

Gürol M. Süel

Education and professional training:

- 2003 Ph.D. Molecular Biophysics, University of Texas, Southwestern Medical Center
Research:
- Identified novel allosteric regulation in protein families by applying a statistical thermodynamics approach.
 - Investigated the molecular dynamics of the light receptor rhodopsin using patch-clamp electrophysiology measurements on fly photoreceptor cells.
- 2004 - 2006 Postdoctoral Research Fellow, Department of Biology and Applied Physics, California Institute of Technology, Pasadena, California
Research:
- Uncovered that excitable gene regulatory dynamics drive bacterial differentiation.
 - Generated the first direct experimental evidence that biochemical stochasticity (noise) can determine cell fate.

Professional Positions:

- 2016 - current Professor,
Section of Molecular Biology, Division of Biological Sciences
University of California San Diego.
- 2014 – current Associate Director, San Diego Center for Systems Biology (NIGMS Center)
- 2012 - 2016 Associate Professor,
Section of Molecular Biology, Division of Biological Sciences
University of California San Diego.
- 2012 Associate Professor,
Green Center for Systems Biology and Department of Pharmacology
University of Texas Southwestern Medical Center
- 2006 - 2012 Assistant Professor,
Green Center for Systems Biology and Department of Pharmacology
University of Texas Southwestern Medical Center

Select Honors and Awards:

- 2016 Howard Hughes Medical Institute Faculty Scholar
2014 Scialog Fellow (Research Corp & Moore Foundation)
2011 The Hartwell Foundation, Individual Investigator Award
2008 Welch Foundation, Individual Investigator Award
2007 The James S. McDonnell Foundation, Individual Research Award
2007 W.W. Caruth Jr. Scholar in Biomedical Research

Selected Peer Reviewed Publications:

Coupling between distant biofilms and emergence of nutrient time-sharing

Liu J., Martinez-Corral R., Prindle A., Lee D.D., Larkin J., Gabalda-Sagarra M., Garcia-Ojalvo J. and Süel G.M.

Science, (2017) vol 356, num 6338

Species-independent attraction to biofilms through electrical signaling

Humphries J, Xiong L, Liu L, Prindle L, Yuan F, Tsimring L and Süel GM

Cell, (2017) vol 168, num 1

Ion channels enable electrical communication in bacterial communities

Prindle A., Liu J., Asally M., Ly S., Garcia-Ojalvo J., Süel G.M.

Nature, (2015), vol 527, num 7576

Metabolic codependence gives rise to collective oscillations within biofilms.

Liu J., Prindle A., Humphries J., Gabalda-Sagarra M., Asally M., Lee D.D., Ly S., Garcia-Ojalvo J., Süel, G.M.

Nature (2015) vol 523, num 7562

Chromosomal locations of phosphorelay genes controls the *Bacillus subtilis* response to starvation.

Narula J.*, Kuchina A.*, Lee D., Fujita M., Süel G.M. and Igoshin O.A.

Cell (2015) vol 163, num 2

Localized cell death focuses mechanical forces during 3D patterning in a biofilm

Asally M., Kittisopikul M., Rué P., Du Y., Hu Z., Çağatay T., Robinson A.B., Lu H., Garcia-Ojalvo J., and Süel G.M.

Proc Natl Acad Sci U S A., (2012), vol 109, num 46

Identification of F-actin as a dynamic hub in a microbial-induced GTPase polarity circuit

Orchard RC, Kittisopikul M, Altschuler SJ, Wu LF, Süel GM, Alto NL.

Cell (2012), vol 148, num 4

Architecture-dependent noise discriminates functionally analogous differentiation circuits

Çağatay T., Turcotte M., Elowitz M.B., Garcia-Ojalvo J. and Süel G.M.

Cell (2009), vol 139, num 3