Stanford

Gerald Fuller

Fletcher Jones II Professor in the School of Engineering

Chemical Engineering

NIH Biosketch available Online Curriculum Vitae available Online

CONTACT INFORMATION

- **Administrator**

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Bio

BIO

The processing of complex liquids (polymers, suspensions, emulsions, biological fluids) alters their microstructure through orientation and deformation of their constitutive elements. In the case of polymeric liquids, it is of interest to obtain in situ measurements of segmental orientation and optical methods have proven to be an excellent means of acquiring this information. Research in our laboratory has resulted in a number of techniques in optical rheometry such as high-speed polarimetry (birefringence and dichroism) and various microscopy methods (fluorescence, phase contrast, and atomic force microscopy).

The microstructure of polymeric and other complex materials also cause them to have interesting physical properties and respond to different flow conditions in unusual manners. In our laboratory, we are equipped with instruments that are able to characterize these materials such as shear rheometer, capillary break up extensional rheometer, and 2D extensional rheometer. Then, the response of these materials to different flow conditions can be visualized and analyzed in detail using high speed imaging devices at up to 2,000 frames per second.

There are numerous processes encountered in nature and industry where the deformation of fluid-fluid interfaces is of central importance. Examples from nature include deformation of the red blood cell in small capillaries, cell division and structure and composition of the tear film. Industrial applications include the processing of emulsions and foams, and the atomization of droplets in ink-jet printing. In our laboratory, fundamental research is in progress to understand the orientation and deformation of monolayers at the molecular level. These experiments employ state of the art optical methods such as polarization modulated dichroism, fluorescence microscopy, and Brewster angle microscopy to obtain in situ measurements of polymer films and small molecule amphiphile monolayers subject to flow. Langmuir troughs are used as the experimental platform so that the thermodynamic state of the monolayers can be systematically controlled. For the first time, well characterized, homogeneous surface flows have been developed, and real time measurements of molecular and microdomain orientation have been obtained. These microstructural experiments are complemented by measurements of the macroscopic, mechanical properties of the films.

ACADEMIC APPOINTMENTS

- Professor, Chemical Engineering
- Member, Bio-X
- Member, Cardiovascular Institute

- Faculty Fellow, Stanford ChEM-H

ADMINISTRATIVE APPOINTMENTS

- Chair, C-UAFA, (2015- present)

HONORS AND AWARDS

- Fletcher Jones Professorship II, The Fletcher Jones Foundation (2006)
- Cox Medal for Excellence in Fostering Undergraduate Research, Stanford University (2006)
- Julian C. Smith Lectureship in Chemical and Biomolecular Engineering, Cornell University
- Pearson Lecturer in Chemical Engineering, UCSB
- Bingham Medal Award, The Society of Rheology (1997)
- Fellow, American Physical Society (1993)

BOARDS, ADVISORY COMMITTEES, PROFESSIONAL ORGANIZATIONS

- Fellow, American Academy of Arts and Science (2016 - present)
- Secretary, International Committee on Rheology (2017 - present)
- Elected Member, National Academy of Engineering (2005 - present)
- President, Society of Rheology (1999 - 2001)

PROFESSIONAL EDUCATION

- PhD, Caltech (1980)

Teaching

COURSES

2018-19

- Complex Fluid Interfaces: Capillarity and Interfacial Dynamics: CHEMENG 470 (Spr)
- Fluid Mechanics: CHEMENG 120A (Win)
- Special Topics in Microrheology: CHEMENG 505 (Aut, Win, Spr, Sum)

2017-18

- Fluid Mechanics: CHEMENG 120A (Win)
- Microhydrodynamics: CHEMENG 310, ME 451D (Win)
- Special Topics in Microrheology: CHEMENG 505 (Aut, Win, Spr, Sum)

2016-17

- Complex Fluid Interfaces: Capillarity and Interfacial Dynamics: CHEMENG 470 (Win)
- Fluid Mechanics: CHEMENG 120A (Win)
- Special Topics in Microrheology: CHEMENG 505 (Aut, Win, Spr, Sum)

2015-16

- Applied Mathematics in the Chemical and Biological Sciences: CHEMENG 300, CME 330 (Aut)
- Fluid Mechanics: CHEMENG 120A (Win)
- Special Topics in Microrheology: CHEMENG 505 (Aut, Win, Spr, Sum)

STANFORD ADVISEES

Doctoral Dissertation Reader (AC)

Christopher Guido, William Murch

Postdoctoral Faculty Sponsor

Endre Joachim Mossige, Javier Tajuelo Rodriguez

Postdoctoral Research Mentor

Endre Joachim Mossige, Javier Tajuelo Rodriguez

Publications

PUBLICATIONS

- **Influence of interfacial elasticity on liquid entrainment in thin foam films** *PHYSICAL REVIEW FLUIDS*
  Lin, G., Frostad, J. M., Fuller, G. G.
  2018; 3 (11)
- **The shape evolution of liquid droplets in miscible environments** *JOURNAL OF FLUID MECHANICS*
  Walls, D. J., Meiburg, E., Fuller, G. G.
  2018; 852: 422–52
- **Crosslink density influences the adhesive strength of silicone hydrogel surfaces against corneal epithelial cells**
  Liu, C., Scales, C. W., Fuller, G. G.
  ASSOC RESEARCH VISION OPHTHALMOLOGY INC.2018
- **Influence of tear-film component integration on contact lens wettability**
  Rabiah, N. I., Scales, C. W., Fuller, G. G.
  ASSOC RESEARCH VISION OPHTHALMOLOGY INC.2018
- **Coalescence and spontaneous emulsification in the presence of asphaltenes**
  Fuller, G., Bochner, S., Merola, M., Vlassopoulos, D.
  AMER CHEMICAL SOC.2018
- **Adhesion and viscoelasticity of living tissues: The live cell monolayer rheometer (LCMR)**
  Fuller, G., Pokki, J., Merola, M., Undieh, A., Hollenbeck, E., Cegelski, L.
  AMER CHEMICAL SOC.2018
- **Monoclonal Antibody Interfaces: Dilatation Mechanics and Bubble Coalescence** *LANGMUIR*
  Kannan, A., Shieh, I. C., Leiske, D. L., Fuller, G. G.
  2018; 34 (2): 630–38
- **DACH1 stimulates shear stress-guided endothelial cell migration and coronary artery growth through the CXCL12-CXCR4 signaling axis** *GENES & DEVELOPMENT*
  Chang, A. H., Raftrey, B. C., D'Amato, G., Surya, V. N., Poduri, A., Chen, H. I., Goldstone, A. B., Woo, J., Fuller, G. G., Dunn, A. R., Red-Horse, K.
  2017; 31 (13): 1308–24
- **Interfacial mechanisms for stability of surfactant-laden films** *PLOS ONE*
  Bhamla, M. S., Chai, C., Alvarez-Valenzuela, M. A., Tajuelo, J., Fuller, G. G.
  2017; 12 (5)
- **Temperature controlled tensiometry using droplet microfluidics** *LAB ON A CHIP*
  Lee, D., Fang, C., Ravan, A. S., Fuller, G. G., Shen, A. Q.
  2017; 17 (4): 717-726
- **Sphingosine 1-phosphate receptor 1 regulates the directional migration of lymphatic endothelial cells in response to fluid shear stress** *JOURNAL OF THE ROYAL SOCIETY INTERFACE*
  Surya, V. N., Michalaki, E., Huang, E. Y., Fuller, G. G., Dunn, A. R.

2016; 13 (125)

- **Impact of Compressibility on the Control of Bubble-Pressure Tensiometers** *LANGMUIR*
  Suja, V. C., Frostad, J. M., Fuller, G. G.
  2016; 32 (46): 12031-12038
- **Dynamic fluid-film interferometry as a predictor of bulk foam properties.** *Soft matter*
  Frostad, J. M., Tammaro, D., Santollani, L., Bochner de Araujo, S., Fuller, G. G.
  2016: -?
- **Placing Marangoni instabilities under arrest** *PHYSICAL REVIEW FLUIDS*
  Bhamla, M. S., Fuller, G. G.
  2016; 1 (5)
- **Mechanical Behavior of a Bacillus subtilis Pellicle** *JOURNAL OF PHYSICAL CHEMISTRY B*
  Hollenbeck, E. C., Douarche, C., Allain, J., Roger, P., Regeard, C., Cegelski, L., Fuller, G. G., Raspaud, E.
  2016; 120 (26): 6080-6088
- **Multiplexed Fluid Flow Device to Study Cellular Response to Tunable Shear Stress Gradients** *ANNALS OF BIOMEDICAL ENGINEERING*
  Ostrowski, M. A., Huang, E. Y., Surya, V. N., Poplawski, C., Barakat, J. M., Lin, G. L., Fuller, G. G., Dunn, A. R.
  2016; 44 (7): 2261-2272
- **Interfacial Rheology of Hydrogen-Bonded Polymer Multilayers Assembled at Liquid Interfaces: Influence of Anchoring Energy and Hydrophobic Interactions** *LANGMUIR*
  Le Tirilly, S., Tregouet, C., Reyssat, M., Bone, S., Geffroy, C., Fuller, G., Pantoustier, N., Perrin, P., Monteux, C.
  2016; 32 (24): 6089-6096
- **Spreading of miscible liquids** *PHYSICAL REVIEW FLUIDS*
  Walls, D. J., Haward, S. J., Shen, A. Q., Fuller, G. G.
  2016; 1 (1)
- **Growth Kinetics and Mechanics of Hydrate Films by Interfacial Rheology** *LANGMUIR*
  Leopercio, B. C., de Souza Mendes, P. R., Fuller, G. G.
  2016; 32 (17): 4203-4209
- **Nonmonotonic Elasticity of the Crude Oil-Brine Interface in Relation to Improved Oil Recovery** *LANGMUIR*
  Chavez-Miyauchi, T. E., Firoozabadi, A., Fuller, G. G.
  2016; 32 (9): 2192-2198
- **Instability and Breakup of Model Tear Films** *INVESTIGATIVE OPHTHALMOLOGY & VISUAL SCIENCE*
  Bhamla, M. S., Chai, C., Rabiah, N. I., Frostad, J. M., Fuller, G. G.
  2016; 57 (3): 949-958
- **Interfacial dilatational deformation accelerates particle formation in monoclonal antibody solutions** *SOFT MATTER*
  Lin, G. L., Pathak, J. A., Kim, D. H., Carlson, M., Riguero, V., Kim, Y. J., Buff, J. S., Fuller, G. G.
  2016; 12 (14): 3293-3302
- **Nanoscale Patterning of Extracellular Matrix Alters Endothelial Function under Shear Stress** *NANO LETTERS*
  Nakayama, K. H., Surya, V. N., Gole, M., Walker, T. W., Yang, W., Lai, E. S., Ostrowski, M. A., Fuller, G. G., Dunn, A. R., Huang, N. F.
  2016; 16 (1): 410-419
- **Dewetting and deposition of thin films with insoluble surfactants from curved silicone hydrogel substrates.** *Journal of colloid and interface science*
  Bhamla, M. S., Balemans, C., Fuller, G. G.
  2015; 449: 428-435
- **Multiphase flow of miscible liquids: jets and drops** *EXPERIMENTS IN FLUIDS*
  Walker, T. W., Logia, A. N., Fuller, G. G.
  2015; 56 (5)
- **Influence of Lipid Coatings on Surface Wettability Characteristics of Silicone Hydrogels** *LANGMUIR*
  Bhamla, M. S., Nash, W. L., Elliott, S., Fuller, G. G.

2015; 31 (13): 3820-3828

- **Quantification of stromal vascular cell mechanics with a linear cell monolayer rheometer** *JOURNAL OF RHEOLOGY*
  Elkins, C. M., Shen, W., Khor, V. K., Kraemer, F. B., Fuller, G. G.
  2015; 59 (1): 33-50
- **Integrated microfluidic platform for instantaneous flow and localized temperature control** *RSC ADVANCES*
  Fang, C., Lee, D., Stober, B., Fuller, G. G., Shen, A. Q.
  2015; 5 (104): 85620-85629
- **Lung surfactants and different contributions to thin film stability** *SOFT MATTER*
  Hermans, E., Bhamla, M. S., Kao, P., Fuller, G. G., Vermant, J.
  2015; 11 (41): 8048-8057
- **Interplay of Hydrogen Bonding and Hydrophobic Interactions to Control the Mechanical Properties of Polymer Multi layers at the Oil-Water Interface** *ACS MACRO LETTERS*
  Le Tirilly, S., Tregouet, C., Bone, S., Geffroy, C., Fuller, G., Pantoustier, N., Perrin, P., Monteux, C.
  2015; 4 (1): 25-29
- **Molecular determinants of mechanical properties of V. cholerae biofilms at the air-liquid interface.** *Biophysical journal*
  Hollenbeck, E. C., Fong, J. C., Lim, J. Y., Yildiz, F. H., Fuller, G. G., Cegelski, L.
  2014; 107 (10): 2245-2252
- **Influence of interfacial rheology on drainage from curved surfaces.** *Soft matter*
  Bhamla, M. S., Giacomin, C. E., Balemans, C., Fuller, G. G.
  2014; 10 (36): 6917-6925
- **Using in-Situ Polymerization of Conductive Polymers to Enhance the Electrical Properties of Solution-Processed Carbon Nanotube Films and Fibers** *ACS APPLIED MATERIALS & INTERFACES*
  Allen, R., Pan, L., Fuller, G. G., Bao, Z.
  2014; 6 (13): 9966-9974
- **Scaling analysis and mathematical theory of the interfacial stress rheometer** *JOURNAL OF RHEOLOGY*
  FitzGibbon, S., Shaqfeh, E. S., Fuller, G. G., Walker, T. W.
  2014; 58 (4): 999-1038
- **Microvascular Endothelial Cells Migrate Upstream and Align Against the Shear Stress Field Created by Impinging Flow** *BIOPHYSICAL JOURNAL*
  Ostrowski, M. A., Huang, N. F., Walker, T. W., Verwijlen, T., Poplawski, C., Khoo, A. S., Cooke, J. P., Fuller, G. G., Dunn, A. R.
  2014; 106 (2): 366-374
- **Enhanced particle removal using viscoelastic fluids** *JOURNAL OF RHEOLOGY*
  Walker, T. W., Hsu, T. T., FitzGibbon, S., Frank, C. W., Mui, D. S., Zhu, J., Mendiratta, A., Fuller, G. G.
  2014; 58 (1): 63-88
- **Corneal Cell Adhesion to Contact Lens Hydrogel Materials Enhanced via Tear Film Protein Deposition.** *PloS one*
  Elkins, C. M., Qi, Q. M., Fuller, G. G.
  2014; 9 (8)
- **Instabilities and elastic recoil of the two-fluid circular hydraulic jump** *EXPERIMENTS IN FLUIDS*
  Hsu, T. T., Walker, T. W., Frank, C. W., Fuller, G. G.
  2014; 55 (1)
- **In-Situ Quantification of the Interfacial Rheological Response of Bacterial Biofilms to Environmental Stimuli** *PLOS ONE*
  Ruehs, P. A., Boeni, L., Fuller, G. G., Inglis, R. F., Fischer, P.
  2013; 8 (11)
- **Synthesis Route for the Self-Assembly of Submicrometer-Sized Colloidosomes with Tailorable Nanopores** *CHEMISTRY OF MATERIALS*
  Bollhorst, T., Grieb, T., Rosenauer, A., Fuller, G., Maas, M., Rezwan, K.
  2013; 25 (17): 3464-3471
- **Aligned SWNT Films from Low-Yield Stress Gels and Their Transparent Electrode Performance** *ACS APPLIED MATERIALS & INTERFACES*

Allen, R., Fuller, G. G., Bao, Z.
2013; 5 (15): 7244-7252

- **The modulation of endothelial cell morphology, function, and survival using anisotropic nanofibrillar collagen scaffolds** *BIOMATERIALS*
Huang, N. F., Okogbaa, J., Lee, J. C., Jha, A., Zaitseva, T. S., Paukshto, M. V., Sun, J. S., Punjya, N., Fuller, G. G., Cooke, J. P.
2013; 34 (16): 4038-4047

- **Tracking the interfacial dynamics of PNiPAM soft microgels particles adsorbed at the air-water interface and in thin liquid films** *RHEOLOGICA ACTA*
Cohin, Y., Fisson, M., Jourde, K., Fuller, G. G., Sanson, N., Talini, L., Monteux, C.
2013; 52 (5): 445-454

- **Spatial patterning of endothelium modulates cell morphology, adhesiveness and transcriptional signature** *BIOMATERIALS*
Huang, N. F., Lai, E. S., Ribeiro, A. J., Pan, S., Pruitt, B. L., Fuller, G. G., Cooke, J. P.
2013; 34 (12): 2928-2937

- **Thermoresponsiveness of PDMAEMA. Electrostatic and Stereochemical Effects** *MACROMOLECULES*
Niskanen, J., Wu, C., Ostrowski, M., Fuller, G. G., Hietala, S., Tenhu, H.
2013; 46 (6): 2331-2340

- **3-Hydroxybutyric Acid Interacts with Lipid Mono layers at Concentrations That Impair Consciousness** *LANGMUIR*
Hsu, T. T., Leiske, D. L., Rosenfeld, L., Sonner, J. M., Fuller, G. G.
2013; 29 (6): 1948-1955

- **Disruption of Escherichia coli Amyloid-Integrated Biofilm Formation at the Air-Liquid Interface by a Polysorbate Surfactant** *LANGMUIR*
Wu, C., Lim, J. Y., Fuller, G. G., Cegelski, L.
2013; 29 (3): 920-926

- **Oriented, polymer-stabilized carbon nanotube films: influence of dispersion rheology** *NANOTECHNOLOGY*
Allen, R., Bao, Z., Fuller, G. G.
2013; 24 (1)

- **Structural and rheological properties of meibomian lipid.** *Investigative ophthalmology & visual science*
Rosenfeld, L., Cerretani, C., Leiske, D. L., Toney, M. F., Radke, C. J., Fuller, G. G.
2013; 54 (4): 2720-2732

- **Interfacial and Fluorescence Studies on Stereoblock Poly(N-isopropylacryl amide)s** *LANGMUIR*
Niskanen, J., Wu, C., Ostrowski, M., Fuller, G. G., Tenhu, H., Hietala, S.
2012; 28 (41): 14792-14798

- **Consequences of Interfacial Viscoelasticity on Thin Film Stability** *LANGMUIR*
Rosenfeld, L., Fuller, G. G.
2012; 28 (40): 14238-14244

- **Role of shear-thinning on the dynamics of rinsing flow by an impinging jet** *PHYSICS OF FLUIDS*
Walker, T. W., Hsu, T. T., Frank, C. W., Fuller, G. G.
2012; 24 (9)

- **Aligned nanofibrillar collagen regulates endothelial organization and migration** *REGENERATIVE MEDICINE*
Lai, E. S., Huang, N. F., Cooke, J. P., Fuller, G. G.
2012; 7 (5): 649-661

- **Extensional rheometry at interfaces: Analysis of the Cambridge Interfacial Tensiometer** *JOURNAL OF RHEOLOGY*
Verwijlen, T., Leiske, D. L., Moldenaers, P., Vermant, J., Fuller, G. G.
2012; 56 (5): 1225-1247

- **Molecular Structure of Interfacial Human Meibum Films** *LANGMUIR*
Leiske, D. L., Miller, C. E., Rosenfeld, L., Cerretani, C., Ayzner, A., Lin, B., Meron, M., Senchyna, M., Ketelson, H. A., Meadows, D., Srinivasan, S., Jones, L., Radke, et al
2012; 28 (32): 11867-11874

- **Quantitative Analysis of Amyloid-Integrated Biofilms Formed by Uropathogenic Escherichia coli at the Air-Liquid Interface** *BIOPHYSICAL JOURNAL*
  Wu, C., Lim, J. Y., Fuller, G. G., Cegelski, L.
  2012; 103 (3): 464-471

- **Isocitrate dehydrogenase 1 R132H mutation is not detected in angiocentric glioma** *ANNALS OF DIAGNOSTIC PATHOLOGY*
  Raghunathan, A., Olar, A., Vogel, H., Parker, J. R., Coventry, S. C., Debski, R., Albarracin, C. T., Aldape, K. D., Cahill, D. P., Powell, S. Z., Fuller, G. N.
  2012; 16 (4): 255-259

- **Oriented collagen as a potential cochlear implant electrode surface coating to achieve directed neurite outgrowth** *EUROPEAN ARCHIVES OF OTO-RHINO-LARYNGOLOGY*
  Volkenstein, S., Kirkwood, J. E., Lai, E., Dazert, S., Fuller, G. G., Heller, S.
  2012; 269 (4): 1111-1116

- **Temperature-Induced Transitions in the Structure and Interfacial Rheology of Human Meibum** *BIOPHYSICAL JOURNAL*
  Leiske, D. L., Leiske, C. I., Leiske, D. R., Toney, M. F., Senchyna, M., Ketelson, H. A., Meadows, D. L., Fuller, G. G.
  2012; 102 (2): 369-376

- **Interfacial Rheology of Natural Silk Fibroin at Air/Water and Oil/Water Interfaces** *LANGMUIR*
  Wang, L., Xie, H., Qiao, X., Goffin, A., Hodgkinson, T., Yuan, X., Sun, K., Fuller, G. G.
  2012; 28 (1): 459-467

- **Complex Fluid-Fluid Interfaces: Rheology and Structure** *ANNUAL REVIEW OF CHEMICAL AND BIOMOLECULAR ENGINEERING, VOL 3*
  Fuller, G. G., Vermant, J.
  2012; 3: 519-543

- **Insertion Mechanism of a Poly(ethylene oxide)-poly(butylene oxide) Block Copolymer into a DPPC Monolayer** *LANGMUIR*
  Leiske, D. L., Meckes, B., Miller, C. E., Wu, C., Walker, T. W., Lin, B., Meron, M., Ketelson, H. A., Toney, M. F., Fuller, G. G.
  2011; 27 (18): 11444-11450

- **Vascular anastomosis using controlled phase transitions in poloxamer gels** *NATURE MEDICINE*
  Chang, E. I., Galvez, M. G., Glotzbach, J. P., Hamou, C. D., El-Ftesi, S., Rappleye, C. T., Sommer, K., Rajadas, J., Abilez, O. J., Fuller, G. G., Longaker, M. T., Gurtner, G. C.
  2011; 17 (9): 1147-U160

- **Designing a tubular matrix of oriented collagen fibrils for tissue engineering** *ACTA BIOMATERIALIA*
  Lai, E. S., Anderson, C. M., Fuller, G. G.
  2011; 7 (6): 2448-2456

- **Role of fluid elasticity on the dynamics of rinsing flow by an impinging jet** *PHYSICS OF FLUIDS*
  Hsu, T. T., Walker, T. W., Frank, C. W., Fuller, G. G.
  2011; 23 (3)

- **Preparation of Mineralized Nanofibers: Collagen Fibrils Containing Calcium Phosphate** *NANO LETTERS*
  Maas, M., Guo, P., Keeney, M., Yang, F., Hsu, T. M., Fuller, G. G., Martin, C. R., Zare, R. N.
  2011; 11 (3): 1383-1388

- **Interfacial shear rheology of highly confined glassy polymers** *SOFT MATTER*
  Srivastava, S., Leiske, D., Basu, J. K., Fuller, G. G.
  2011; 7 (5): 1994-2000

- **Editorial: dynamics and rheology of complex fluid-fluid interfaces** *SOFT MATTER*
  Fuller, G. G., Vermant, J.
  2011; 7 (17): 7583-7585

- **Influence of surface rheology on dynamic wetting of droplets coated with insoluble surfactants** *SOFT MATTER*
  Leiske, D. L., Monteux, C., Senchyna, M., Ketelson, H. A., Fuller, G. G.
  2011; 7 (17): 7747-7753

- **Thin Film Formation of Silica Nanoparticle/Lipid Composite Films at the Fluid-Fluid Interface** *LANGMUIR*
  Maas, M., Ooi, C. C., Fuller, G. G.

2010; 26 (23): 17867-17873

- **The interfacial viscoelastic properties and structures of human and animal Meibomian lipids** *EXPERIMENTAL EYE RESEARCH*
  Leiske, D. L., Raju, S. R., Ketelson, H. A., Millar, T. J., Fuller, G. G.
  2010; 90 (5): 598-604
- **Interfacial Flow Processing of Collagen** *LANGMUIR*
  Goffin, A. J., Rajadas, J., Fuller, G. G.
  2010; 26 (5): 3514-3521
- **Charge Interaction between Particle-Laden Fluid Interfaces** *LANGMUIR*
  Xu, H., Kirkwood, J., Lask, M., Fuller, G.
  2010; 26 (5): 3160-3164
- **A double wall-ring geometry for interfacial shear rheometry** *RHEOLOGICA ACTA*
  Vandebril, S., Franck, A., Fuller, G. G., Moldenaers, P., Vermant, J.
  2010; 49 (2): 131-144
- **Surface Rheology of a Polymer Monolayer: Effects of Polymer Chain Length and Compression Rate** *LANGMUIR*
  Spigone, E., Cho, G., Fuller, G. G., Cicuta, P.
  2009; 25 (13): 7457-7464
- **Isovaleric, Methylmalonic, and Propionic Acid Decrease Anesthetic EC50 in Tadpoles, Modulate Glycine Receptor Function, and Interact with the Lipid 1,2-Dipalmitoyl-Sn-Glycero-3-Phosphocholine** *18th Annual Neuropharmacology Conference 2008*
  Weng, Y., Hsu, T. T., Zhao, J., Nishimura, S., Fuller, G. G., Sonner, J. M.
  LIPPINCOTT WILLIAMS & WILKINS.2009: 1538–45
- **Liquid Crystalline Collagen: A Self-Assembled Morphology for the Orientation of Mammalian Cells** *LANGMUIR*
  Kirkwood, J. E., Fuller, G. G.
  2009; 25 (5): 3200-3206
- **Langmuir Monolayers of Straight-Chain and Branched Hexadecanol and Eicosanol Mixtures** *LANGMUIR*
  Kurtz, R. E., Toney, M. F., Pople, J. A., Lin, B., Meron, M., Majewski, J., Lange, A., Fuller, G. G.
  2008; 24 (24): 14005-14014
- **Small Molecule, Non-Peptide p75(NTR) Ligands Inhibit A beta-Induced Neurodegeneration and Synaptic Impairment** *PLOS ONE*
  Yang, T., Knowles, J. K., Lu, Q., Zhang, H., Arancio, O., Moore, L. A., Chang, T., Wang, Q., Andreasson, K., Rajadas, J., Fuller, G. G., Xie, Y., Massa, et al
  2008; 3 (11)
- **Effect of Lysozyme Adsorption on the Interfacial Rheology of DPPC and Cholesteryl Myristate Films** *LANGMUIR*
  Nishimura, S. Y., Magana, G. M., Ketelson, H. A., Fuller, G. G.
  2008; 24 (20): 11728-11733
- **Interaction of human whole saliva and astringent dietary compounds investigated by interfacial shear rheology** *FOOD HYDROCOLLOIDS*
  Rossetti, D., Yakubov, G. E., Stokes, J. R., Williamson, A., Fuller, G. G.
  2008; 22 (6): 1068-1078
- **Surface rheology of hydrophobically modified PEG polymers associating with a phospholipid monolayer at the air-water interface** *LANGMUIR*
  Auguste, D. T., Kirkwood, J., Kohn, J., Fuller, G. G., Prud'homme, R. K.
  2008; 24 (8): 4056-4064
- **Analysis of the magnetic rod interfacial stress rheometer** *JOURNAL OF RHEOLOGY*
  Reynaert, S., Brooks, C. F., Moldenaers, P., Vermant, J., Fuller, G. G.
  2008; 52 (1): 261-285
- **Particle bridging between oil and water interfaces** *LANGMUIR*
  Xu, H., Lask, M., Kirkwood, J., Fuller, G.
  2007; 23 (9): 4837-4841
- **Mechanical properties and structure of particle coated interfaces: Influence of particle size and bidisperse 2D suspensions** *LANGMUIR*
  Monteux, C., Jung, E., Fuller, G. G.

2007; 23 (7): 3975-3980

- **Why inhaling salt water changes what we exhale** *JOURNAL OF COLLOID AND INTERFACE SCIENCE*
  Watanabe, W., Thomas, M., Clarke, R., Klibanov, A. M., Langer, R., Katstra, J., Fuller, G. G., Griel, L. C., Fiegel, J., Edwards, D.
  2007; 307 (1): 71-78

- **Determining the mechanical response of particle-laden fluid interfaces using surface pressure isotherms and bulk pressure measurements of droplets** *PHYSICAL CHEMISTRY CHEMICAL PHYSICS*
  Monteux, C., Kirkwood, J., Xu, H., Jung, E., Fuller, G. G.
  2007; 9 (48): 6344-6350

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