Ten Years of Petrifying: where are we now?

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This talk will look at the past, present and future of the Petrify tool. In particular, it will review the main concepts of the circuit design methodology based on Signal Transition Graphs, underlying Petrify. After that it will look at the areas of application of Petrify, focusing mainly on who has used Petrify (especially industry), success stories, main features and limitations, comparison with other asynchronous logic synthesis tools. Some recent developments enhancing the capabilities of logic synthesis, compatible with the Petrify design flow will be surveyed, including structural methods, visualization techniques, links with process algebras, using of Petri net unfoldings in synthesis etc. Those developments largely determine future directions for asynchronous logic synthesis.