



REQUEST FOR PROPOSAL
Spatial Transcriptomics Platform for High Resolution Analysis

Title: State of the Art Spatial Transcriptomics Platform capable of high resolution in situ gene expression analysis within tissue samples.

RFP Issue Date: February 20th 2025

Due Date for RFP Submission: March 7th. 2025

Location: Bids must be addressed to:

Attention: Michael Reich
Columbia University
Procurement Services
615 West 131st Street, 3rd Floor
New York, New York 10027
mmr62@columbia.edu

Columbia Primary Contact:

Name: Michael Reich
Title: Director for Lab and Medical Sourcing
Phone: 1212-854-2337
E-mail: mmr62@columbia.edu

TABLE OF CONTENTS

<u>TITLE</u>	<u>PAGE</u>
Cover Page	1
Table of Contents	2
Section 1 General Information for Bidders & Definitions	3
Section 2 Submission of Bids	6
Section 3 Evaluation of Bids	9
Section 4 University Background Information	10
<i>Bidder's Declaration</i>	11
<i>Bidder Questionnaire</i>	12
<i>Specification & Scope of Work ("SOW")</i>	13
<i>No Bid Form</i>	15
<i>RFP Acknowledgement</i>	16

INFORMATION AND INSTRUCTIONS TO BIDDERS

Section 1

General Information to Bidders

Introduction:

Subject to the conditions set forth in this Request for Proposal, Columbia University is requesting **sealed** Bids for the following project:

Bid Name: State of the art Spatial Transcriptomics Platform enabled for high resolution in situ gene expression analysis within tissue samples

Bid Deadline: 5 PM EDT March 7th 2025

Submission of Bids: Att: Michael Reich
Director for Lab & Medical Sourcing
Columbia University Procurement Services
615 West 131st Street, 3rd Floor
New York, NY 10027
Mmr62@columbia.edu

Bidders may submit their Bids in accordance to instructions provided on page 6, Submission of Bids of this RFP document.

Definitions

Except as otherwise specifically provided, definitions are set forth as follows:

Columbia— Refers to Columbia University.

Request for Proposal (RFP) - Refers to the document named Columbia's Request for Proposal of _____.

Addenda — Refers to the written or graphic instruments issued by the Columbia Representative prior to the Bid Deadline, which modifies or interprets the RFP by additions, deletions, clarifications, or corrections.

Bidder – Refers to the firm that is interested in and/or responds to the RFP.

Bid - Refers to all documents that the Bidder must submit to the Columbia Representative prior to the Bid Deadline.

Bid Deadline - Refers to the time and date indicated in the RFP as the latest date and time that a Bid will be accepted.

Contract – Refers to the final agreement reached between the successful Bidder and Columbia.

Contractor - The term Contractor shall mean the successful Bidder awarded the Contract.

Subcontractor — The term Subcontractor shall mean any individual, company, or corporation to whom the Contractor assigns any part of the Contract or Award.

Code of Conduct and Fair Competition

It is the responsibility of the Bidder to notify the Columbia Representatives in writing of any possible conflict of interest as set forth below. Columbia will investigate the matter and determine if an actual conflict of interest exists.

A conflict of interest arises when a Columbia employee, officer or agent involved in the RFP process or Contract has a financial or any other interest in a Bidder. If a conflict of interest exists, the Bidder may not submit a Bid.

Columbia employees, officers and agents may neither solicit nor accept gratuities, favors, or anything of monetary value from Bidders, Contractors, or parties to sub-agreements. Any such actions must be reported to the Columbia Representatives immediately.

Columbia reserves the right to cancel the award if, in its sole discretion, it determines that any interest

disclosed from any source could give the appearance of a conflict or cause speculation as to the objectivity of the program to be developed by the Bidder. Columbia's determination regarding any questions of conflict of interest shall be final.

Compliance with Federal, State and Local Laws

Bidder warrants in submitting a Bid and in the performance of an award as a result of the Bid, that Bidder has complied with, or will comply with, all applicable federal, state, University, and local laws, ordinances and all lawful orders, rules and regulations hereunder. The Bidder, by submitting the Bid or performance that results from an award by Columbia, agrees not to discriminate against any employee or applicant based on an individual's race, color, religion, religious creed, ancestry, national origin, age (except minors), sex, sexual orientation, marital status, medical condition (cancer-related) and disability, and otherwise as required or permitted by law. Bidder further agrees that any sub-contract will contain a provision requiring non-discrimination in employment as specified above. Any breach of this provision may be regarded as material breach of contract and cause for cancellation.

Limitation of Liability

Columbia makes no representations, warranties, or guarantees that the information contained herein is accurate, complete, timely, or that such information accurately represents the conditions that would be encountered in pursuing the work or at the site(s) of work now or in the future. The furnishing of such information by Columbia shall not create or be deemed to create any obligation or liability upon it for any reason whatsoever and each Bidder, by submitting its Bid, expressly agrees that it has not relied upon the foregoing information, and that it shall not hold Columbia liable or responsible therefore in any manner whatsoever. Accordingly, nothing contained herein and no representation, statement or promise, of Columbia, its directors, officers, agents, representatives, or employees, oral or in writing, shall impair or limit the effect of the warranties of the Bidder required by this Request for Bid and that it shall not hold Columbia liable or responsible therefore in any manner whatsoever.

Neither the Trustees of Columbia, nor any officer, agent, or employee thereof shall be charged personally with any liability by a Bidder or another or held liable to a Bidder or another under any term or provision of this RFP or any statements made herein or because of the submission or attempted submission of a response hereto or otherwise.

Qualification of Bidder

Bidder must possess the potential ability to deliver and install the equipment as specified and provide support services per the terms and conditions set forth in the RFP. Consideration shall be given to such matters as Bidder integrity; record of past performance; and financial and technical resources.

Columbia shall make such investigations as deemed necessary to determine the ability of a Bidder to provide the specified equipment and perform professional services.

Columbia reserves the right to reject any Bid if the evidence submitted by, or investigation of, such Bidder fails to satisfy Columbia that said Bidder is properly qualified to carry out the obligations of the final Contract.

Section 2 Submission of Bids

Preparation of Bid

By submission of its Bid, the Bidder agrees that the Bid is predicated upon the acceptance of all the terms and conditions stated in the Request for Proposal, unless specifically excluded by the Bidder in its Bid. Part or all of the RFP and the successful Bid may be incorporated into the Contract or Purchase Order Award.

Each Bidder shall furnish the information and documents required by the RFP. Failure to submit all required information may deem a Bid as non-responsive. Columbia is exempt from Federal Excise Taxes and is also exempt from New York State and local sales or use taxes. All costs associated with the proposal and bid must be stated in U.S currency. By submitting a Bid, Bidder certifies that the prices proposed have been arrived at independently, without consultation, communication or agreement for the purpose of restricting competition as to any matter relating to such prices with any other Bidder or competitor. Bidders are cautioned to write all descriptions and prices clearly so there is no doubt as to the intent and scope of the Bid.

A person who is legally authorized to bind Bidder to a Contract shall sign the Bid. A Bid submitted by an agent shall have a current Power of Attorney attached, which evidences the agent's authority to bind Bidder. The person signing the Bid shall initial erasures or other changes.

Unnecessarily elaborate Bids beyond what is sufficient to present a complete and effective Bid are not desired and may be construed as an indication of the Bidder's lack of cost consciousness. Elaborate artwork, expensive paper and bindings are neither necessary nor desired. The cost incurred for the preparation of the Bid is the sole responsibility of the Bidder. Columbia does not assume any liability for any pre-contract activity and/or cost incurred by Bidders responding to this RFP.

Bid information is not considered confidential or proprietary. Trade secrets and other proprietary data contained in Bids may be held confidential if the Bidder requests, in writing, that Columbia does so, and if Columbia agrees, in writing, to do so. Material considered confidential by the Bidder must be clearly identified. Such confidential/proprietary information must be easily separable from the non-confidential sections of the Bid. Marking the entire Bid as proprietary will be neither accepted nor honored. Notwithstanding any of the foregoing, Columbia reserves the right to use any of the ideas presented in any reply, Bid, discussion, negotiations or presentation related to the RFP.

If a Bidder intends to use subcontractor(s), the Bidder must identify in its Bid the names of the subcontractors and the portions of the work the subcontractors will perform.

Communications Regarding the RFP

Requests for clarification and interpretations of the RFP must be made in writing via email during the period of February 20th 2025 - February 28th 2025. All questions regarding the RFP shall be directed to the Columbia Representatives in writing by e-mail. Two types of questions generally arise. One may be answered by directing the questioner to a specific section of the RFP. Other questions may be more complex and may require a written amendment to the RFP. The Columbia Representatives will make that determination.

The Columbia Representatives shall make clarifications, interpretations, corrections, and changes to the RFP by written Addenda as specified below. **Questions will not be answered and clarification will not be given after March 4th 2025.**

Addenda to RFP

Addenda to the RFP will be issued in writing and will be communicated to all Bidders by e-mail and shall become part of the RFP. If the RFP is amended, all terms and conditions that are not modified by the Addenda remain unchanged and in effect as written. If an addendum is issued after Bids have been received and/or after a short list has been developed, the addendum may be provided only to those who submitted Bids or only to those on the short list, in the sole discretion of Columbia.

Each Bidder shall be responsible for making sure it has received all issued Addenda prior to submitting a Bid. **Addenda may be issued through March 4th 2025.**

Columbia reserves the right to change the RFP schedule and to issue addenda at its sole discretion. Columbia also reserves the right to cancel, reissue, or to make corrections or amendments to the RFP due to errors or changes identified by Columbia or suggested by a Bidder, and to otherwise modify the terms of the RFP at any time in its sole discretion.

Submission of Bids

Bids are to be received in the designated office on or before the date and time specified as the Bid Deadline in the RFP. **Oral, telephone or facsimile Bids will not be considered.** All bids must be sent via email and should be sent to the Columbia Representative coordinating this RFP: Michael Reich at mmr62@columbia.edu.

In the event it is required for physical bid proposals to be provided, bids shall be submitted in a sealed envelope or package as follows:

- 1 Addressed to the address specified on the cover page of this RFP,
Show the Bid Name: “ **Spatial Transcriptomics Platform for High Resolution Analysis**”
- 2 Give the Bidder’s name, primary contacts address, email and telephone number.
- 3 Show the date and time of the Bid Deadline & Submission as specified in this RFP

Please be sure to include one hard copy and one electronic copies of the Bid Proposal in any physical submission.

Columbia, or any Columbia representatives, officers, or employees, will not be held responsible for the pre-opening of, post-opening of, or the failure to open a Bid not properly addressed and identified.

Alternate or Substitute Bids

Bidders may submit more than one Bid. Alternate or substitute Bids must comply with the terms and conditions of the RFP and must contain all required documents as specified in the RFP.

Columbia is seeking Bids that meet its **minimum** requirements & specifications as outlined in the Scope of Work / Specifications. If more than one method or technologies for meeting these requirements is proposed, each should be labeled primary, secondary, etc., submitted separately, and they will be evaluated in the specific priorities.

Late Submissions, Modifications, and Withdrawals of Bids

Late Bids: Bids received after the specified Bid Deadline may not be considered at the discretion of the Columbia Representative.

Bid Modifications: Prior to the Bid Deadline, a submitted Bid may be modified by written notice, signed by a duly authorized person on behalf of the Bidder, to the Columbia Representative. The written notice shall be worded as not to reveal the amount of the original Bid.

Bid Modifications must contain all required documents as specified in the RFP. Failure to submit all required information can deem the Bid Modification as non-compliant and the contents of the Bid Modification will not be considered.

A previously submitted Bid will not be returned, unless written notice, signed by a duly authorized person, from the Bidding Company is received by the Columbia Representative.

Bid Withdrawal Notifications: Prior to the Bid Deadline, a submitted Bid may be withdrawn by written notice to the Columbia Representative up until the Bid Deadline. Written requests to withdraw must be signed by a duly authorized person on behalf of the Bidder and shall not reveal the amount of the Bid. Bids may not be modified, or withdrawn after the Bid Deadline.

A withdrawn Bid may be resubmitted prior to the Bid Deadline. All resubmitted Bids must fully comply with the RFP. Columbia will only consider the latest version of the Bid.

Section 3 Evaluation of Bids

Opening of Bids:

The assigned Columbia Representative need not accept Bids after the specified date and time. Bid services and pricing will not be publicly announced. Bids will be reviewed and evaluated by Columbia. At any time, and from time to time after the opening of the Bids, Columbia may give oral or written notice to one or more Bidders to furnish additional information relating to its Bid and/or qualifications to meet the requirements and specifications of specified in the RFP, or to meet with designated representatives of Columbia. The giving of such notice shall not be construed as an acceptance of a Bidder's Proposal.

All materials submitted in response to this RFP become the property of Columbia. Selection or rejection of a response does not affect this right. All copyright of materials produced under any contract or subcontract awarded as a result of this RFP shall be retained by Columbia. All forms of documents and data generated as a result of this contract are owned by and shall be delivered to Columbia at the direction of the Columbia Representative. During the period of performance, the information may not be disclosed by the Bidder to third parties, except as expressly provided in the Contract, without the written permission of the Executive Director of Purchasing.

Postponement of Bid Opening

If an emergency or unanticipated event interrupts normal University processes to cause the postponement of the scheduled Bid opening or the issuance of an addenda, the Columbia Representative will issue, in writing, to all Bidders, the new timeline and process.

Bid Evaluation and Selection Criteria

Evaluation Criteria

This public RFP is being conducted pursuant to the federal funding source for the respective project as outlined in the scope of work/specifications section of the RFP.

Selection

The selection of the awarded purchase order shall be based on the following selection criteria: meeting specifications and technical requirements/specifications (50%), overall cost (20%), delivery time (20%), customer support(10%)

Rejection of Bids

Columbia has the right to reject any and all Bids at its sole discretion.

Notification of Award

The Columbia Representative will issue "Notification of Award" letter(s) or issue a Purchase Order once a selection has been made.

Section 4.

University Background Information

General Project Information

Columbia University is an independent, privately supported, non-sectarian institution of higher education and research. One of the country's leading research universities, its activities are concentrated at three locations in New York City and extend around the globe. The University provides instruction through seventeen undergraduate, graduate and professional schools. It operates a variety of research institutes and a library system to support its teaching, learning and research activities. The University performs research, training, and other services under grants and contracts with agencies of the federal government and other sponsor organizations.

Columbia University Irving Medical Center

Columbia University Irving Medical Center (CUIMC), a division of the University, located in the Washington Heights section of northern Manhattan, is one of the largest academic medical centers in the USA. It is composed of four schools: Vagelos College of Physicians & Surgeons, Mailman School of public Health, College of Dental Medicine and School of Nursing.

CUIMC has three primary areas of focus: Patient Care, Scientific Research and Education.

This RFP is solicited on behalf of the Department of Neurology Division of Aging and Dementia Research pursuant to Federal Award: U19 AG074862 Dedicated to Cellular Architecture and Spatial Characterization of Aging and Dementia (CASCADE). The CASCADE program is designed to leverage advances in the generation of spatially-registered multi-omic (protein and RNA) data to resolve the inter-cellular signals that drive communities of cells in the brain to adopt pathogenic states that lead to Alzheimer's disease (AD) and dementia. The program consists of four projects. Three of these projects establish reference atlases of molecular data for the scientific community. The three themes are: brain aging in the absence of pathology, AD proteinopathies (accumulation of amyloid and tau proteins), and cerebral amyloid angiopathy, a vascular disease of the brain related to AD. These reference atlases will capture the location of molecular changes in 3 dimensions with single cell resolution to describe the changes that occur with human brain aging. The fourth project involves profiling 300 participants to have the statistical power necessary to identify cells and molecules involved in the brain changes that lead to AD so that novel therapeutic targets can be identified. In addition to its results, an important component of the program is the dissemination of its data to the community in a repurposable manner to accelerate further technological and analytic advances.

BIDDER'S DECLARATION

This Bid is in response to Columbia’s request for a Bid (“RFP”) for Real Time Oscilloscope.

This Bid consists of:

- Information & Instructions for Bidders
- Bid Part I - Bidder’s Declaration
- Bid Part II - Bidder Questionnaire
- Bid Part III - Scope of Work & Specifications (“SOW”)
- Bid Part IV - Exceptions to Columbia Terms & Conditions and Appendix A

Bidder agrees to submit a bid and deliver and install specified equipment in accordance with all provisions of the RFP documents, proposal submitted and purchase order that may be issued to awarded bidder as well as any addenda thereto, except as may be specifically stated in this Bid, at the prices set forth therein.

Bidder agrees that this Bid is a firm offer to Columbia which cannot be withdrawn for 120 calendar days from and after the Bid submission date.

Bidder certifies that it has thoroughly examined and fully understands all of the provisions of the RFP and the conditions of the contract documents attached thereto, as well as any addenda issued prior to the due date; that it has carefully reviewed and fully supports the accuracy of its Bid; has satisfied itself as to the nature and location of all work, the technical, general, and local conditions to be encountered in the performance of any work, the requirements of the Contract and all other matters which may in any way affect performance or the cost thereof; and that Columbia shall not be responsible for any errors or omissions on the part of the undersigned in preparing this Bid.

If awarded a Contract, Bidder agrees to execute the Contract and deliver it to Columbia within 15 calendar days, of such award, along with any required certificates of insurance.

_____ Authorized Signatory	_____ Title
_____ Company Name	_____ Date
_____ Company Address	
_____ Telephone Number	_____ Federal Taxpayer I.D. Number
_____ Email Address	_____ DUNS Number

BIDDER QUESTIONNAIRE

A. Bidder Business Structure

1. Provide your company's name and address, and the primary RFP contact's name, phone number, e-mail address and fax number.
2. Please provide relevant summary information of your firm's capabilities and experience with respect to manufacturing, supplying and supporting equipment and technology that are the subject matter of the RFP, i.e. Spatial Transcriptomics Platform.
3. Is Bidder incorporated? If so, in what state and as what type of corporation?

B. Bidder Financial Information

1. Please provide your Dun and Bradstreet (DUNS) Number, if any.
2. Please provide your current DUNS rating:
3. Please describe any subcontractor relationships that would be involved in the support of any Columbia's delivered products or services. (use of any subcontractor requires Columbia approval in advance. Failure to do so may result in termination of contract.)

C. Business Information

1. List any material claim asserted or threatened against Bidder that may have a significantly adverse effect on Bidder or adversely affect Bidder's ability to provide the goods and/or services required by this RFP.
2. List any business issue currently confronted by Bidder that may have a significantly adverse effect on Bidder or adversely affect Bidder's ability to provide the goods or services required by this RFP.
3. Has your company or any individual in your company ever been debarred, suspended or presented on the OFAC list relevant to any activities contemplated with the US Federal Government?

SPECIFICATIONS – SCOPE OF WORK

Columbia University Irving Medical Center Department of Neurology, Division of Neuroimmunology through Principal Investigator Philip De Jager has been awarded Federal funding which requires a State of the Art Spatial Transcriptomics Platform to enable high resolution, in situ gene and protein expression measurement within tissue samples. The goal is to identify and construct a 3D model of three human brain regions in an unbiased manner to capture the specific cell type changes associated with brain aging, Alzheimer’s disease (AD), and dementia. To achieve this, we need a platform capable of measuring a large number of RNA molecules and a selected number of proteins within the same brain tissue section in a spatially-registered manner; further, these measurements must be attributable to individual cells within that tissue. The selected target proteins are markers for different cell types and subtypes and will be used to capture the shape of these target cells; these protein measurements will be captured independently using immunofluorescence and a microscope. The target tissue is fixed with paraformaldehyde to preserve cell morphology and tissue integrity. This bid seeks a vendor to provide the Cellular Architecture and Spatial Characterization of Aging and Dementia (CASCADE) program with the platform that will measure RNA molecules in the target tissue before the capture of the immunofluorescence data. The same tissue section will be profiled in both experiments: (1) RNA data capture and (2) protein data capture. We further require that the platform have the ability to measure RNA transcribed from over 1000 distinct genes. The target platform is not required to measure the protein targets. Such a platform would revolutionize our understanding of the changes in cellular communities that drive the emergence of neurological diseases. It would also enable us—and other researchers at CUIMC—to generate foundational datasets for multiple disease-associated projects, advancing our ability to study and treat these conditions.

The CASCADE program is tasked with systematically producing multiple interconnected reference data sets to (1) identify the molecular changes in individual cells in three neocortical regions of the human brain that occur with advancing age, (2) characterize the individual and synergistic effects that AD proteinopathies (amyloid and tau), exert on the molecular and cellular architecture of the older neocortex, (3) understand the molecular changes occurring in human neocortical tissue in the presence of cerebral amyloid angiopathy, and (4) identify, in an unbiased manner, those molecular changes within individual cells and groups of neighboring cells that contribute to the accumulation of amyloid and tau proteinopathies and cognitive decline, the clinically meaningful outcome of AD. Data will be captured from serial sections to enable 3-dimensional reconstruction of the tissue at single cell resolution.

The selected vendor must be responsible for the manufacture, delivery and installation, as well as user training of the equipment. Vendor must also provide full service and applications team support over five years (duration of the grant).

Following are most important criteria for platform selection:

1. Data Quantity & Quality – detecting RNAs for at least 1000 different genes in a spatially-registered manner in the tissue section in relation to the individual nuclei of cells
2. Ability to generate data on formalin-treated (“fixed”) samples
3. Ability to preserve protein expression in the profiled tissue section to enable subsequent immunofluorescence data capture from the same tissue section using a different platform that generates iterative indirect immunofluorescence imaging (4i).

4. Throughput capability to ensure that completion of grants' milestones in time allowed.
 - a. Project 1: 30 brains x 3 regions x 8 tissue sections = 720 tissue sections
 - b. Project 2: 80 brains x 3 regions x 8 tissue sections = 1920 tissue sections
 - c. Project 3: 40 brains x 3 regions x 8 tissue sections = 960 tissue sections
 - d. Project 4: 300 brains x 3 regions x 2 tissue sections = 1800 tissue sections
 - e. Total: 5,400 tissue sections to be profiled in 5 years

Equipment Performance Specifications:

- Capture data from at least 8 brain tissue sections (1 cm² each) per week per machine.
- generating measurements of 1000 genes in individual cells of a tissue section, retaining the information in a spatially-registered manner
- works for human brain tissue, fixed with paraformaldehyde
- ability to preserve protein epitopes for subsequent 4i data (using a different instrument) from a tissue section after the RNA data have been captured

NO-BID FORM

RFP TITLE: _____

RFP # : _____

Bidders choosing not to bid are requested to complete the portion of the form below:

It is our intention not to submit a proposal for the following reason(s):

- _____ we do not provide the requested services
- _____ we do not provide the requested goods
- _____ we are unable to meet the minimum qualifications
- _____ due to other engagements we would be unable to support this proposal
- _____ due to a conflict of interest we are unable to submit a proposal
- _____ other (*please provide additional rationale below*)

Signature: _____

Name: _____

Title: _____

RFP ACKNOWLEDGMENT

DATE: March ____, 2025

FROM: Vendor Name
Address

TO: Columbia University in the City of New York

RE: PROPOSAL/BID DESCRIPTION

Project Description
Quotation # _____

Please be advised that we have carefully read the enclosed in the package. We acknowledge that if we are ultimately awarded the contract we will deliver the equipment as specified pursuant to a form purchase order issued by Columbia University per specifications and accepted final bid. We understand that there will be no negotiation of the terms and conditions of the Purchas Order terms and conditions upon award.

(Please note any contract exceptions in the space below or provide an attachment with appropriate signature. Type NONE if you do not have any exceptions.)

Note Exceptions:

Signature: _____

Name: _____

Title: _____