

Video Article

JoVE Monthly Highlights: February 2018

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URL: <https://www.jove.com/video/6020>

DOI: [doi:10.3791/6020](https://doi.org/10.3791/6020)

Keywords: This Month in JoVE, Issue 132,

Date Published: 2/15/2018

Citation: McAllister, C., Navani, D. JoVE Monthly Highlights: February 2018. *J. Vis. Exp.* (132), e6020, doi:10.3791/6020 (2018).

Abstract

Here's a look at what's coming up in the February 2018 issue of [JoVE](#): The World's Premier Video Journal.

This month, JoVE [Behavior](#) really grabs our attention with a [novel protocol](#) to analyze reaching and grasping movements. Here, our authors used frame-by-frame video to study healthy adult subjects as they reach for a donut hole on a pedestal. This technique allows researchers to study these movements without specialized or expensive equipment.

From studying hands to extending one to communities in need, our [authors](#) in JoVE [Behavior](#) describe a strategy to directly engage women at high socio-demographic risk for preterm birth. The Research Prioritization by Affected Communities protocol represents big step forward in the involvement of patients and the public in setting research priorities.

Next, as athletes across the globe prepare to compete for Olympic gold, JoVE [Bioengineering](#) features a method to synthesize [gold nanoparticles](#) for use in targeted drug delivery. After synthesis and purification, these fluorescent nanoparticles can be visualized both *in vitro* and *in vivo*.

Finally, JoVE [Bioengineering](#) was honored to feature the [work](#) of a Nobel laureate and colleagues, who share their protocol to prepare and purify liposomes. Using these liposomes, researchers can answer key questions related to synthetic biology and the origin of life.

You've just had a sneak peek at the February 2018 issue of JoVE. Visit our website to see the full-length articles, plus many more, in JoVE: The World's Premier Video Journal.

Video Link

The video component of this article can be found at <https://www.jove.com/video/6020/>

Protocol

A Novel Method for Involving Women of Color at High Risk for Preterm Birth in Research Priority Setting

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This manuscript describes the Research Prioritization by Affected Communities (RPAC) protocol and findings from its use with women at risk for preterm birth. Using the protocol, women identified and prioritized their unanswered questions about pregnancy, birth and neonatal care aimed at influencing research priority setting by funders and researchers.

Frame-by-Frame Video Analysis of Idiosyncratic Reach-to-Grasp Movements in Humans

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This protocol describes how to use frame-by-frame video analysis to quantify idiosyncratic reach-to-grasp movements in humans. A comparative analysis of reaching in sighted versus unsighted healthy adults is used to demonstrate the technique, but the method can also be applied to the study of developmental and clinical populations.

Synthesis of Functionalized 10-nm Polymer-coated Gold Particles for Endothelium Targeting and Drug Delivery

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We describe a method of synthesizing biocompatible 10-nm gold nanoparticles, functionalized by coating poly-ethylene glycol onto the surface. These particles can be used *in vitro* and *in vivo* for delivering therapeutics to nanoscale cellular and extracellular spaces that are difficult to access with conventional nanoparticle sizes.

Preparation, Purification, and Use of Fatty Acid-containing Liposomes

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Liposomes containing single-chain amphiphiles, particularly fatty acids, exhibit distinct properties compared to those containing diacylphospholipids due to the unique chemical properties of single chain amphiphiles. Here we describe techniques for the preparation, purification, and use of liposomes comprised in part or whole of these amphiphiles.

Disclosures

No conflicts of interest declared.