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**Hiroki Sumi\*** ([sumi@math.sci.osaka-u.ac.jp](mailto:sumi@math.sci.osaka-u.ac.jp)), Department of Mathematics, Graduate School of Science, Osaka University, 1-1, Machikaneyama, Toyonaka, Osaka 560-0043, Japan, and **Mariusz Urbanski** ([urbanski@unt.edu](mailto:urbanski@unt.edu)), Department of Mathematics, University of North Texas, Denton, TX 76203-1430. *Transversality family of expanding rational semigroups and contracting IFSs with overlaps.*

We study finitely generated expanding semigroups of rational maps with overlaps on the Riemann sphere and contracting IFSs with overlaps. We show that if a  $d$ -parameter family of such semigroups satisfies the transversality condition, then for almost every parameter value the Hausdorff dimension of the Julia set is the minimum of 2 and the zero of the pressure function. Also, if the zero of the pressure function is greater than 2, then typically the 2-dimensional Lebesgue measure of the Julia set is positive. Moreover, the Hausdorff dimension of the exceptional set of parameters is estimated. We also show that a family of small perturbations of the Sierpinski gasket system satisfies that for a typical parameter value, the Hausdorff dimension of the Julia set (limit set) is equal to the zero of the pressure function, which is equal to the similarity dimension. Combining the arguments on the transversality condition, thermodynamical formalisms and potential theory, we show that for each complex number  $a$  with  $|a| \neq 0, 1$ , the family of small perturbations of the semigroup generated by  $\{z^2, az^2\}$  satisfies that for a typical parameter value, the 2-dimensional Lebesgue measure of the Julia set is positive. Reference: Adv. Math. 234 (2013) 697–734. (Received February 10, 2014)