Propagation of regulatory fluctuations induces coordinated switching of flagellar motors in chemotaxis signaling pathway of single bacteria

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Highlight:

- A large fluctuation of signal is generated by the receptor cluster with high cooperativity.
- The temporal fluctuation propagates in the cytoplasm by diffusion.
- The propagation of fluctuations induces correlated motions in flagellar motors
- A large signal fluctuation can attribute robustness by expanding the dynamic range