

**Séminaire IVL UVSQ – 25 septembre 2019 11h00**

**One-pot treatment for simultaneous deacidification and strengthening of degraded cellulose-based materials**

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**Abstract**

During natural ageing, paper slowly acidifies and therefore becomes brittle. Late 19<sup>th</sup> and early 20<sup>th</sup> century lignocellulosic paper collections of mediocre quality, especially newsprint papers, decay considerably faster than the durable medieval handmade rag papers. A novel one-pot treatment using aminoalkylalkoxysilanes (AAAS) that allows simultaneous deacidification and mechanical strengthening of cellulosic objects of the cultural heritage has been developed in order to propose remediation solutions for these early industrial paper-based collections. The lecture will give an overview of the decade-long ongoing research, from the development of a homopolymer treatment to the more recent work using copolymers.

**Short biosketch**

Anne-Laurence Dupont is researcher at CNRS. She undertakes her research in cultural heritage conservation science at the Centre de recherche sur la conservation, Muséum national d'Histoire naturelle. Her research deals with the issues of characterisation, diagnostic and modelisation of paper degradation for predictive purposes, and the development of long-term stabilisation methodologies.