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Scott Baldridge* (sbaldrid@math.lsu.edu), Department of Mathematics, 224 Lockett Hall, Baton Rouge, LA 70803, and **Paul Kirk** (pkirk@indiana.edu), Rawles Hall, Bloomington, IN 47405. *Symplectic 4-manifolds with prescribed fundamental groups.*

In this talk I will describe the problem of minimizing $\chi + b\sigma$ on the class of all symplectic 4-manifolds with prescribed fundamental group (χ is the Euler characteristic, σ is the signature, and $b \in \mathbb{R}$), focusing on the important cases χ , $\chi + \sigma$, and $\chi + \frac{3}{2}\sigma$. I'll describe recent attempts (with Paul Kirk) of building these “small” manifolds and why these examples may be useful to 4-manifold topology. (Received February 01, 2006)