



Lynette Cegelski

Professor of Chemistry and, by courtesy, of Chemical Engineering

 Curriculum Vitae available Online

CONTACT INFORMATION

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Bio

BIO

Professor Lynette Cegelski's research is inspired by the challenge and importance of elucidating chemical structure and function in biological systems and the need for new and unconventional strategies to treat infectious diseases. Cegelski completed her undergraduate studies in Chemistry at SUNY-Binghamton, New York (B.S. summa cum laude and Phi Beta Kappa 1998), where she participated in research to determine the microtubule-bound conformation of the anti-cancer drug Taxol by REDOR solid-state NMR. This formative experience motivated her move to Washington University to conduct her PhD training in the laboratory of Professor Jacob Schaefer (Ph.D. Chemistry 2004). She investigated bacterial and plant macromolecular and whole-cell systems using solid-state NMR, including examining the mode of action of the antibiotic oritavancin and investigating photosynthesis and photorespiration in soybean leaves with $^{13}\text{CO}_2$ and ^{15}N labeling. She introduced the use of 4-frequency TEDOR-REDOR measurements in whole cells for the first time. She trained in Microbiology and Infectious Disease research as a postdoctoral fellow in Molecular Microbiology at the Washington University School of Medicine, working with Professor Scott Hultgren. There, she defined amyloid contributions to *E. coli* biofilms and introduced the first small-molecule inhibitors of functional amyloid assembly in bacteria. She joined the faculty of the Stanford Chemistry Department in 2008. The Cegelski Research program integrates chemistry, biology, and physics to investigate the assembly and function of macromolecular and whole-cell systems. They are revealing new bacterial structures, uncovering fundamental parameters of chemical composition and architecture in complex biofilm assemblies, and identifying new anti-infectives and anti-infective strategies. Cegelski's work has garnered early career awards, including the Burroughs Wellcome Career Award at the Scientific Interface, the 2010 NIH Director's New Innovator Award, the National Science Foundation CAREER Award, and the Presidential Early Career Award for Scientists and Engineers (PECASE).

ACADEMIC APPOINTMENTS

- Professor, Chemistry
- Professor (By courtesy), Chemical Engineering
- Member, Bio-X
- Faculty Fellow, Sarafan ChEM-H
- Member, Wu Tsai Neurosciences Institute

HONORS AND AWARDS

- Presidential Early Career Award for Scientists and Engineers, National Science Foundation (2019)
- ICMRBS Founder's Medal, International Council on Magnetic Resonance in Biological Systems (2018)
- NSF CAREER Award, National Science Foundation (2015)
- Hellman Faculty Scholar Award, Hellman Fellows Fund (2012)
- Terman Fellowship, Stanford University (2011)
- NIH Director's New Innovator Award, National Institutes of Health (2010)
- Career Award at the Scientific Interface, Burroughs Wellcome Fund (2008)
- Terman Fellowship, Stanford University (2008)

PROFESSIONAL EDUCATION

- Postdoc, Washington University School of Medicine , Molecular Microbiology (2008)
- PhD, Washington University , Chemistry (2004)
- BS, Binghamton University, SUNY , Chemistry (1998)

PATENTS

- Huttner, M.; Wender, P; Cegelski, L.; Zang, Xiaoyu; Antonoplis, A. "United States Patent 62/633,368 (WO2019165051A1) Composition and method for new antimicrobial agents with secondary mode of action", Leland Stanford Junior University, Aug 29, 2019
- Lynette Cegelski, Wiriya Thongsomboon. "United States Patent WO2018035411A1 Production and Use of Phosphoethanolamine Cellulose and Derivatives", Leland Stanford Junior University, Feb 22, 2018
- Lynette Cegelski, Ji Youn Lim. "United States Patent 9,271,493 Methods for Microbial Biofilm Destruction", Leland Stanford Junior University, Mar 1, 2016

LINKS

- The Cegelski Lab: <http://cegelskilab.stanford.edu>
- Bio-X Profile: <https://biox.stanford.edu/people/lynette-cegelski>

Research & Scholarship

CURRENT RESEARCH AND SCHOLARLY INTERESTS

Our research program is inspired by the challenge and importance of elucidating chemical structure and function in complex biological systems and the need for new strategies to treat infectious diseases. The genomics and proteomics revolutions have been enormously successful in generating crucial "parts lists" for biological systems. Yet, for many fascinating systems, formidable challenges exist in building complete descriptions of how the parts function and assemble into macromolecular complexes and whole-cell factories. We have introduced uniquely enabling problem-solving approaches integrating solid-state NMR spectroscopy with microscopy and biochemical and biophysical tools to determine atomic- and molecular-level detail in complex macromolecular assemblies and whole cells and biofilms. We are uncovering new chemistry and new chemical structures produced in nature. We identify small molecules that influence bacterial assembly processes and use these in chemical genetics approaches to learn about bacterial cell wall, amyloid and biofilm assembly.

Translationally, we have launched a collaborative antibacterial drug design program integrating synthesis, chemical biology, and mechanistic biochemistry and biophysics directed at the discovery and development of new antibacterial therapeutics targeting difficult-to-treat bacteria.

Teaching

COURSES

2024-25

- Biochemistry I: CHEM 181, CHEMENG 181, CHEMENG 281 (Aut)
- Biological Chemistry Laboratory: CHEM 184 (Spr)
- Chemistry Research Proposal: CHEM 211C (Win)
- Chemistry Research Seminar Presentation: CHEM 211B (Win)
- Curricular Practical Training for Chemists: CHEM 390 (Aut, Win, Spr, Sum)
- Research Progress in Chemistry: CHEM 211A (Win)

2023-24

- Biochemistry I: CHEM 181, CHEMENG 181, CHEMENG 281 (Aut)
- Chemistry Research Proposal: CHEM 211C (Win)
- Chemistry Research Seminar Presentation: CHEM 211B (Win)
- Curricular Practical Training for Chemists: CHEM 390 (Aut, Win, Spr, Sum)
- Manipulating Spins: NMR Theory and Applications: CHEM 277 (Spr)
- Research Progress in Chemistry: CHEM 211A (Win)

2022-23

- Biochemistry I: CHEM 181, CHEMENG 181, CHEMENG 281 (Aut)
- Chemistry Research Proposal: CHEM 211C (Win)
- Chemistry Research Seminar Presentation: CHEM 211B (Win)
- Curricular Practical Training for Chemists: CHEM 390 (Aut, Win, Spr, Sum)
- Research Progress in Chemistry: CHEM 211A (Win)
- Research Progress in Inorganic Chemistry: CHEM 258C (Aut)

2021-22

- Chemical Principles II: CHEM 31B (Win)
- Chemistry Research Proposal: CHEM 211C (Win)
- Chemistry Research Seminar Presentation: CHEM 211B (Win)
- Curricular Practical Training for Chemists: CHEM 390 (Aut, Win, Spr, Sum)
- Introduction to NMR: CHEM 277 (Aut)
- Research Progress in Chemistry: CHEM 211A (Win)

GRADUATE AND FELLOWSHIP PROGRAM AFFILIATIONS

- Biophysics (Phd Program)

Publications

PUBLICATIONS

- **Insights into phosphoethanolamine cellulose synthesis and secretion across the Gram-negative cell envelope.** *Nature communications*
Verma, P., Ho, R., Chambers, S. A., Cegelski, L., Zimmer, J.
2024; 15 (1): 7798

- **Biguanide-Vancomycin Conjugates are Effective Broad-Spectrum Antibiotics against Actively Growing and Biofilm-Associated Gram-Positive and Gram-Negative ESKAPE Pathogens and Mycobacteria.** *Journal of the American Chemical Society*
Rahn, H. P., Liu, X., Chosy, M. B., Sun, J., Cegelski, L., Wender, P. A.
2024
- **CPMAS NMR platform for direct compositional analysis of mycobacterial cell-wall complexes and whole cells.** *Journal of magnetic resonance open*
Liu, X., Brčić, J., Cassell, G. H., Cegelski, L.
2023; 16-17
- **Conjugation of Vancomycin with a Single Arginine Improves Efficacy against Mycobacteria by More Effective Peptidoglycan Targeting.** *Journal of medicinal chemistry*
Brčić, J., Tong, A., Wender, P. A., Cegelski, L.
2023
- **Vancomycin-Arginine Conjugate Inhibits Growth of Carbapenem-Resistant E. coli and Targets Cell-Wall Synthesis.** *ACS chemical biology*
Antonoplis, A. n., Zang, X. n., Wegner, T. n., Wender, P. A., Cegelski, L. n.
2019
- **Phosphoethanolamine cellulose enhances curli-mediated adhesion of uropathogenic Escherichia coli to bladder epithelial cells.** *Proceedings of the National Academy of Sciences of the United States of America*
Hollenbeck, E. C., Antonoplis, A., Chai, C., Thongsomboon, W., Fuller, G. G., Cegelski, L.
2018
- **Phosphoethanolamine cellulose: A naturally produced chemically modified cellulose** *SCIENCE*
Thongsomboon, W., Serra, D. O., Possling, A., Hadjineophytou, C., Hengge, R., Cegelski, L.
2018; 359 (6373): 334–38
- **Bacterial cell wall composition and the influence of antibiotics by cell-wall and whole-cell NMR.** *Philosophical transactions of the Royal Society of London. Series B, Biological sciences*
Romaniuk, J. A., Cegelski, L.
2015; 370 (1679)
- **Vibrio cholerae RbmB is an α -1,4-polysaccharide lyase with biofilm-disrupting activity against Vibrio polysaccharide (VPS).** *PLoS pathogens*
Weerasekera, R., Moreau, A., Huang, X., Nam, K. M., Hinbest, A., Huynh, Y., Liu, X., Ashwood, C., Pepi, L. E., Paulson, E., Cegelski, L., Yan, J., Olson, et al
2024; 20 (12): e1012750
- **Unveiling the Stability of Encapsulated Pt Catalysts Using Nanocrystals and Atomic Layer Deposition.** *Journal of the American Chemical Society*
Liccardo, G., Cendejas, M. C., Mandal, S. C., Stone, M. L., Porter, S., Nhan, B. T., Kumar, A., Smith, J., Plessow, P. N., Cegelski, L., Osio-Norgaard, J., Abild-Pedersen, F., Chi, et al
2024
- **Glycogen phase separation drives macromolecular rearrangement and asymmetric division in E. coli.** *bioRxiv : the preprint server for biology*
Thappeta, Y., Cañas-Duarte, S. J., Kalleem, T., Fragasso, A., Xiang, Y., Gray, W., Lee, C., Cegelski, L., Jacobs-Wagner, C.
2024
- **Molecular insights into phosphoethanolamine cellulose formation and secretion.** *bioRxiv : the preprint server for biology*
Verma, P., Ho, R., Chambers, S. A., Cegelski, L., Zimmer, J.
2024
- **Vancomycin-Polyguanidino Dendrimer Conjugates Inhibit Growth of Antibiotic-Resistant Gram-Positive and Gram-Negative Bacteria and Eradicate Biofilm-Associated S. aureus.** *ACS infectious diseases*
Chosy, M. B., Sun, J., Rahn, H. P., Liu, X., Brčić, J., Wender, P. A., Cegelski, L.
2024
- **Detection of intact vancomycin-arginine as the active antibacterial conjugate in E. coli by whole-cell solid-state NMR.** *RSC medicinal chemistry*
Werby, S. H., Brčić, J., Chosy, M. B., Sun, J., Rendell, J. T., Neville, L. F., Wender, P. A., Cegelski, L.

2023; 14 (6): 1192-1198

- **Nordihydroguaiaretic Acid (NDGA) Inhibits CsgA Polymerization, Bacterial Amyloid Biogenesis, and Biofilm Formation.** *ChemBiochem : a European journal of chemical biology*
Visser, J. A., Yager, D., Chambers, S. A., Lim, J. Y., Cao, X., Cegelski, L.
2023: e202300266
- **Catching Threads in Bacterial Cell Walls** *ACS CENTRAL SCIENCE*
Kallem, T., Cegelski, L.
2022: 1376-1379
- **PITing it forward: A new link in the journey of uropathogenic E.coli in the urothelium.** *Cell reports*
Joshi, C. S., Cegelski, L., Mysorekar, I. U.
2022; 39 (4): 110758
- **Chemical and Molecular Composition of the Chrysalis Reveals Common Chitin-rich Structural Framework for Monarchs and Swallowtails.** *Journal of molecular biology*
Goularte, N. F., Kallem, T., Cegelski, L.
1800: 167456
- **Molecular organization of the E. coli cellulose synthase macrocomplex.** *Nature structural & molecular biology*
Acheson, J. F., Ho, R., Goularte, N. F., Cegelski, L., Zimmer, J.
2021; 28 (3): 310–18
- **In vivo targeting of E. coli with vancomycin-arginine.** *Antimicrobial agents and chemotherapy*
Neville, L. F., Shalit, I. n., Warn, P. A., Scheetz, M. H., Sun, J. n., Chosy, M. B., Wender, P. A., Cegelski, L. n., Rendell, J. T.
2021
- **Identification of a novel pyruvyltransferase using 13C solid-state NMR to analyze rhizobial exopolysaccharides.** *Journal of bacteriology*
Wells, D. H., Goularte, N. F., Barnett, M. J., Cegelski, L., Long, S. R.
2021: JB0040321
- **Mechanochemical synthesis of an elusive fluorinated polyacetylene.** *Nature chemistry*
Boswell, B. R., Mansson, C. M., Cox, J. M., Jin, Z., Romaniuk, J. A., Lindquist, K. P., Cegelski, L., Xia, Y., Lopez, S. A., Burns, N. Z.
2020
- **Variation in the ratio of curli and phosphoethanolamine cellulose associated with biofilm architecture and properties.** *Biopolymers*
Jeffries, J., Thongsomboon, W., Visser, J. A., Enriquez, K., Yager, D., Cegelski, L.
2020: e23395
- **Bicyclohexene-peri-naphthalenes: Scalable Synthesis, Diverse Functionalization, Efficient Polymerization, and Facile Mechanoactivation of Their Polymers.** *Journal of the American Chemical Society*
Yang, J., Horst, M., Werby, S. H., Cegelski, L., Burns, N. Z., Xia, Y.
2020; 142 (34): 14619–26
- **Evaluation of Phosphoethanolamine Cellulose Production among Bacterial Communities using Congo Red Fluorescence.** *Journal of bacteriology*
Thongsomboon, W., Werby, S. H., Cegelski, L.
2020
- **Mechanical and microstructural insights of Vibrio cholerae and Escherichia coli dual-species biofilm at the air-liquid interface.** *Colloids and surfaces. B, Biointerfaces*
Abriat, C., Enriquez, K., Virgilio, N., Cegelski, L., Fuller, G. G., Daigle, F., Heuzey, M.
2020; 188: 110786
- **Design and Implementation of a Six-Session CURE Module Using Biofilms to Explore the Chemistry-Biology Interface** *JOURNAL OF CHEMICAL EDUCATION*
Werby, S., Cegelski, L.
2019; 96 (9): 2050–54
- **Benzoladderene Mechanophores: Synthesis, Polymerization, and Mechanochemical Transformation** *JOURNAL OF THE AMERICAN CHEMICAL SOCIETY*

- Yang, J., Horst, M., Romaniuk, J. H., Jin, Z., Cegelski, L., Xia, Y.
2019; 141 (16): 6479–83
- **Benzoladderene Mechanophores: Synthesis, Polymerization, and Mechanochemical Transformation.** *Journal of the American Chemical Society*
Yang, J., Horst, M., Romaniuk, J. A., Jin, Z., Cegelski, L., Xia, Y.
2019
 - **Integration of electron microscopy and solid-state NMR analysis for new views and compositional parameters of *Aspergillus fumigatus* biofilms.** *Medical mycology*
Reichhardt, C., Joubert, L., Clemons, K. V., Stevens, D. A., Cegelski, L.
2019; 57 (Supplement_2): S239–S244
 - **Spectral comparisons of mammalian cells and intact organelles by solid-state NMR** *JOURNAL OF STRUCTURAL BIOLOGY*
Werby, S. H., Cegelski, L.
2019; 206 (1): 49–54
 - **Integration of electron microscopy and solid-state NMR analysis for new views and compositional parameters of *Aspergillus fumigatus* biofilms** *MEDICAL MYCOLOGY*
Reichhardt, C., Joubert, L., Clemons, K. V., Stevens, D. A., Cegelski, L.
2019; 57: S239–S244
 - **Respiratory Heterogeneity Shapes Biofilm Formation and Host Colonization in Uropathogenic *Escherichia coli*** *MBIO*
Beebout, C. J., Eberly, A. R., Werby, S. H., Reasoner, S. A., Brannon, J. R., De, S., Fitzgerald, M. J., Huggins, M. M., Clayton, D. B., Cegelski, L., Hadjifrangiskou, M.
2019; 10 (2)
 - **Respiratory Heterogeneity Shapes Biofilm Formation and Host Colonization in Uropathogenic *Escherichia coli*.** *mBio*
Beebout, C. J., Eberly, A. R., Werby, S. H., Reasoner, S. A., Brannon, J. R., De, S., Fitzgerald, M. J., Huggins, M. M., Clayton, D. B., Cegelski, L., Hadjifrangiskou, M.
2019; 10 (2)
 - **Unraveling *Escherichia coli*'s Cloak: Identification of Phosphoethanolamine Cellulose, Its Functions, and Applications.** *Microbiology insights*
Jeffries, J. n., Fuller, G. G., Cegelski, L. n.
2019; 12: 1178636119865234
 - **Carbon compositional analysis of hydrogel contact lenses by solid-state NMR spectroscopy.** *Solid state nuclear magnetic resonance*
Rabiah, N. I., Romaniuk, J. A., Fuller, G. G., Scales, C. W., Cegelski, L. n.
2019; 102: 47–52
 - **Functional Specialization in *Vibrio cholerae* Diguanylate Cyclases: Distinct Modes of Motility Suppression and c-di-GMP Production.** *mBio*
Zamorano-Sánchez, D. n., Xian, W. n., Lee, C. K., Salinas, M. n., Thongsomboon, W. n., Cegelski, L. n., Wong, G. C., Yildiz, F. H.
2019; 10 (2)
 - **Synthesis and Mechanochemical Activation of Ladderene-Norbornene Block Copolymers.** *Journal of the American Chemical Society*
Su, J. K., Feist, J. D., Yang, J., Mercer, J. A., Romaniuk, J. A., Chen, Z., Cegelski, L., Burns, N. Z., Xia, Y.
2018; 140 (39): 12388–91
 - **Peptidoglycan and Teichoic Acid Levels and Alterations in *Staphylococcus aureus* by Cell-Wall and Whole-Cell Nuclear Magnetic Resonance** *BIOCHEMISTRY*
Romaniuk, J. H., Cegelski, L.
2018; 57 (26): 3966–75
 - **REDOR NMR Reveals Multiple Conformers for a Protein Kinase C Ligand in a Membrane Environment** *ACS CENTRAL SCIENCE*
Yang, H., Staveness, D., Ryckbosch, S. M., Axtman, A. D., Loy, B. A., Barnes, A. B., Pande, V. S., Schaefer, J., Wender, P. A., Cegelski, L.
2018; 4 (1): 89–96
 - **A dual function antibiotic-transporter conjugate exhibits superior activity in sterilizing MRSA biofilms and killing persister cells.** *Journal of the American Chemical Society*
Antonoplis, A. n., Zang, X. n., Huttner, M. A., Chong, K. n., Lee, Y. B., Co, J. Y., Amieva, M. n., Kline, K. n., Wender, P. A., Cegelski, L. n.
2018

- **The Congo red derivative FSB binds to curli amyloid fibers and specifically stains curled E. coli.** *PloS one*
Reichhardt, C., Cegelski, L.
2018; 13 (8): e0203226
- **Whole-Cell Detection of C-P Bonds in Bacteria** *BIOCHEMISTRY*
Bartlett, C., Bansal, S., Burnett, A., Suits, M. D., Schaefer, J., Cegelski, L., Horsman, G. P., Weadge, J. T.
2017; 56 (44): 5870-73
- **Whole Ribosome NMR: Dipolar Couplings and Contributions to Whole Cells.** *The journal of physical chemistry. B*
Nygaard, R., Romaniuk, J. A., Rice, D. M., Cegelski, L.
2017; 121 (40): 9331-9335
- **Disentangling Nanonets: Human α -Defensin 6 Targets *Candida albicans* Virulence.** *Biochemistry*
Cegelski, L.
2017; 56 (8): 1027-1028
- **Visualization of *Aspergillus fumigatus* biofilms with Scanning Electron Microscopy and Variable Pressure-Scanning Electron Microscopy: A comparison of processing techniques** *JOURNAL OF MICROBIOLOGICAL METHODS*
Joubert, L., Ferreira, J. A., Stevens, D. A., Nazik, H., Cegelski, L.
2017; 132: 46-55
- **Mechanochemical unzipping of insulating poly(ladderene) to semiconducting polyacetylene** *Science*
Chen, Z., Mercer, J. A., Zhu, X., Romaniuk, J. A., Pfatner, R., Cegelski, L., Martinez, T. J., Burns, N. Z., Xia, Y.
2017; 357 (6350): 475-479
- ***Pseudomonas* phage inhibition of *Candida albicans*.** *Microbiology (Reading, England)*
Nazik, H. n., Joubert, L. M., Secor, P. R., Sweere, J. M., Bollyky, P. L., Sass, G. n., Cegelski, L. n., Stevens, D. A.
2017
- **Influence of the amyloid dye Congo red on curli, cellulose, and the extracellular matrix in *E. coli* during growth and matrix purification.** *Analytical and bioanalytical chemistry*
Reichhardt, C., McCrate, O. A., Zhou, X., Lee, J., Thongsomboon, W., Cegelski, L.
2016; 408 (27): 7709-7717
- **Fungal biofilm composition and opportunities in drug discovery.** *Future medicinal chemistry*
Reichhardt, C., Stevens, D. A., Cegelski, L.
2016; 8 (12): 1455-1468
- **Mechanical Behavior of a *Bacillus subtilis* Pellicle** *JOURNAL OF PHYSICAL CHEMISTRY B*
Hollenbeck, E. C., Douarache, C., Allain, J., Roger, P., Regeard, C., Cegelski, L., Fuller, G. G., Raspaud, E.
2016; 120 (26): 6080-6088
- **Analysis of the *Aspergillus fumigatus* Biofilm Extracellular Matrix by Solid-State Nuclear Magnetic Resonance Spectroscopy.** *Eukaryotic cell*
Reichhardt, C., Ferreira, J. A., Joubert, L., Clemons, K. V., Stevens, D. A., Cegelski, L.
2015; 14 (11): 1064-1072
- **Frequency-selective REDOR and spin-diffusion relays in uniformly labeled whole cells** *SOLID STATE NUCLEAR MAGNETIC RESONANCE*
Rice, D. M., Romaniuk, J. A., Cegelski, L.
2015; 72: 132-139
- **Cell-Based High-Throughput Screening Identifies Rifapentine as an Inhibitor of Amyloid and Biofilm Formation in *Escherichia coli*.** *ACS infectious diseases*
Maher, M. C., Lim, J. Y., Gunawan, C., Cegelski, L.
2015; 1 (10): 460-8
- **Cell-Based High-Throughput Screening Identifies Rifapentine as an Inhibitor of Amyloid and Biofilm Formation in *Escherichia coli*** *ACS INFECTIOUS DISEASES*
Maher, M. C., Lim, J. Y., Gunawan, C., Cegelski, L.
2015; 1 (10): 460-468

- **C-di-GMP Regulates Motile to Sessile Transition by Modulating MshA Pili Biogenesis and Near-Surface Motility Behavior in *Vibrio cholerae*.** *PLoS pathogens*
Jones, C. J., Utada, A., Davis, K. R., Thongsomboon, W., Zamorano Sanchez, D., Banakar, V., Cegelski, L., Wong, G. C., Yildiz, F. H.
2015; 11 (10)
- **Bottom-up and top-down solid-state NMR approaches for bacterial biofilm matrix composition.** *Journal of magnetic resonance*
Cegelski, L.
2015; 253: 91-97
- **Spectral Snapshots of Bacterial Cell-Wall Composition and the Influence of Antibiotics by Whole-Cell NMR** *BIOPHYSICAL JOURNAL*
Nygaard, R., Romaniuk, J. A., Rice, D. M., Cegelski, L.
2015; 108 (6): 1380-1389
- **Toward a Biorelevant Structure of Protein Kinase C Bound Modulators: Design, Synthesis, and Evaluation of Labeled Bryostatin Analogues for Analysis with Rotational Echo Double Resonance NMR Spectroscopy** *JOURNAL OF THE AMERICAN CHEMICAL SOCIETY*
Loy, B. A., Lesser, A. B., Staveness, D., Billingsley, K. L., Cegelski, L., Wender, P. A.
2015; 137 (10): 3678-3685
- **Characterization of the *Vibrio cholerae* extracellular matrix: a top-down solid-state NMR approach.** *Biochimica et biophysica acta*
Reichhardt, C., Fong, J. C., Yildiz, F., Cegelski, L.
2015; 1848 (1): 378-383
- **NMR spectroscopy for atomistic views of biomembranes and cell surfaces.** *Biochimica et biophysica acta*
Cegelski, L., Weliky, D. P.
2015; 1848 (1 Pt B): 201-2
- **Characterization of the *Vibrio cholerae* extracellular matrix: A top-down solid-state NMR approach.** *Biochimica et biophysica acta*
Reichhardt, C., Fong, J. C., Yildiz, F., Cegelski, L.
2015; 1848 (1): 378-383
- **Congo Red Interactions with Curli-Producing *E. coli* and Native Curli Amyloid Fibers.** *PLoS one*
Reichhardt, C., Jacobson, A. N., Maher, M. C., Uang, J., McCrate, O. A., Eckart, M., Cegelski, L.
2015; 10 (10): e0140388
- **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
- **Putative Hydrogen Bond to Tyrosine M208 in Photosynthetic Reaction Centers from *Rhodobacter capsulatus* Significantly Slows Primary Charge Separation** *JOURNAL OF PHYSICAL CHEMISTRY B*
Saggu, M., Carter, B., Zhou, X., Faries, K., Cegelski, L., Holten, D., Boxer, S. G., Kirmaier, C.
2014; 118 (24): 6721-6732
- **Solid-state NMR for bacterial biofilms** *MOLECULAR PHYSICS*
Reichhardt, C., Cegelski, L.
2014; 112 (7): 887-894
- **Community behavior and amyloid-associated phenotypes among a panel of uropathogenic *E. coli*.** *Biochemical and biophysical research communications*
Lim, J. Y., Pinkner, J. S., Cegelski, L.
2014; 443 (2): 345-350
- **Sum of the parts: composition and architecture of the bacterial extracellular matrix.** *Journal of molecular biology*
McCrate, O. A., Zhou, X., Reichhardt, C., Cegelski, L.
2013; 425 (22): 4286-4294
- **REDOR NMR for drug discovery** *BIOORGANIC & MEDICINAL CHEMISTRY LETTERS*
Cegelski, L.
2013; 23 (21): 5767-5775

- **Curcumin as an amyloid-indicator dye in E. coli.** *Chemical communications*
McCrate, O. A., Zhou, X., Cegelski, L.
2013; 49 (39): 4193-4195
- **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
- **REDOR NMR for Drug Discovery** *Bioorganic and Medicinal Chemistry Letters*
Cegelski, L.
2013
- **Sum of the Parts: Composition and Architecture of the Bacterial Extracellular Matrix** *Journal of Molecular Biology*
McCrate, O. A., Zhou, X., Reichhardt, C., Cegelski, L.
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- **Nutrient-Dependent Structural Changes in S. aureus Peptidoglycan Revealed by Solid-State NMR Spectroscopy** *BIOCHEMISTRY*
Zhou, X., Cegelski, L.
2012; 51 (41): 8143-8153
- **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
- **Dimethyl Sulfoxide and Ethanol Elicit Increased Amyloid Biogenesis and Amyloid-Integrated Biofilm Formation in Escherichia coli** *APPLIED AND ENVIRONMENTAL MICROBIOLOGY*
Lim, J. Y., May, J. M., Cegelski, L.
2012; 78 (9): 3369-3378
- **Plant Cell-Wall Cross-Links by REDOR NMR Spectroscopy** *JOURNAL OF THE AMERICAN CHEMICAL SOCIETY*
Cegelski, L., O'Connor, R. D., Stueber, D., Singh, M., Poliks, B., Schaefer, J.
2010; 132 (45): 16052-16057
- **REDOR Applications in Biology: An Overview** *Encyclopedia of NMR*
Toke, O., Cegelski, L.
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