



**OREGON STATE UNIVERSITY  
REQUEST FOR QUOTE (RFQ)**

		<b>ISSUE DATE:</b>	April 22 <sup>nd</sup> , 2015		
<b>RFQ #</b>	ML176102Q	<b>RFQ DUE DATE:</b>	April 29 <sup>th</sup> , 2015 @2:00 PM		
<b>DELIVER TO:</b>		<b>REQUESTED BY / RETURN QUOTE TO:</b>			
<b>DEPARTMENT:</b>	Nuclear Engineering	<b>NAME:</b>	Mark Lessel		
<b>ADDRESS:</b>	Radiation Center, 100 Radiation Center	<b>E-MAIL:</b>	Mark.lessel@oregonstate.edu		
<b>CITY, STATE ZIP:</b>	Corvallis, OR 97331	<b>TELEPHONE:</b>	541-737-3667		
<b>REQUIRED DELIVERY DATE:</b>	5-15-2015	<b>FAX:</b>	541-737-2170		
<b>ITEM</b>	<b>DESCRIPTION</b>	<b>QTY</b>	<b>UNIT</b>	<b>UNIT PRICE</b>	<b>TOTAL PRICE</b>
1	Intensified CCD Detector (ICCD) Camera (See Attachment A) for Detail Specs	1	EA		
2	Spectrograph (See Attachment A) for Detail Specs.	1	EA		
	<b>SHIPPING COSTS MUST BE ADDED TO ITEMS</b>				
<b>Delivery is f.o.b. destination, prepaid and allowed. Shipping, freight and handling must be included in quoted prices. Additional costs for such are disallowed.</b>				<b>TOTAL</b>	
<b>DELIVERY TIME AFTER RECEIPT OF ORDER:</b>		<b>PRICES VALID THROUGH:</b>			
<b>SPECIAL INSTRUCTIONS:</b>		<b>VENDOR INFORMATION:</b>			
1. Unless otherwise specified, all items quoted are to be new, unused and not remanufactured in any way. 2. Brand names are for the purpose of describing and establishing the characteristics desired and are not intended to limit or restrict competition. Quoters may submit quotes for substantially equivalent products unless the RFQ provides that a specific brand is necessary because of compatibility requirements, etc. All such brand substitutions shall be subject to approval by OSU. 3. Quoters must clearly identify all products quoted. Brand name and model or number must be shown. 4. Only documents issued as addenda by OSU serve to change the RFQ in any way. 5. OSU reserves the right to make the award by item, partial or whole lots, groups of items or entire quote, whichever is in the best interest of OSU. 6. OSU may reject any Quote not in compliance with the RFQ, attachments, and addenda, or if it is in the best interest of OSU.		<b>COMPANY:</b>			
		<b>ADDRESS:</b>			
		<b>CITY, STATE, ZIP:</b>			
		<b>CONTACT NAME:</b>			
		<b>E-MAIL:</b>			
		<b>TELEPHONE:</b>			
<b>FAX:</b>					
		<b>VENDOR SIGNATURE:</b>			
		By signature below the undersigned certifies that they are authorized to act on behalf of the quoter and will comply with all aspects of the quote herein.			
		<b>SIGNATURE:</b>			
		<b>NAME/TITLE:</b>			

This procurement is subject to the indicated Oregon State University Standard Terms and Conditions for:  Goods  Services  Purchase Order Construction  Software. The indicated terms and conditions may be viewed at <http://pacs.oregonstate.edu/terms-and-conditions>

## ML176102Q Attachment A

Requirements for the spectrograph and camera:

Spectrograph:

- 750 mm focal length CZ spectrometer F/9.7 aperture
- System resolution at 424 nm should be better than 0.025 nm
- Wavelength repeatability better than 10 pm
- Interchangeable gratings turret equipped with 600,1200 gratings blazed at 500 nm
- A third high resolution 2400 g/mm vis wavelength holographic grating.
- USB2 communication

Intensified CCD detector ( ICCD):

- 2048x512 array with 13.5 x 13.5 um pixels 100% fill factor for maximum sensitivity
- 25mm diameter intensifier 1:1 FO coupled to CCD array
- Wavelength range of photocathode 180 – 850 nm
- Minimum gate width 2 nm
- Internal digital delay generator
- Gate pulse width and delay in 10 ps steps from 0 - 10 s
- Software programmable or real time control of gate width and delay
- 3 programmable trigger outputs with 10ps steps from 0 – 10 s
- Direct gate capability for < 19 ns insertion delay. Direct gate control bypass for minimum insertion delay.
- AC coupling from photocathode for exact on/off photocathode timing.
- CCD readout speeds of 50 kHz, 1,3,5 MHz.
- Typical read noise around 6 e<sup>-</sup> rms @ 50 kHz
- CCD operating temperature -25 C air -35 chilled water

Software:

- Matlab or Labview software programming developed and supported by the manufacture for the spectrograph and ICCD
- Minimum 1000 spectra per second software control through Labview.
- Real time or programmed control of ICCD+spectrograph

Miscellaneous:

- Capability to external trigger or be externally triggered by a Quantel Q-smart 450 laser