

[View this email in your browser](#)

# Spheryx Spotlight

April 16th, 2026

Edition 6

In this edition of Spheryx Spotlight:

- > **What makes a Hologram better than a picture?**
- > **Groundbreaking Article with New Insights about Protein Condensates using Spheryx's xSight**
- > **Upcoming Events**

## What makes a Hologram better than a picture?

The bullseye shape of a hologram encodes all of the structural and physical characteristics of the particle it represents. In addition, holograms are detected with more than ten times the sensitivity of a simple microscopic photograph. Total Holographic Characterization (THC) takes advantage of all of the benefits of holograms.



Laser



### **What information is in a hologram?**

Holograms can be analyzed using Lorenz-Mie Theory to deliver the size and refractive index (RI) of a particle. The RI is determined by the composition of a given particle. Knowing the RI tells you what the particle is made of! There is no guessing or user-input required. The size and RI of the particle determine the details of the hologram, for example the spacing and intensity of the rings.

### **How do you see holograms?**

When you look through a microscope at a particle out of focus, you'll see bullseye patterns - holograms. Being out of focus is much easier than requiring that the measurement be exactly in focus. With THC, holograms are detectable for particles in the size range of 0.5 $\mu$ m-10 $\mu$ m.

### **What does each plotted point mean?**

When a laser encounters a particle, it scatters off the particle. That scattered light interferes with the laser itself. That interference pattern is the hologram. The holograms are recorded for the Lorenz-Mie analysis. Each particle's hologram is analyzed to determine the particle size and RI. The scatter plot displays a point for each particle that is measured in a plot of the particle RI versus its size.

### **How many particles are measured?**

Every particle that flows through the detection window is analyzed and counted. With the added sensitivity that holograms provide, concentrations are very accurate. For example, for the hardest to detect protein aggregates, THC is over 10x more sensitive than other techniques. THC measures particle concentrations from 500 particles/mL to 10<sup>7</sup> particles/mL. Counting only particles at a specific RI you can determine the concentration of specific kinds of particles. You can determine the concentration of many different particle types in a single measurement, even when they are the same size and shape because of their different RIs.

# Groundbreaking Article with New Insights about Protein Condensates using Spheryx's xSight

Congratulations to our customers Dr. Fook Chiong Cheong, Spheryx Co-Inventor, and the research group of Professor Saumya Saurabh at New York University on their *Chemical and Biomedical Imaging* publication detailing their work at the exciting intersection of soft matter physics and cell biology!


The article discusses how biomolecular condensates, formed by liquid-liquid phase separation, are high-concentration blobs that broadly resemble the water droplets in steam. They act as membraneless organelles within biological cells and show tremendous commercial promise as self-assembled biochemical reactors.

The Saurabh team at NYU has used xSight to unravel how an especially important class of condensates form from solution and how that process determines the condensates' internal structure and overall properties. These insights help to answer fundamental questions about condensates' role in biological settings and provide much-needed feedback for designing commercial applications.

If you are interested to learn more, the article can be found below:

CHEMICAL &  
BIOMEDICAL IMAGING

Open Access

This article is licensed under [CC-BY 4.0](#) 

[pubs.acs.org/ChemBiolmaging](https://pubs.acs.org/ChemBiolmaging)

Article


## Holographic Fingerprinting Reveals Oligomer-Driven Phase Separation in Bovine Serum Albumin

Fook Chiong Cheong, Seung Y. Lee, Sujata Bais, Satyam Khanal, and Saumya Saurabh\*

 Cite This: <https://doi.org/10.1021/cbmi.5c00258>

 Read Online

ACCESS |

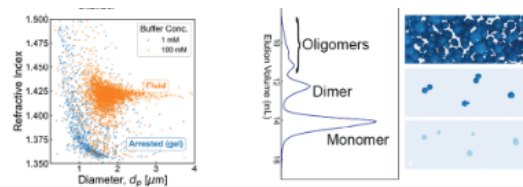
 Metrics & More

 Article Recommendations

**ABSTRACT:** Biomolecular condensates formed through phase separation are fundamental to the cellular organization. Although the physical principles underlying the phase separation of intrinsically disordered proteins are well understood, the molecular determinants of condensate formation in globular proteins remain



...mechanisms of condensate formation in globular proteins remain elusive. Here, we employ holographic particle characterization, a label-free, high-throughput imaging technique, to investigate the self-assembly of bovine serum albumin (BSA), a model globular protein. We show that this technique reliably differentiates between liquid-like and gel-like condensates by their distinct refractive indices and morphologies. Coupled with size-exclusion chromatography, our analysis reveals that BSA phase separation strictly depends on higher-order oligomeric assemblies. Monomeric and



[Read the Article Here](#)

## Upcoming Events

Spheryx will be attending several conferences this summer!

Spheryx will be attending and sponsoring the [2026 Colorado Protein Stability Conference](#) in Breckenridge, Colorado. Spheryx CEO Laura Philips and Director of Products and Applications Juliana Lumer will be hosting a Spheryx Booth, where we will be continuously running our xSight particle characterization instrument with xStream, our automated robotic sample loader. The conference will run from August 3rd to August 6th, we hope to see you there!

Also, Spheryx will be attending the [International Conference on Nanobubbles, Nanodroplets, and their Applications](#) in Newark, New Jersey, from August 19th to August 22nd. Spheryx CEO Laura Philips will be giving a talk titled "Measurement of Nanobubbles in Heterogeneous Colloidal Mixtures with Total Holographic Characterization".

In addition, Spheryx will be attending the [APV Seminar for Drug-Device Combination Products for Parenteral Use](#) in Basel, Switzerland. Spheryx CEO Laura Philips will be presenting a poster titled "Revealing Subvisible Contaminants in the Presence of Silicone Oil for Process Analytical Control". The conference will be taking place from June 9th to June 10th.

Lastly, Spheryx will be attending the [2026 Eastern Analytical Symposium](#) in Plainsboro, New Jersey. Spheryx CEO Laura Philips will be presenting an invited talk titled "Detecting, Identifying and Counting Sub-visible Particles in Heterogeneous Mixtures with Total Holographic Characterization". The conference will be held at the Crowne Plaza Princeton Conference Center, from November 16th to November 18th.

Earlier this year, Spheryx CEO Laura Philips participated in the BioPharma Webinar “Addressing Subvisible Silicone Oil Droplets-Industry Challenges, Analytical Strategies, and USP's Rationale for a New General Informational Chapter” with USP's Desmond Hunt and Yokogawa Fluid Imaging Technologies' Tyler Carter including a live Q&A session. The webinar was recorded and is still available, click the link below to watch the free recording!

Watch the Webinar Here

## Upcoming Appearances:



**APV Drug-Device Combination  
Products for Parenteral Use,  
Novartis Campus,  
Basel, Switzerland, June 9th - 10th**

**COLORADO PROTEIN  
STABILITY CONFERENCE**

**Colorado Protein Stability Conference,  
Beaver Run Resort and Conference Center,  
Breckenridge, CO, August 3rd - 6th**



**International Conference on Nanobubbles,  
New Jersey Institute of Technology,  
Newark, NJ, August 19th - 22nd**

Contact Us

Follow us on LinkedIn

### **About Spheryx, Inc.**

*Spheryx, Inc. is a privately held analytical services and instruments company providing Total Holographic Characterization® of colloidal materials. Spheryx's proprietary technology uses holographic video microscopy to characterize each particle in colloidal dispersions and multi-component colloidal mixtures, offering unprecedented insights into these materials' characteristics. Applications include R&D, quality assurance and manufacturing process control across a broad spectrum of industries, where characterization of colloids can enhance innovation, improve safety and reduce costs. For more information: <https://www.spheryx.solutions/>*

*Note: This news release contains forward-looking statements regarding future events. These statements are just predictions and are subject to risks and uncertainties that could cause the actual events or result to differ materially.*

Contact:

Laura Philips, CEO

[lphilips@spheryx.solutions](mailto:lphilips@spheryx.solutions)

917-773-8553



*Copyright (C) 2026 Spheryx, Inc.. All rights reserved.*

You are receiving news updates from Spheryx

Our mailing address is:

Spheryx, Inc.

330 E 38th St

#48J

New York, Ny 10016

[Add us to your address book](#)

Want to change how you receive these emails?

You can [update your preferences](#) or [unsubscribe](#)