# GENE THERAPY DELIVERY SCIENTIST / BIOENGINEER

## THE POSITION

Earli is currently seeking high-caliber non-viral nucleic acid Gene Therapy Delivery Scientist / Bioengineer candidates.

## ABOUT EARLI

Earli Inc. has a large mission: to detect and then cure cancer at its earliest stages, effortlessly and painlessly. In other words, we aim to make cancer a benign experience. Our science is based on a new method of detecting, localizing and treating cancer, developed by Dr. Sam Gambhir, Director of the Canary Center at Stanford for Early Cancer Detection. Earli is pioneering what we believe is a new era of "synthetic biomarkers." Rather than relying on hard-to-detect natural biomarkers in blood samples, Earli's technology *forces* cancer cells, if they exist, to produce non-human molecules they would not otherwise make. As a result, such synthetic biomarkers are readily detectable and easily quantified. The same platform can be used for tumor localization and treatment. Other diseases, beyond cancer, are potentially diagnosable and treatable with this novel approach. Earli is financed by some of the best venture capital firms in Silicon Valley and China. We are currently based in the West Coast's prime biotech hub in South San Francisco at Johnson & Johnson's JLABS. More at www.earli.com.

## WHO YOU ARE

- You share our same sense of dedication, scientific passion and entrepreneurial spirit.
- You are technically gifted, with great hands on experience.
- You work well in a fast-paced and extremely focused startup environment.
- You are not only smart, but clever and constantly think outside the box.
- You are able to make logical decisions in an instant when there is little time to evaluate.
- You are a natural communicator and relationship builder.
- You stay calm under high pressure and stress.
- You have the ability to multi-task in a serious way, with an extreme attention to detail.
- You become a representative of the core DNA of the company through who you are.

## PRIMARY RESPONSIBILITIES

The overarching mission of the Delivery Bioengineer is to solve one of the fundamental roadblocks to non-viral gene delivery: the development of novel synthetic materials that can deliver DNA to a broad range of human cells *in vivo* in a safe and efficacious manner. This is a challenging goal and requires a unique individual with an exceptionally strong and broad skillset in Biomaterials and Drug Delivery.

- Be a core contributor to Earli's internal efforts in developing multiple strategies for non-viral DNA delivery.
- Systematically design and use synthetic organic and polymer chemistry to create large, diverse libraries of polymer, dendrimer, and/or lipid materials with precise control over structure, molecular weight distributions, biodegradability, and biocompatibility.
- Perform purification and characterization of these synthetic components by GPC, HPLC, ESI-MS, MALDI-TOF MS, NMR as necessary.
- Develop strategies to surface-engineer nanoparticles with 'stealth' functionality to escape immune detection and destruction, and with targeted protein and peptide modifications to confer tissue-targeting and nuclear localization functionality.
- Formulate DNA nanoparticles and characterize complexation efficiency, particle size, surface charge, and ionization potential.
- With other Earli personnel, test the nanoparticles *in vitro* for cellular uptake, intra-cellular localization, and transfection efficiency across many disease-relevant cell types, including cancer cells, normal primary cells, and immune cells such as macrophages; and *in vivo* across a range of relevant mouse models.

## REQUIRED EXPERIENCE, KNOWLEDGE AND SKILLS

- PhD Degree in Chemical Engineering, Bioengineering, Materials Science, or a closely related field, with at least 2 years of post-doctoral research experience.
- 4-6 years or more of relevant experience in developing non-viral gene delivery materials, as evidenced by a strong publication record in high-impact journals.
- Development of polymeric and/or lipid-based drug delivery systems. A candidate with a strong background in synthetic chemistry is preferred.
- Physical characterization of formulated complexes including charge, size, encapsulation efficiency, stability etc.
- Must have experience with formulation of nucleic acids (either DNA, mRNA, or structured RNA).
- Ability to assess efficacy of formulated complexes in *in vitro* tissue culture models and/or *in vivo* tissues is essential.
- Strong verbal and written communication skills with the ability to present your results succinctly but precisely in team meetings and formal reports.
- Managerial experience a plus but not required.

## WHY YOU SHOULD APPLY

- Outstanding opportunity to work with some of the top business and scientific minds in the Bay Area.
- Competitive compensation package, equity, generous paid time off (PTO).
- Rare opportunity to make a significant impact in the growth and development of a well-funded and scientifically sound start-up.