Prof. Dr. Fedor Bogomolov
"Closed holomorphic differentials and holomorphic webs"

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I will report on a progress in our joint work with Bruno de Oliveira.
We call a symmetric holomorphic differential s on a complex manifold closed if it can be written as $\prod df_i^{n_i}$ in the local neighborhood of some point x_o of the manifold.
This property helds then for a complementary of a finite set of divisors and hence such a differentiall defines a holomorphic web- a set of local codimension one foliations on the manifold (possibly singular).
Note that any symmetric differential on surface defines a similar web.However the webs defined by closed differentials are very special and provide with restrictions on the tolology of the ambient surface (or manifold). I will discuss some results and conjectures.

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