry. Extensive experience in organic analytical methods. Experience in working with cultural heritage material, preferably wood.

Group 2***	Post-doctoral researcher (Chemistry)	KHM, UiO	Further development of lignin-like materials as consolidants for the Oseberg finds, <i>in situ</i> polymerization of lignin-like materials, testing consolidation on small samples, testing on larger pieces of wood.	PhD in chemistry. Expertise in synthesis of lignin materials. Experience in the use of analytical methods such as NMR of biopolymers. Experience in working with cultural heritage materials, especially wood, and knowledge of archaeological wood conservation. Experience from interdisciplinary projects preferably in cultural heritage.
Group 1 & 2	Researcher (Chemistry)	KHM, UiO	Development of testing protocols to assess inhibition of metal ion promoted degradation by new and existing treatments. Advising on chemical modifications to new consolidants.	PhD in chemistry. Expertise in complex and/or metal organic chemistry, and experience using analytical techniques including SEM-EDS, XRD, FTIR and Raman spectroscopy. Ability to design and execute practical experiments. Experience in working with cultural heritage materials, especially wood, and knowledge of archaeological wood conservation. Experience in using synchrotron facilities.

KHM, 17. oktober 2016

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