Highly nonlinear large-competition limits of elliptic systems

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This presentation is concerned with the effect of different types of competitive interaction terms on the large-interaction limit of nonlinear elliptic systems modelling the steady states of populations that compete in some region. As the competition rate tends to infinity, non-negative solutions of quite simple-looking systems converge to the positive and negative parts of solutions of a scalar limit problem which may be much more strongly nonlinear than the original system, possibly with quadratic growth in the gradient of the limit function.