

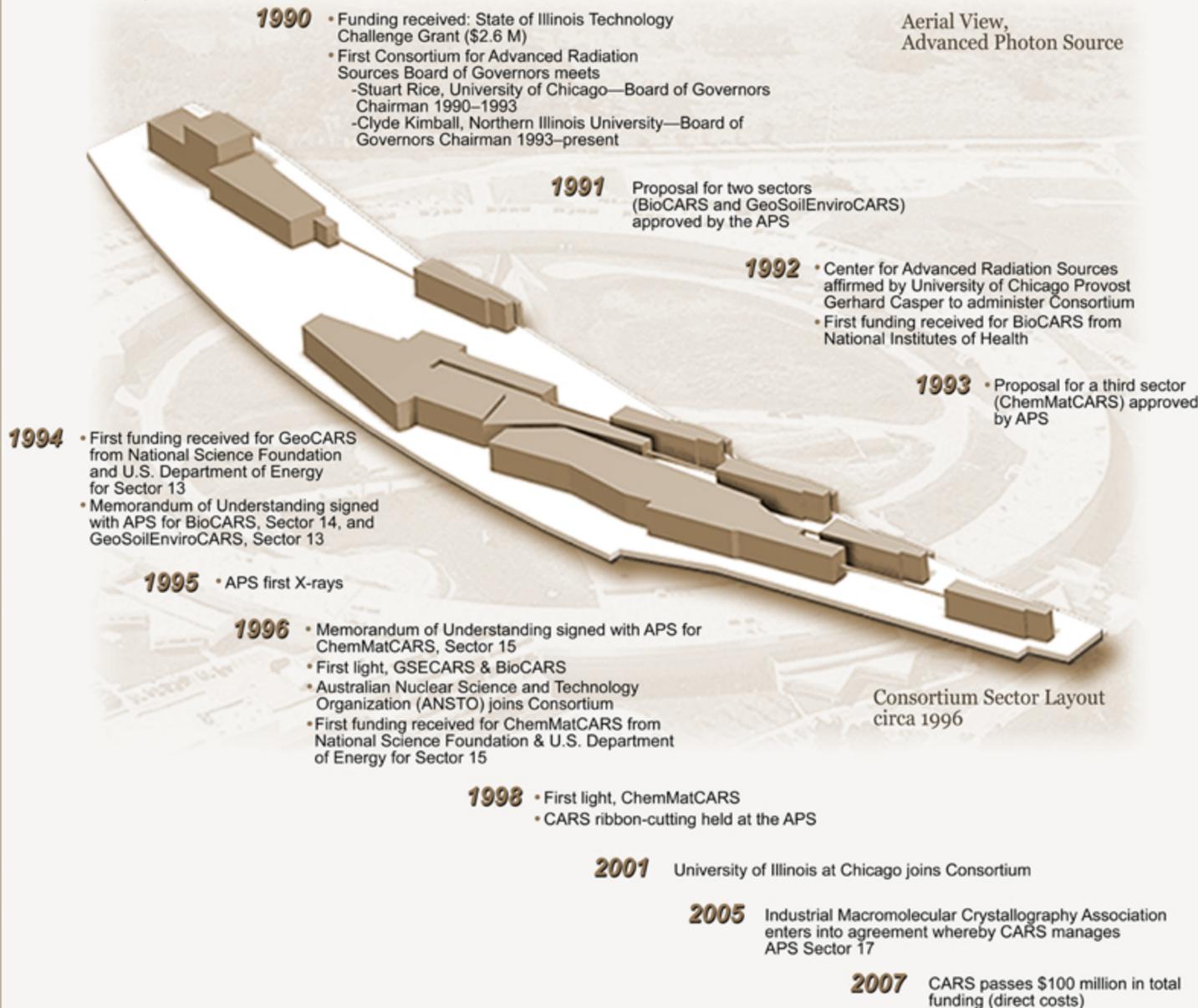


A Vision for Light

Joe Smith and the Center for Advanced Radiation Sources

Toward the end of his career, Joe Smith became the prime mover behind the creation of some of the premier facilities in the world for X-ray science—the “CARS” beamlines at the Advanced Photon Source.

- 1989**
- University of Chicago Vice-President for Research and for Argonne National Laboratory, Walter Massey, appoints Joe Smith as the first Director of the University of Chicago Center for Advanced Radiation Sources to pursue a facility at the Advanced Photon Source at Argonne
 - Consortium for Advanced Radiation Sources (CARS) established: Northern Illinois University, Southern Illinois University at Carbondale, University of Chicago



Aerial View, Advanced Photon Source

Consortium Sector Layout circa 1996

The Center for Advanced Radiation Sources is a department-level center within the University of Chicago that manages the operation of four sectors (currently comprising seven beamlines) at the Advanced Photon Source (APS), a high-brilliance synchrotron X-ray source at Argonne National Laboratory. The APS is the only light source of its kind in the Western Hemisphere.

CARS operates APS Sectors 13, 14, and 15 for the Consortium for Advanced Radiation Sources (also called CARS). These three national user facilities together have a user base in excess of 2500 researchers.

The Center also operates Sector 17 for proprietary drug research, under an agreement with the Industrial Macromolecular Crystallography Association, an association of nine pharmaceutical companies.

Work performed at CARS beamlines has formed the basis for more than 1500 papers.

Consortium for Advanced Radiation Sources

Institutional Members:

- Northern Illinois University 
- Southern Illinois University at Carbondale 
- University of Illinois at Chicago 
- The University of Chicago 
- Australian Nuclear Science & Technology Organization (ANSTO) 

Scientific User Community Members:

BioCARS, ChemMatCARS, GeoCARS, SoilEnviroCARS

Sectors

-  **GeoSoilEnviroCARS (GSECARS), Sector 13**
Environmental and geological studies
-  **BioCARS, Sector 14**
Crystallography of biological macromolecules
-  **ChemMatCARS, Sector 15**
Condensed-matter chemistry and materials science
-  **Industrial Macromolecular Crystallography Association, Sector 17**
Protein crystallography for drug design

CARS Initial Leadership Team Assembled by Joe Smith (1989-1992)

- Keith Moffat, BioCARS
- Wilfried Schildkamp, BioCARS
- Mark Rivers, GSECARS
- Steve Sutton, GSECARS
- Stuart Rice, ChemMatCARS
- P. James Viccaro, ChemMatCARS
- Fred Stafford, U of C Director of Special Projects
- Joy Talsma, CARS Executive Administrator

Executive Directors of CARS

- Joseph Smith (1989-1992)
- Keith Moffat (1992-2000)
- P. James Viccaro (2000, Interim)
- Stuart Rice (2001-2003)
- P. James Viccaro (2003-Present)

Joe Smith developed a far-reaching, deeply ambitious vision to place the University of Chicago at the forefront of synchrotron X-ray science. With characteristic determination, political acumen, and farsightedness, Joe pursued this plan in the face of vocal skepticism from many quarters.

Never one to think small, Joe realized that such a project required some unconventional tactics. With his usual enthusiasm he sought out

- Broad support beyond the University (Technology Challenge Grant proposal funded by the State of Illinois)
- Cooperation with publicly funded institutions (Northern Illinois University and Southern Illinois University at Carbondale brought into Consortium)
- Representation across disciplines (sectors proposed for biology, geology, chemistry, and soil/environmental science)
- Involvement with industrial research
- Collaboration with the nascent synchrotron community in Australia

While such strategies are now commonplace in large-scale science, in 1989 they were still considered somewhat heretical. However, time proved Joe right on nearly all counts. The Center for Advanced Radiation Sources now operates four sectors—just as Joe originally envisioned.



Joe Smith is warmly remembered at CARS for his dedication, accessibility, and enthusiasm, and with each new experiment performed, his legacy is magnified many times over.