

## Radiation Oncology

**Principal Investigator** Hideyuki Sakurai

**E-mail.address** [hsakurai@pmrc.tsukuba.ac.jp](mailto:hsakurai@pmrc.tsukuba.ac.jp)

**URL** <http://www.pmrc.tsukuba.ac.jp/radioncology/>

### Other Faculty Members

Professor Koji Tsuboi : [tsuboi.koji.gm@u.tsukuba.ac.jp](mailto:tsuboi.koji.gm@u.tsukuba.ac.jp)

Professor Hitoshi Ishikawa : [hishikawa@pmrc.tsukuba.ac.jp](mailto:hishikawa@pmrc.tsukuba.ac.jp)

Associate Professor Toshiyuki Okumura : [okumura@pmrc.tsukuba.ac.jp](mailto:okumura@pmrc.tsukuba.ac.jp)

Associate Professor Tetsuo Nonaka : [tnonaka@md.tsukuba.ac.jp](mailto:tnonaka@md.tsukuba.ac.jp)

Associate Professor Kei Nakai : [knakai@pmrc.tsukuba.ac.jp](mailto:knakai@pmrc.tsukuba.ac.jp)

Assistant Professor Masashi Mizumoto : [mizumoto@pmrc.tsukuba.ac.jp](mailto:mizumoto@pmrc.tsukuba.ac.jp)

Assistant Professor Kayoko Ohnishi : [ohnishi@pmrc.tsukuba.ac.jp](mailto:ohnishi@pmrc.tsukuba.ac.jp)

Assistant Professor Keiko Murofushi : [murofushi@pmrc.tsukuba.ac.jp](mailto:murofushi@pmrc.tsukuba.ac.jp)

Assistant Professor Haruko Numajiri : [haruko@pmrc.tsukuba.ac.jp](mailto:haruko@pmrc.tsukuba.ac.jp)

Assistant Professor Nobutaka Mizoguchi : [mizoguchi@pmrc.tsukuba.ac.jp](mailto:mizoguchi@pmrc.tsukuba.ac.jp)



### Major Scientific Interests of the Group

We conduct research on comprehensive clinical diagnosis of tumor and multidisciplinary therapy mainly including radiation therapy, aiming at improvement of treatment outcome and high quality of life of patients.

### Projects for Regular Students in Doctoral or Master's Programs

1. Evaluation of radiation sensitivity and radiosensitization for treatment resistant tumors
2. Development of radiation treatment planning using several diagnostic imagings
3. Development of new cancer treatment using particle therapy

### Study Programs for Short Stay Students (one week – one trimester)

1. Clinical observation for advanced clinical research for radiation oncology, intensity modulated radiation therapy (IMRT), stereotactic radiation therapy (SRT), image guided high dose-rate brachytherapy, and proton therapy, hyperthermia
2. Attendance for multiple cancer board meetings
3. Translational research using basic techniques of radiation biology and medical physics

### Selected Publications

1. Mizumoto M, Oshiro Y, [Sakurai H](#): Significance of ICG test in radiotherapy for hepatocellular carcinoma. *Transl Cancer Res in press*:1-3.
2. Fukumitsu N, Okumura T, [Sakurai H](#): Radiotherapy for liver cancer. *Journal of General and Family Medicine in press*:126-130.
3. Nakao T, Fukushima H, Fukushima T, Suzuki R, Hosaka S, Yamaki Y, Kobayashi C, Iwabuchi A, Imagawa K, Sakai A, Shinkai T, Masumoto K, Sakashita S, Masumoto T, Mizumoto M, Sumazaki R, [Sakurai H](#): Interinstitutional patient transfers between rapid chemotherapy cycles were feasible to utilize proton beam therapy for pediatric Ewing sarcoma family of tumors. *Reports of practical oncology and radiotherapy : journal of Greatpoland Cancer Center in Poznan and Polish Society of Radiation Oncology* 2018;23:442-450.
4. Nakamura M, Fukumitsu N, Kamizawa S, Numajiri H, Murofushi KN, Ohnishi K, Aihara T, Ishikawa H, Okumura T, Tsuboi K, [Sakurai H](#): A validated proton beam therapy patch-field protocol for effective treatment of large hepatocellular carcinoma. *Journal of Radiation Research* 2018;59:632-638.
5. Murofushi K, Kitamura N, Yoshioka Y, Sumi M, Ishikawa H, Oguchi M, [Sakurai H](#): A Clinical Evaluation of American Brachytherapy Society Consensus Guideline for Bulky Vaginal Mass in Gynecological Cancer. *Int J Gynecol Cancer* 2018;28:1438-1445.

6. Mizumoto M, Murayama S, Akimoto T, Demizu Y, Fukushima T, Ishida Y, Oshiro Y, Numajiri H, Fuji H, Okumura T, Shirato H, [Sakurai H](#): Preliminary results of proton radiotherapy for pediatric rhabdomyosarcoma: a multi-institutional study in Japan. *Cancer Med* 2018;7:1870-1874.
7. Iwata H, Ishikawa H, Takagi M, Okimoto T, Murayama S, Akimoto T, Wada H, Arimura T, Sato Y, Araya M, Mizoe JE, Goshō M, Nakamura K, Shirato H, [Sakurai H](#): Long-term outcomes of proton therapy for prostate cancer in Japan: a multi-institutional survey of the Japanese Radiation Oncology Study Group. *Cancer Med* 2018;7:677-689.
8. Igaki H, Mizumoto M, Okumura T, Hasegawa K, Kokudo N, [Sakurai H](#): A systematic review of publications on charged particle therapy for hepatocellular carcinoma. *Int J Clin Oncol* 2018;23:423-433.
9. Fukumitsu N, Takahashi S, Okumura T, Ishida T, Murofushi K, Ohnishi K, Aihara T, Ishikawa H, Tsuboi K, [Sakurai H](#): Normal liver tissue change after proton beam therapy. *Jpn J Radiol* 2018;36:559-565.
10. Fukumitsu N, Okumura T, Hiroshima Y, Ishida T, Numajiri H, Murofushi KN, Ohnishi K, Aihara T, Ishikawa H, Tsuboi K, [Sakurai H](#): Simulation study of dosimetric effect in proton beam therapy using concomitant boost technique for unresectable pancreatic cancers. *Jpn J Radiol* 2018;36:456-461.
11. Tamura M, [Sakurai H](#), Mizumoto M, Kamizawa S, Murayama S, Yamashita H, Takao S, Suzuki R, Shirato H, Ito YM: Lifetime attributable risk of radiation-induced secondary cancer from proton beam therapy compared with that of intensity-modulated X-ray therapy in randomly sampled pediatric cancer patients. *J Radiat Res* 2017;58:363-371.