



California Institute of Technology
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Caltech postdoctoral positions in microbiology, antibiotic resistance, and antimicrobial susceptibility testing (AST)

Two postdoctoral positions are available in the Ismagilov group at the California Institute of Technology (<http://ismagilovlab.caltech.edu>).

We are seeking talented, motivated individuals to join a collaborative effort to enable development of rapid diagnostic tests of antibiotic susceptibility for several pathogens, including *Neisseria gonorrhoeae*, in collaboration with Drs. Jeffrey Klausner (UCLA) and Olusegun Soge (UW). The work combines fundamental studies and creative applications of knowledge to create new technologies.

Rapid, point-of-care (POC) antibiotic susceptibility testing (AST) is critically needed so clinicians can provide timely and correct treatment and minimize further spread of “superbugs.” Our lab has demonstrated (doi: [10.1126/scitranslmed.aal3693](https://doi.org/10.1126/scitranslmed.aal3693)) that we can use digital, single-molecule counting methods to perform a rapid phenotypic AST directly on clinical UTI samples with sample-to-answer results in less than 30 min. Now, we are extending this work to other organisms, antibiotics, and sample types. We are leveraging funding from several agencies including the CARB-X (<http://www.carb-x.org>) program, which aims to “protect humanity from the most serious bacterial threats by accelerating antibacterial product development over the next 25 years.”

Skills required: Strong microbiological training; rigorous scientific training in design and interpretation of experiments; knowledge of the mechanism of action of antibiotics; knowledge of prokaryotic gene regulation preferred; strong experimental skills with RG2 pathogens and/or clinical samples preferred; familiarity with current antimicrobial susceptibility testing methodology preferred; expertise in *N. gonorrhoeae* preferred. Priority will be given to candidates who have demonstrated a published record of creativity, scientific depth, and research accomplishments. Candidates are encouraged to identify and apply for postdoctoral fellowships and other independent funding sources for which they are eligible.

Next steps: Candidates should send their CV and a brief statement of research interests to ismagilov.postdoc@caltech.edu.