

SARRP BEAMLINE.

The first image-guided solution designed for pre-clinical particle research

FLASH
CARBON
PHOTON
PROTON
HELIUM

BECAUSE THERE
IS MORE THAN
LIGHT AT THE END
OF THE TUNNEL

SARRP Beamline offers the first image-guided platform designed for beamline irradiation. Built on the robust and established SARRP platform, **SARRP Beamline** provides CT guidance and robotic alignment for small animal experiments.

This development fundamentally advances pre-clinical experiments in particle therapy because it enables you to perform research using your clinical set-up, directly on your pre-clinical model.

SARRP BEAMLINE REPLICATES CLINICAL RADIOTHERAPY

SARRP has revolutionized the way in which pre-clinical radiobiology research is conducted, and **SARRP Beamline** is no different.

KEY FEATURES

- Enables image-guided experiments with your particle beamlines
- Open, compact design with unique CT geometry means the SARRP is the only system that aligned directly to the beamline with 0.24mm accuracy
- Calibration of the imaging space with the particle beam is achieved through prove techniques, pioneered by the first SARRP Beamline users
- Once a cross calibration is achieved, SARRP will conduct CT imaging and interface with

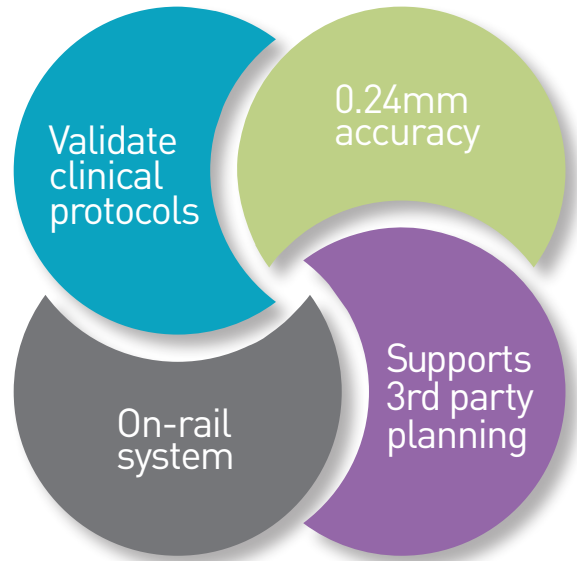
- third-party proton planning systems, and position the animal at the particle isocenter
- SARRP immobilization devices enable flexible positioning to easily rotate animals and deliver pinpoint radiation at any angle
 - On-rail system ensures easy transportability in and out of the particle beam to enable the beam to be used for other research goals

SARRP BEAMLINE IN ACTION

With nearly 200 peer-reviewed papers featuring pre-clinical research carried out using SARRP, SARRP is also the first choice for researchers who want to validate the advantages of particle therapy clinical protocols.

LEADING RESEARCH INSTITUTIONS USE SARRP BEAMLINE

Working with leading particle radiation oncology institutions at the University of Washington and the University of Pennsylvania, **SARRP Beamline** has already been shown to be the ultimate adaptable platform for in vivo proton studies, helping



to better understand and exploit the biological responses seen in particle therapy.

Want to collaborate with other SARRP researchers to investigate research applications in ion or particle therapy?

Contact support@xstrahl.com to learn more.

HERE IS EVIDENCE OF SARRP BEAMLINE IN ACTION

Design and commissioning of an image-guided small animal radiation platform and quality assurance protocol for integrated proton and x-ray radiobiology research.

Kim MM, Irmen P, Shoniyozov K, Verginadis II, Cengel KA, Koumenis C, Metz JM, Dong L, Diffenderfer ES. Phys Med Biol. 2019 Jul 4;64(13):135013. doi: 10.1088/1361-6560/ab20d9.

An image-guided precision proton radiation platform for preclinical in vivo research.

Ford E, Emery R, Huff D, Narayanan M, Schwartz J, Cao N, Meyer J, Rengan R, Zeng J, Sandison G, Laramore G, Mayr N. Phys Med Biol. 2017 Jan 7;62(1):43-58. Epub 2016 Dec 14