



SOLE SOURCE CERTIFICATE AND POSTING NOTICE

A sole source procurement is when you make a request to purchase product(s) and/or service(s) without competition when competition is otherwise required. This means that product/service is unique and that the supplier is the only supplier that can provide the product or service. In accordance with the authority granted under applicable Florida law and UCF Regulation 7.130, the following documentation is submitted in support of this request.

The purchase requisition can be entered into UCF Financials at any point during the process set forth herein; however, doing so does not ensure approval of the sole source.

The completed sole source must be approved in the following order. **Please be sure to obtain all required signatures before submitting the form to Procurement Services.**

- PI/Researcher/Director/Chair
- President/Vice President/Dean
- Procurement Specialist
- Procurement Services Associate Director
- Assistant Vice President for Tax, Payables & Procurement, who will review and provide a recommendation to approve or disapprove the sole source to:
- Chief Financial Officer, who will either directly approve or disapprove the sole source, or forward it to the Provost and Executive Vice President for goods/services related to academia for input prior to making the final decision.

Contingent upon the approval of all the officers/individuals listed, the sole source shall be posted on the UCF Procurement Services website for seventy-two (72) business hours. Upon expiration of said posting period, Procurement Services will process a purchase order upon receipt of the requisition.

Once the completed sole source is received, Procurement Services reviews the documentation provided and determines whether the sole source is valid or if there are additional suppliers that may be able to provide the requested product or service. The sole source review and approval process varies based on the nature of the product/service being requested and the information provided in the requestor's justification, among other factors, so please keep this in mind when submitting the form.

The usual bidding process shall be conducted if sole source approval is not granted.

PART I: DEPARTMENT AND SUPPLIER INFORMATION

Department Name: Physics

Contact & Phone: (808) 358-1826

Purchase Request No.: _____

Product/Service Cost: \$670,174.00

Company Name: attocube systems AG

Email: tobias.gokus@neaspec.com

Contact Person: Dr. Tobias Gokus

Title: Application Engineer

Product and/or Service: Custom VIS-neaSCOPE+TERs Instrument (see quote)

Telephone: +49 89 420 797 203-33

Facsimile: +49 89 420 797 203-99

Address: Eglfinger Weg 2

City: D-85540 Munich-Haar

State and Zip: Germany

PART II: SOLE SOURCE JUSTIFICATION (see pages 4-5)

Only justifications submitted on this form and in the below format will be reviewed for approval. All of the below listed points MUST be fully answered on the following pages and any additional attached pages as needed. Failure to submit justification as outlined in the format below will result in the form being returned without review.

1. Describe the product(s) and/or service(s) and anticipated use thereof in layman's language.
2. State in detail why only this and no other product(s)/service(s) will satisfy the department's requirements.
3. State why the product(s) and/or service(s) are available from only one source and how that determination was made. Explain the research conducted to support this claim.
4. Provide an explanation to support the belief that the price is fair and reasonable.

PART III: SOLE SOURCE CERTIFICATIONS

- A. In my professional opinion, this is the only product or service that can reasonably meet my requirement(s)/specification(s), and this is the only supplier who can provide the product or service. I further certify that the information contained herein is true and correct to the best of my knowledge and belief and would withstand any audit or supplier protest.
- B. I, the undersigned, certify that I and/or the user do not have a financial interest in the above named supplier or contractor, and that I am unaware of any conflict of interest related to this purchase.

Signature Prof. Christopher Bennett 11/4/2022
Printed Name and Title (PI/Researcher/Director/Chair) **Date**

I, the undersigned, hereby concur with the above justification and authorize the acquisition of the above product(s) and/or service(s) on a sole source basis.

Signature Maggy Tomova 11/4/2022
Printed Name and Title (President/Vice President/Dean) **Date**
(Delegations not allowed; emails from absent approvers are acceptable)

I, the undersigned, hereby concur with the above justification and support a sole source approval for the above product(s) and/or service(s).

	Brandon Orofino	11/4/2022
Signature	Printed Name and Title (Procurement Specialist)	Date

I, the undersigned, hereby concur with the above justification and support the acquisition of the above product(s) and/or service(s) on a sole source basis.

	Printed Name and Title (Procurement Services Associate Director)	
Signature	Printed Name and Title (Procurement Services Associate Director)	Date

I, the undersigned, hereby concur with the above justification and authorize the acquisition of the above product(s) and/or service(s) on a sole source basis.

	Printed Name and Title (Asst. Vice President for Tax, Payables & Procurement)	
Signature	Printed Name and Title (Asst. Vice President for Tax, Payables & Procurement)	Date

I, the undersigned, hereby concur with the above justification and authorize the acquisition of the above product(s) and/or service(s) on a sole source basis.

See below email for approval

Digitally signed by See below email for approval
Date: 2022.11.04 12:10:33 -04'00'

	Printed Name and Title (Chief Financial Officer)	
Signature	Printed Name and Title (Chief Financial Officer)	Date

POSTING NOTICE

11/7/2022 @ 3:00PM EST	11/10/2022 @ 3:00PM EST	2308	Brandon Orofino
Date/Time Posted	Posting End Date	UCF Control No.	Procurement Specialist

SOLE SOURCE JUSTIFICATION

Please answer the questions below and attach additional documentation if needed.

1. Describe the product(s) and/or service(s) and anticipated use thereof in layman's language.

This instrument will enable purchase of a next-generation Near-Field Scanning Optical Microscope (neaSNOM) custom-built by the company Neaspec (Attocube) capable of performing combined Atomic Force Microscopy (AFM) and nanoscale (10 nm spatial resolution) infrared (nanoIR) and Tip-Enhanced Raman spectroscopy (nanoTERS) spectroscopy.

Compared to existing systems, the neaSNOM provides extremely high detection sensitivity and resolution since the sample volume probed is $\sim 10^9$ times smaller than that of traditional UV-, visible-, and mid-IR microscopic tools. Spatial resolution is improved by 2-4 orders of magnitude and sensitivity is increased by one-billion-fold compared to conventional microscopy. Uniquely, the neaSNOM instrument can analyze the same 10-nm spot with nanoIR and nanoTERS techniques, offering simultaneous hyperspectral mapping capabilities from two complementary techniques. The spectrally agile system is built around a modular, easily configurable design which uniquely accommodates user-defined light-sources and detectors, enabling study of pump-probe interactions at THz to near-UV wavelengths, photoluminescence studies with flexibility allowing the instrument to be continually upgraded to meet research demands. The instrument synergistically complements research strengths and collaborations across UCF science and engineering disciplines by offering unprecedented access to new spatial, spectral, and temporal domains supporting a diverse range of research areas including biological studies, plasmonic surface interactions, photovoltaics, polymers, inorganic optical materials, semiconductor devices, sensors, and more.

> Essentially, this instrument will enable us to use AFM, infrared and Raman spectroscopy to study materials at much higher spatial resolution than previously possible with conventional instruments. This instrument is a particularly good fit to researchers at UCF who are interested in simultaneously developing additional light sources and detectors that can easily be interfaced to the existing system.

2. State in detail why only this and no other product(s)/service(s) will satisfy the department's requirements.

For our team's interdisciplinary research projects, there is a requirement to characterize materials on the nanoscale (down to 10 nm) with both infrared and Raman techniques which offer different yet complimentary information on a sample. Obtaining spectra at such low spatial scales allows us to examine novel materials and extraterrestrial samples at levels of scrutiny previously unobtainable. Essentially, both IR and Raman are often required in order to gain sufficient details on a system whether that is just that certain spectral features for certain compounds may only exhibit a strong band in the infrared, or Raman spectrum, for example. This instrument is incredibly versatile and modular so UCF researchers can utilize their own light sources and detectors. Furthermore, this instrument has the widest spectral range, the highest signal-to-noise for a single measurement, and the capability of generating fast hyperspectral maps. There is no single system capable of offering what this NeaSpec instrument can do.

There are only two other companies that could potentially offer competing systems:

i) The Horiba LabRAM Nano offers extensive Raman capabilities which include Tip-Enhanced Raman spectroscopy (TERS) as well as the AFM and photoluminescence measurements offered by this instrument. However, this instrument does not offer any of the Infrared capabilities, nor does it offer the same precision, speed, signal to noise, or collection efficiency as offered by the NeaSpec system.

ii) The Bruker nanoIR3 which offers extensive Infrared capabilities, but does not include any Raman, TERS, or photoluminescence capabilities at all. The Infrared capabilities of the NeaSpec system is far superior in many ways. For example, the nanoIR3 is only able to offer 950 - 3600 cm^{-1} by the purchase of 3 separate laser systems, whereas the OPO included in our quote from NeaSpec includes a range of 4950-7140 cm^{-1} (signal), 2250-4440 cm^{-1} (idler), and 550-2000 cm^{-1} (IR).

SOLE SOURCE JUSTIFICATION

3. State why the product(s) and/or service(s) are available from only one source and how that determination was made. Explain the research conducted to support this claim.

PI Bennett has been working with NeaSpec and their top competitor (formerly Anasys, now Bruker) and is familiar with the LabRam instrument with similar TERS capabilities housed at UCF currently. Having seen the operation of the NeaSpec instrument in comparison to these others, I can attest that the capabilities of this instrument far outperform that of their competitors, each of which only offer some limited functionality compared to that offered by the NeaSpec model.

As previously stated, there are only two other companies that could potentially offer competing systems:

i) The Horiba LabRAM Nano offers extensive Raman capabilities which include Tip-Enhanced Raman spectroscopy (TERS) as well as the AFM and photoluminescence measurements offered by this instrument. However, this instrument does not offer any of the Infrared capabilities, nor does it offer the same precision, speed, signal to noise, or collection efficiency as offered by the NeaSpec system.

ii) The Bruker nanoIR3 which offers extensive Infrared capabilities, but does not include any Raman, TERS, or photoluminescence capabilities at all. The Infrared capabilities of the NeaSpec system is far superior in many ways. For example, the nanoIR3 is only able to offer 950 - 3600 cm^{-1} by the purchase of 3 separate laser systems, whereas the OPO included in our quote from NeaSpec includes a range of 4950-7140 cm^{-1} (signal), 2250-4440 cm^{-1} (idler), and 550-2000 cm^{-1} (IR). Although I have not obtained a quote from Bruker, I am fairly sure that the purchase of these 3 separate laser systems would already be more costly than the laser with improved spectral range we are getting with this system.

Based on this alone it is clear that no other vendor even offers the capability of performing both Raman and Infrared at the nanoscale. Beyond this, the company NeaSpec is the leader in the field and has provided a document (also included) of additional justifications and their list of patents that explains what novel technologies this system has which are not part of any other system.

4. Provide an explanation to support the belief that the price is fair and reasonable.

Myself and several of the other Co-I's on the team have the necessary experience to judge many of the items included in the quotation as being absolutely fair and reasonable (e.g., the costs of the lasers, spectrometers, detectors, and instrument as a whole all seem to be quite reasonable, and with the inclusion of the discount offered, the price is actually very good).

From: [Gerald Hector](#)
To: [Joel Levenson](#)
Cc: [Brian Sargent](#); [Brandon Orofino](#)
Subject: Re: Sole Source for Review - Attocube
Date: Thursday, November 3, 2022 9:45:53 PM
Attachments: [image001.png](#)

Joel:

I support this sole source award based on the information presented here.

Regards,

Gerald.

From: Joel Levenson <Joel.Levenson@ucf.edu>
Sent: Thursday, November 3, 2022 5:25 PM
To: Gerald Hector <Gerald.Hector@ucf.edu>
Cc: Brian Sargent <Brian.Sargent@ucf.edu>; Brandon Orofino <Brandon.Orofino@ucf.edu>
Subject: FW: Sole Source for Review - Attocube

Good afternoon Gerald,

I support this sole source as well. Research into comparable instruments has shown that Attocube's product specifications are the only one that will meet the desired output for the researched expected to be conducted. The sole source includes two comparable products, which include justifications as to why they will not meet the researcher's needs.

If you agree, reply all and indicate as such. If you have additional questions, we're happy to help.

From: Brian Sargent <Brian.Sargent@ucf.edu>
Sent: Thursday, November 3, 2022 12:28 PM
To: Joel Levenson <Joel.Levenson@ucf.edu>
Cc: Brandon Orofino <Brandon.Orofino@ucf.edu>
Subject: FW: Sole Source for Review - Attocube

Hi Joel,

I also support this sole source for approval. The product being purchased (Attocube) is the only one in the marketplace that has both Raman and Infrared spectroscopy in the same instrument.

Please approve/disapprove.

Regards,

Brian

From: Brandon Orofino <Brandon.Orofino@ucf.edu>
Sent: Wednesday, November 2, 2022 3:55 PM
To: Brian Sargent <Brian.Sargent@ucf.edu>
Subject: RE: Sole Source for Review - Attocube

Hi Brian,

After my review of the departments sole source form, I can support their request. The department is looking to purchase an instrument from the company Neaspec (Attocube), that will enable the department to use Atomic Force Microscopy, Infrared, and Raman Spectroscopy to study various materials/samples at levels previously unattainable.

This company has the only product available on the market that can perform both Raman and Infrared spectroscopy within the same instrument at the levels required. To find a comparable device there would have to be a combined solution that encompassed all the department's required capabilities across several items. During the departments research, they found two other companies that could each separately combine products to create something similar but would still not provide all the required features contained in the single instrument from Neaspec (Attocube).

Please let me know if you also support their request, or if I can provide any additional information. Thank you for your review.

Thank you,
Brandon

From: Brian Sargent <Brian.Sargent@ucf.edu>
Sent: Wednesday, November 2, 2022 2:23 PM
To: Brandon Orofino <Brandon.Orofino@ucf.edu>; Trinh Nguyen <Trinh.Nguyen@ucf.edu>
Subject: Re: Sole Source for Review - Attocube

Sounds good, thank you.

From: Brandon Orofino <Brandon.Orofino@ucf.edu>
Sent: Wednesday, November 2, 2022 1:42 PM
To: Brian Sargent <Brian.Sargent@ucf.edu>; Trinh Nguyen <Trinh.Nguyen@ucf.edu>
Subject: RE: Sole Source for Review - Attocube

Hi Brian,

Nellie assigned Attocube to me last week. I was working on this sole source earlier today and hoped to send you my review today. I'll make this my priority this afternoon and I will send over the initial review as soon as possible.

Thank you,
Brandon

From: Brian Sargent <Brian.Sargent@ucf.edu>
Sent: Wednesday, November 2, 2022 1:12 PM
To: Trinh Nguyen <Trinh.Nguyen@ucf.edu>
Cc: Brandon Orofino <Brandon.Orofino@ucf.edu>
Subject: Re: Sole Source for Review - Attocube

Ok that must have been one that Nellie assigned when she came back last week.

Brandon - can you please make this review a priority today and let me know if you have any questions? The PI stated that a price increase is looming and I already told him we'd get an initial response (for add'l questions, etc) by today or tomorrow morning.

If you are unable to respond within that time frame please let me know.

Regards,

From: Trinh Nguyen <Trinh.Nguyen@ucf.edu>
Sent: Wednesday, November 2, 2022 1:05 PM
To: Brian Sargent <Brian.Sargent@ucf.edu>
Cc: Brandon Orofino <Brandon.Orofino@ucf.edu>
Subject: FW: Sole Source for Review - Attocube

Hi Brian,

I think you already assigned the above Attocube to Brandon? I just went open up our SS database and saw the below.

ID	Date	Initial Reque	Final Action	PA	Control#	Dept Name	Requestor	PI/Researcher	President/VF	Cost	Cost Savings	Vendor	Item Description	Req #	Post
1	7/29/2022	SS	SS	TN	2300	CREOL	Steve Vallee	Kyle Renshaw	David Hagan	\$99,636.00	\$0.00	Orges Furxhi	Consulting Services		
2	8/15/2022	SS	SS	TN	2301	UCF IT	Henry Glaspie	Henry Glaspie	Matthew J. Hall	\$999,922.44	\$0.00	Pantheon Systems, Inc.	Web Hosting Migratic TBD		
3	9/1/2022	SS	SS	TN	2302	CREOL	Steve Vallee	Rodrigo Amezc	David J. Hagan	\$179,900.00	\$0.00	Physik Instrumente	High Performance Ro RQ-UCF-00000870		
4	9/23/2022	SS	SS	TN	2303	CREOL	Steve Vallee	Peter J. Delfyett	David J. Hagan	\$129,897.00	\$59,000.00	Vescent Photonics, LLC	Optical Fiber Frequen RQ-UCF-00003478		
6	10/10/2022	SS	SS	TN	2304	CREOL	Steve Vallee	Robert Crabbs	David J. Hagan	\$372,904.00	\$19,626.00	IPG Photonics	High Power Lasers RQ-UCF-00002746		1
7	10/5/2022	SS	SS	BIO	2305	College of Nurs	Syretta Spears	Sunny Heyl	Mary Lou Sole	\$97,125.00	\$0.00	CAE Healthcare, Inc.	Patient simulator (mc RQ-UCF-00002221		
8	10/19/2022	SS	SS	BIO	2306	IST/SMST	Glenn Martin	Glenn Martin	Dr. Grace Bochi	\$252,168.13	\$0.00	Data Direct Networks	Lustre parallel file sys RQ-UCF-00004190		
9	10/26/2022	SS	SS	TN	2307	Physics	Sierra Cliburn	Li Fang	Maggy Tomova	\$134,836.49	\$0.00	Roentdek	Hexanode delay-line TBD		1
10	10/26/2022	SS	SS	BIO	2308	Physics	Sierra Cliburn	Christopher Ber	Maggy Tomova	\$670,174.00	\$0.00	Attocube Systems AG	Custom VIS-neaSCOPi TBD		
*	(New)									\$0.00	\$0.00				

Trinh

From: Brian Sargent <Brian.Sargent@ucf.edu>
Sent: Wednesday, November 2, 2022 12:59 PM
To: Christopher Bennett <Christopher.Bennett@ucf.edu>; Trinh Nguyen <Trinh.Nguyen@ucf.edu>
Cc: Sierra Cliburn <Sierra.Cliburn@ucf.edu>
Subject: Re: Sole Source for Review - Attocube

Trinh,

I will take this one instead due to the delay and the workload you already have.

Chris - I'm in meetings from 2-430 today but will respond with any questions by tonight or tomorrow morning.

Regards,

From: Christopher Bennett <Christopher.Bennett@ucf.edu>
Sent: Wednesday, November 2, 2022 12:29 PM
To: Brian Sargent <Brian.Sargent@ucf.edu>; Trinh Nguyen <Trinh.Nguyen@ucf.edu>
Cc: Sierra Cliburn <Sierra.Cliburn@ucf.edu>
Subject: Re: Sole Source for Review - Attocube

Hi Brian and Trinh,

I am glad that I emailed then, otherwise apparently we would have lost this entirely...

... Can we please expedite this as much as possible since this oversight just cost us two weeks?

All the best,

Dr. Chris J. Bennett
Assistant Professor
Department of Physics / Planetary Science
University of Central Florida
Tel: (808) 358-1826
E-mail: christopher.bennett@ucf.edu

From: Brian Sargent <Brian.Sargent@ucf.edu>
Sent: Wednesday, November 2, 2022 12:03 PM
To: Sierra Cliburn <Sierra.Cliburn@ucf.edu>
Cc: Trinh Nguyen <Trinh.Nguyen@ucf.edu>; Christopher Bennett <Christopher.Bennett@ucf.edu>
Subject: Fw: Sole Source for Review - Attocube

Hi Sierra,

My apologies...you had sent another sole source over and I got it confused with this one...thought it was already assigned.

Trinh - can you please review this SS and follow up with Chris with any questions? This has unfortunately become urgent at this point so please make it a priority. Let me know if you have any questions.

Regards,

From: Sierra Cliburn <Sierra.Cliburn@ucf.edu>
Sent: Thursday, October 20, 2022 9:45 AM
To: Brian Sargent <Brian.Sargent@ucf.edu>
Cc: Christopher Bennett <Christopher.Bennett@ucf.edu>
Subject: Sole Source for Review - Attocube

Hello Brian,

Please see the attached Sole source for review. If any additional information is needed, please reach out to Dr. Christopher Bennett and if possible, CC myself. Thank you in advance.

Best,
Sierra Cliburn
Travel/Procurement Coordinator II
407-823-1325