New Submission: Invention Submission Form

☑ General Information ☐ Submit

Survey Questions

* indicates a required field

Title

Title of Invention:

3-Stage PID Controlled Autor

Is this invention relation to a previous invention disclosed to the OTL?

No

Contributors

Include the names of all Inventors or contributors. An Inventor is an Individual who conceived an essential element of the invention, either independently or jointly with others during the evolution of the invention concept. Authorship of a paper, by itself, does not mean inventorship unless the author contributed to conception of the invention. All Inventors (including Georgia Tech and non-Georgia Tech Inventors) must be included. Signatures are only required for Georgia Tech inventors.

Georgia Tech Inventors

Please list all inventors, starting with the lead inventor:

School	Full Name	Email*	
California Institute of Technol	James Alton Scott III	jscott4427@gmail.com	⊕
Georgia Institute of Technolo	Stephen Balakirsky	stephen.balakirsky@gtri.gate	✖
Georgia Institute of Technolo	Bharat Kanwar	bharat.kanwar@gtri.gatech.e	✖

School	Full Name	Email	
			⊕

Please provide the following information:

Inventor Name	Citizenship	Alternate Email	Gender	Is Faculty?
James Alton Scott III	US	jascott@caltech.edu	Male	☐
Stephen Balakirsky	US		Male	☑
Bharat Kanwar	US		Male	☑
			None	☐
			None	☐
			None	☐
			None	☐

The percent contribution should only be completed for the Georgia Tech inventors and the sum of the percent contributions of all Georgia Tech inventors should equal 100%.

Please enter inventor contribution percentages. The percent contribution should only be completed for the Georgia Tech Inventors and the sum of the percent contributions of all Georgia Tech inventors should equal 100%*

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James Alton Scott
III - 33%
Stephen Balakirsky -
34%
Bharat Kanwar - 33%
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Execution by Inventors(s):

I/We inventor(s) hereby solemnly swear and affirm under oath that I/we am/are the only inventor(s) of this invention and that I/we have not knowingly omitted the inclusion of any other inventor(s) besides me/us, and that the information provided in this disclosure is, to the best of my/our knowledge, true and accurate.

☑

Non-Georgia Tech Inventors

Organization	Full Name	Email	
			⊕

Invention Description

Please check if the disclosed matter is a Tangible Research Product.

☑

Please provide a brief invention description:

This system features PID-controlled XY planar movement with <20-micron precision (configurable to single-digit micron accuracy via tunable PID parameters), alongside a Z-stage optimized for precise fluid

Please attach more detailed descriptions, any support materials, reports and proposed publications.

Choose Files 7 files

Source of Support

Did this invention result from sponsored research? (i.e. research funded by an entity external to Georgia Tech)*

Yes

Please provide sponsor organization information.

GT Award/Fund Number	Sponsor organization:
	GTRI IRAD
NSF ERC 1648035	NSF-ERC CMaT

Was this invention funded through the use of internal funding from Georgia Tech? (e.g. startup, IRSD, gift, fellowship, seed or other)*

No

Was this project funded through a Center with Industry Membership?

No

Is this project from an IRI?

No

Did you use any material obtained from another party in developing this technology?*

No

Establishment of Invention History

Please enter conception date of invention*

Jan 1 2025

Please enter date of first written description.

Mar 1 2025

Has this been publicly disclosed?

No

Please enter completion of model or prototype

Sep 1 2025

Please enter first successful operational test

Sep 12 2025

Is a publication, paper or other public disclosure planned within the next 6 months?

None

Commercialization Potential

What are the commercial applications for the invention?

Chemical and biological deposition

What are the advantages of the invention versus present technologies?

The system is optimized for handling extremely low initial fluid volumes (<10uL), crucial for liquid deposition applications, while also achieving exceptionally high precision even at micro to nanoliter

What are the limitations that much be overcome prior to practical application?

A higher resolution camera, finer needles, an additional linear stage for adjusting syringe height autonomously

Is work on the invention continuing?

Yes

Please provide the source of the on-going funding.

GTRI IRAD

Do you know of any companies that may be interested in licensing this technology?
(Please list Company Name, Contact Person and Contact Information)

Salvus

Additional Comments

Next

Wellspring Worldwide