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**Stefan Steinerberger\*** ([stefan.steinerberger@gmail.com](mailto:stefan.steinerberger@gmail.com)), New Haven, CT 06511. *Going with the flow: parabolic techniques applied to elliptic problems.*

I will survey how heat flow techniques can be applied to study Laplacian eigenfunctions. Topics discussed will include regularity and geometry of nodal domains, inradius estimates (including a refinement of the bound of E. Lieb), stochastic techniques for bounding the first eigenvalue (Donsker-Varadhan) and applications on graphs. Partially joint work with Jianfeng Lu (Duke) and Manas Rachh (Yale). (Received January 02, 2017)