



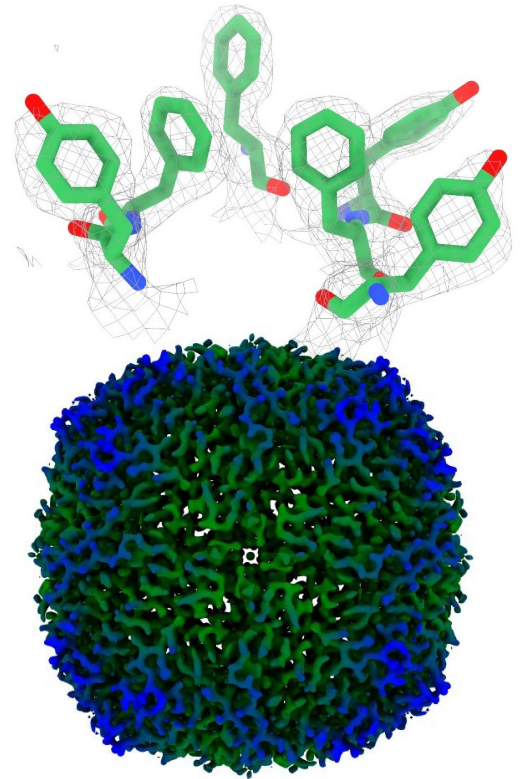
CENTURI CAMERA

Apollo's Speed Optimized for 100kV Cryo-EM

Delivering Bigger | Better | Faster | Cameras For Electron Microscopy

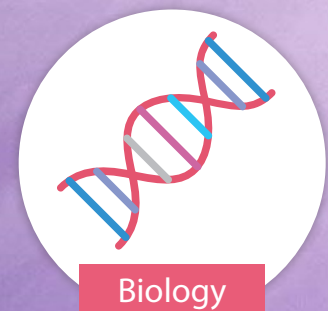
NEXT-GENERATION ELECTRON COUNTING FOR CRYO-EM

- Our novel direct detection device (DDD®) delivers ultra-low noise and extraordinary resolution for nearly any beam current for 100kV cryo-EM.
- Electron counting *in hardware* is elegant, fast, easy-to-use, and more cost effective.
- Multiply your throughput for 100kV Cryo-EM by removing camera limitations.
- On-chip CDS and digital output of detected events minimizes noise.
- 4k × 4k (16.8 million) physical pixels with larger 8 μm pixel size to maximize resolution.
- Specialized 100kV sensor delivers better resolution than any other cryo-EM camera, effortlessly.
- Integrated with SerialEM, Leginon & SmartScope for automated acquisition.
- Generate better results than you've ever achieved before.



2.6 Å structure of Apoferritin from Centuri on a ThermoFisher Scientific Tundra 100kVTEM, acquired at 15 e-/pixel/second from 180,000 particles. Data courtesy of Wah Chiu, Stanford.

DETECTOR APPLICATION:

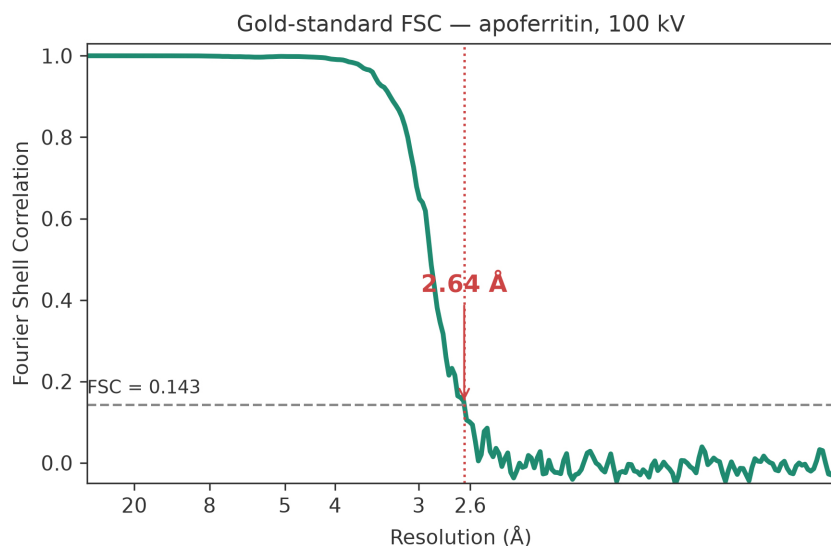


Direct Electron
INNOVATION PROPELLING DISCOVERY®

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Tem Electron Energy	Optimized for 100 keV
Pixel Array Size	4096 × 4096 (16.8 million pixels) 8 μm pixel pitch
Sensor Design	Novel event-based ultra-fast DDD® sensor on-chip correlated double sampling (CDS) on-chip thresholding digital readout backthinned radiation hardened
Acquisition Modes	Event-based electron counting, <i>always</i>
Detection Efficiency	>90% For 100 kV
Exposure Rate	~0.01 - 75 e-/pixel/second (ranging ~4 orders of magnitude)
Linearity	>95% linear up to ~15 e-/pixel/second
Camera Speed	2600 fps internal frame rate
Dose Fractionation	8192 × 8192 (67.1 Million pixels) super-resolution counted movies flexible dose fractionation time 16.7 ms minimum
TEM Compatibility	All major TEM manufacturers & models
Mounting Position	Can fit opposite or underneath another camera e.g. Ceta
Sensor Protection	TEM blanking/shuttering failsafe software
Computer System	High-performance computer Windows 11 Nvidia GPU(s) up to 55 TB storage
Image Format	Non-proprietary MRC, TIFF, or TIFF LZW
Automation Software	SerialEM SmartScope Leginon JADAS (JEOL) open API (supporting Python, C, C++, C#, etc.)
Integrations	CEFID post-column energy filter (CEOS)

FASTER CAMERA = FASTER THROUGHPUT



Apoferritin — data collection & reconstruction

Resolution (GSFSC 0.143)	2.6 Å
Symmetry	O (octahedral)
Particles	180,855
Pixel size	0.6665 Å
Voltage	100 kV
Total dose	41.82 e-/Å²
Dose rate	15.3 e-/pix/s
Movie frames	73
Exposure time	1.22 s
Detector	Centuri
Microscope	Tundra (100 kV)