1023-35-374 **Tobias Lamm*** (tobias.lamm@aei.mpg.de), Dr. Tobias Lamm, MPI fuer Gravitationsphysik, Am Muehlenberg 1, 14476 Golm, Germany. *Conservation laws for fourth order systems in four dimensions.*

In this talk we show that a certain class of fourth order elliptic system for maps between a domain in $\mathbb{R}^4$ and an arbitrary Riemannian manifold is equivalent to a conservation law. The class of systems under investigation includes both intrinsic and extrinsic biharmonic maps. In the second part of the talk we use the conservation law to give an easy proof of the continuity of solutions of the fourth order systems under investigation. (Received September 10, 2006)