



## Paul Ruijgrok

Life Science Research Professional 2, Chemical Engineering

### SUPERVISORS

- Zev Bryant

### Bio

---

### HONORS AND AWARDS

- Long term cross-disciplinary fellowship, Human Frontier Science Program (2012)
- Cum Laude graduate MSc Physics, Leiden University (2007)

### LINKS

- Bryant Lab: <https://web.stanford.edu/group/bryant/>

### Publications

---

### PUBLICATIONS

- **Design and characterization of optically controllable filamentous myosins**  
Zemsky, S., Ruijgrok, P. V., Bryant, Z.  
CELL PRESS.2022: 292A
- **Machine learning active-nematic hydrodynamics.** *Proceedings of the National Academy of Sciences of the United States of America*  
Colen, J., Han, M., Zhang, R., Redford, S. A., Lemma, L. M., Morgan, L., Ruijgrok, P. V., Adkins, R., Bryant, Z., Dogic, Z., Gardel, M. L., de Pablo, J. J., Vitelli, et al  
2021; 118 (10)
- **Optical control of fast and processive engineered myosins in vitro and in living cells.** *Nature chemical biology*  
Ruijgrok, P. V., Ghosh, R. P., Zemsky, S. n., Nakamura, M. n., Gong, R. n., Ning, L. n., Chen, R. n., Vachharajani, V. T., Chu, A. E., Anand, N. n., Eguchi, R. R., Huang, P. S., Lin, et al  
2021
- **Spatiotemporal control of liquid crystal structure and dynamics through activity patterning.** *Nature materials*  
Zhang, R. n., Redford, S. A., Ruijgrok, P. V., Kumar, N. n., Mozaffari, A. n., Zemsky, S. n., Dinner, A. R., Vitelli, V. n., Bryant, Z. n., Gardel, M. L., de Pablo, J. J.  
2021
- **Optical Control of Fast and Processive Engineered Myosins In Vitro and in Living Cells**  
Ruijgrok, P. V., Ghosh, R. P., Nakamura, M., Zemsky, S., Chen, R., Vachharajani, V., Liphardt, J. T., Bryant, Z.  
CELL PRESS.2019: 259A
- **Controllable molecular motors engineered from myosin and RNA.** *Nature nanotechnology*  
Omabegho, T. n., Gurel, P. S., Cheng, C. Y., Kim, L. Y., Ruijgrok, P. V., Das, R. n., Alushin, G. M., Bryant, Z. n.  
2017

- **Cryo-EM structures reveal specialization at the myosin VI-actin interface and a mechanism of force sensitivity.** *eLife*  
Gurel, P. S., Kim, L. Y., Ruijgrok, P. V., Omabegho, T. n., Bryant, Z. n., Alushin, G. M.  
2017; 6
- **Damping of Acoustic Vibrations of Single Gold Nanoparticles Optically Trapped in Water** *NANO LETTERS*  
Ruijgrok, P. V., Zijlstra, P., Tchegotareva, A. L., Orrit, M.  
2012; 12 (2): 1063-1069
- **Brownian Fluctuations and Heating of an Optically Aligned Gold Nanorod** *PHYSICAL REVIEW LETTERS*  
Ruijgrok, P. V., Verhart, N. R., Zijlstra, P., Tchegotareva, A. L., Orrit, M.  
2011; 107 (3)
- **Making gold nanoparticles fluorescent for simultaneous absorption and fluorescence detection on the single particle level** *PHYSICAL CHEMISTRY CHEMICAL PHYSICS*  
Gaiduk, A., Ruijgrok, P. V., Yorulmaz, M., Orrit, M.  
2011; 13 (1): 149-153
- **Room-Temperature Detection of a Single Molecule's Absorption by Photothermal Contrast** *SCIENCE*  
Gaiduk, A., Yorulmaz, M., Ruijgrok, P. V., Orrit, M.  
2010; 330 (6002): 353-356
- **Spontaneous emission of a nanoscopic emitter in a strongly scattering disordered medium** *OPTICS EXPRESS*  
Ruijgrok, P. V., Wuest, R., Rebane, A. A., Renn, A., Sandoghdar, V.  
2010; 18 (6): 6360-6365
- **Probing the acoustic vibrations of single gold nanoparticle by ultrashort laser pulses** *Laser Photonics Rev.*  
Tchegotareva AL, Ruijgrok PV, Zijlstra P, Orrit M  
2010; 4 (4): 581-597
- **Detection limits in photothermal microscopy** *Chem. Sci.*  
Gaiduk A, Ruijgrok PV, Yorulmaz M, Orrit M  
2010; 1 (3): 343-350
- **Acoustic and Optical Modes of Single Dumbbells of Gold Nanoparticles** *CHEMPHYSICHEM*  
Tchegotareva, A. L., van Dijk, M. A., Ruijgrok, P. V., Fokkema, V., Hesselberth, M. H., Lippitz, M., Orrit, M.  
2009; 10 (1): 111-114