Request for a new Radiation Oncology Department at the Michigan State University College of Human Medicine Submitted September 12, 2022

Updated: October 20, 2022 Updated: November 22, 2022

Note: Process for requesting establishment of a new department at MSU:

- Dean first seeks endorsement of the request from the CAC, then Dean takes proposal to the EVP/Provost.
- EVP/Provost will send the request to the Steering Committee to route through academic governance for consideration and a recommendation (e.g., University Committee on Faculty Affairs; University Committee on Graduate Studies).
- EVP/Provost makes decision to support the request or not and confers with President.
- EVP/Provost takes request and recommendation for approval to Board of Trustees.
- The Board of Trustees is required to approve the creation of any new department.

Rationale for a new Radiation Oncology Department

The College of Human Medicine seeks to create a state-wide MSU department of radiation oncology. Radiation Oncology is the field that focuses on the use of high-energy radiation (X-ray) therapy primarily for the treatment of cancer patients. The radiation oncology team members include physicians (radiation oncologists), medical physicists, therapists, APPs, nurses and dosimetrists. Radiation oncology is one of the key modalities of cancer therapy and radiation oncologists are vital members of the multidisciplinary cancer team.

The MSU Department of Radiation Oncology will be led by a chair who will report to the dean of the College of Human Medicine on all matters that concern MSU faculty, staff, and students. The vast majority of faculty in the MSU Department of Radiation Oncology will be based out of the Henry Ford Health Department of Radiation Oncology. Currently, the HFH-Cancer Department of Radiation Oncology includes a dedicated multidisciplinary faculty, including 15 Radiation Oncologists (MD or MD/PhD), 23 Radiation Physicists (PhD or MS), 6 APPs, and 4 Radiation Scientists (PhDs). Please see attachment #1 for more details. Of these, 22 are involved in research (4 full time and 18 part time).

The faculty treat >250 patients each day with radiation across six locations in Michigan. A key priority has been the passionate focus on cutting-edge innovation, such as the first-in-the-world FDA-approved combined MRI and Linear Accelerator (MR-Linac), which allows for real-time adaptive tracking of the target. HFH-Cancer has an outstanding Medical Physics Division supporting clinical services, new technologies and research projects. The team works closely with other cancer specialists at >15 Henry Ford-Cancer multidisciplinary Tumor Boards each week, creating personalized treatment plans. Beyond a focus on "high tech" strategies, faculty also prioritize "high-

touch" care delivered in a compassionate setting to optimize patient outcomes. With this goal in mind, the team has developed patient-centered approaches including exercise, acupuncture and patient reported outcome (PRO) programs to focus on the "whole" patient.

The team actively organizes and participates in many community events. Faculty are working towards several diversity, equity, inclusion, and justice (DEIJ) efforts including reducing health disparities in cancer and have received several recent DEIJ grants (totaling \$1M). Faculty in this future department are leaders in many international societies, including the American Society of Radiation Oncology, American Radium Society, and American Association of Physicists in Medicine, among others. Faculty joining the Department of Radiation Oncology from HFH perform basic science and clinical trials research funded by many sources, including the National Cancer Institute and the NRG/Radiation Therapy Oncology Group. The department will have active gene therapy, cancer disparities, quality of life, cancer imaging, and radiation protection research programs.

Specifics of the contributions and national/international recognitions of the radiation oncology faculty are provided in:

Attachment A – Publications

Attachment B – Faculty Awards and Honorifics

Attachment C - Grants

We expect the academic activity of the department to grow with this new academic alliance and collaboration opportunities with MSU-based faculty. In sum, this new department will strengthen and expand the academic environment of the college and MSU. Some of the key benefits include:

- Curricular expansion for MSU medical students interested in the field of radiation oncology. Currently students interested in the field of Radiation Oncology have no residency related to MSU and no chairperson who could truly write a "chair's letter" as part of an application. Currently, the college asks a chair from another department to fill this role when needed, but that is not the best service for students interested in the field.
- Creation of additional academic homes for the expanding CHM paid and no-pay faculty (across Michigan). There are few radiation oncology faculty in the CHM system, but there are occasionally some interested people and faculty engaged with students. The presence of FRIB, the physics graduate program, the radiopharmacies in East Lansing and Grand Rapids including cyclotrons all expand the opportunities for this department to engage across the university.
- Expansion and enhancement of graduate medical education (i.e., residency training). This program will provide the college its first opportunity to partner with radiation oncology residencies and fellowships.
- Strengthened research and clinical programs in the area of radiation oncology.
 The HFH + MSU partnership will expand cancer research and clinical programs expanding opportunities for faculty, students, and patients.

- Improved MSU and CHM ranking based on increased research revenue (from NIH)
- Help achieve 2030 university strategic goal for \$1 billion in annual research expenditures
- Increase in MSU faculty honorifics. The faculty includes national leader in the field and will help extend the university's honorifics and reputation.

Alignment with MSU Strategic Plan

The future Department of Radiation Oncology will be well aligned with the MSU strategic plans for enhancing sustainable health, strengthening commitment to DEIJ, and fostering discovery, creativity and innovation for excellence and global impact. The joining faculty are highly advanced, comprehensive, and communicative group of academic laboratory professionals to the residents of the state and nation.

A key priority of the HFH radiation oncology department, together with HFH-Cancer, is to promote diversity, equity, inclusion, and justice (DEIJ). The lead physician for this effort is Dr. Walker. Beyond research, the goals are:

- 1. Increasing awareness and understanding of DEIJ topics
- 2. Increasing team diversity particularly in underrepresented groups
- 3. Increasing research efforts related to DEIJ

To increase awareness, the senior leadership team participates in a quarterly DEIJ learning session and discussion. There are also monthly learning opportunities to everyone in the cancer service line through the newsletter. To promote diversity in the workforce, a student internship program was launched this summer. This was an opportunity for local college students to get hands on experience in oncology, to learn about the various career paths in cancer/medicine. The goal is to expand this program to garner more excitement and interest in careers in oncology, increasing the number of pathways into the field. This program will be extended to MSU students. This past year, a DEIJ committee made up of team members across the cancer institute was launched. The group works to increase awareness and educational opportunities and work with underrepresented students to increase diversity in the field.

Another important goal for the department relates to global health. The residency program director, Dr. Shah, serves as the Vice President of Radiating Hope - a non-profit organization dedicated to advancing radiation oncology cancer care globally. This involves supporting Radiating Hope's mission through advocacy, providing and updating radiation equipment, as well as by empowering local communities through education, mentorship and training for safe, sustainable equipment use. Since 2014, Dr. Shah has led the organization for the Greater Horn Oncology Symposium (GHOS) - a biennial conference in Tanzania. GHOS brings together radiation oncologists, medical physicists and industry members from N. America and Europe along with those from East Africa as a platform for educational discussions and collaborations for radiation oncology personnel internationally.

The demographics of the existing radiation oncology faculty are as follows: Demographics of Providers N=21 (11 women; 10 men)
White 11, Black 1, Asian 6, Middle Eastern 3

Demographics of physicists/scientists: N=27 (7 women; 20 men) White 14, Asian 12, Middle Eastern 1

Goals of the Radiation Oncology Department

(a) Research Mission

The radiation oncology team has an active and funded translational oncology research program. Multiple agents designed to improve cancer treatment have been developed and evaluated in the laboratory and in human studies. The flagship research program is a suicide gene-therapy approach, which has been supported by multiple NIH RO1 grants, in addition to P01 program project grant. Investigators in this department developed a novel adenovirus-based radiation sensitizers (one of which is patented) that synergize with radiation-induced DNA damage to improve radiation cytotoxicity. They have treated >100 cancer patients in 7 FDA-approved clinical trials, including prostate and pancreatic cancers, and are moving next to recurrent brain tumors. In patients with intermediate-risk prostate cancer, radiation plus gene therapy was more effective in a randomized study than radiation therapy alone (PI: Dr. Movsas). Dr. Nyati currently leads the gene therapy program and is also currently funded through NIH/NCI to study a DNA damage pathway called BUB1.

Faculty in this department have also developed early predictors of radiation response based on MRI-measured vascular parameters (tumor blood flow, vascular permeability, interstitial tissue pressure, etc.); the early successes in the laboratory have been recently translated to a human clinical trial. These studies are currently funded through NIH/NCI (co-PIs: Drs. Ewing, Brown). There is also an active program to develop and test mitigators of radiation injury. A clinical trial was recently completed using BIO300, an anti-inflammatory, bioavailable soy derivative (genistein), with encouraging results. These studies were funded through NIH/NIAID (clinical PI: Dr. Movsas). Another major area of translational research occurs in the Medical Physics Division, primarily focused on imaging sciences (Division Chief: Dr. Chetty). Over the last 10+ years, this team has received NIH funding including 5 RO1s analyzing image registration and MR-imaging in radiation oncology, in addition to industry supported grants.

The radiation oncology faculty are deeply committed to promoting diversity, equity, inclusion, and justice (DEIJ), as well as research in this area. Dr. Walker, together with her team, have recently received \$1M in external funding for several DEIJ research projects related to health equity, including:

 Genentech Grant: "Participatory Action for Access to Clinical Trials (PAACT)" 750K

Key Project Goals: To understand Black and African American individuals' behavioral intention to participate in cancer clinical research trials, the determinants influencing their current motivation and ability to participate and develop and pilot a strategy/intervention which might influence future behavioral intentions to enroll in clinical trials.

2. American Cancer Society/Pfizer Grant: "Your Prostate, Your Health" 250K Key Project Goals: To improve awareness/attitudes among Black men and their families regarding the importance of talking to their provider about prostate cancer screening and dispelling myths about the screening process and to increase the representation of Black men in on-going clinical trials by providing training to HFCI clinicians and primary care providers at HFHS.

The faculty are also very involved in therapeutic clinical oncology trials. They are a full member institution of the NCI cooperative group, NRG, for which Dr. Movsas serves as Chair of the Patient Centered Outcomes Research (PCOR) committee. Several faculty are involved in leading national clinical trials for patient reported outcomes (PROs) and a novel program focused on PRO measures. Faculty pioneered spine stereotactic radiosurgery (SRS) and led a landmark randomized trial of this technology (RTOG/NRG 0631). They also recently led an international novel clinical trial testing Stereotactic MR-guided Adaptive Radiation Therapy (SMART) for pancreatic cancer. Faculty are also involved in clinical research with robust clinical databases spanning Head and Neck cancers (>1500 patients), spine SRS (>1000 patients), pancreatic cancer (>2000 patients) and endometrial cancer (>3000 patients).

It is expected that faculty will collaborate closely with researchers throughout the university to further grow the research portfolio. Indeed, just over the last year, faculty have already engaged with many researchers across the university for collaborative research projects, several of which have been funded via the HSC cancer grant mechanism.

Some recent examples of these exciting collaborations include:

- HFH Radiation Oncology (Dr. Chetty) and MSU (Dr. Alessio): An Adaptive Pre-Treatment Stratification Al Model for Clinical Decision Support of Patients with Head & Neck Cancers (Funded HSC Cancer Integration Grant)
- HFH Radiation Oncology (Dr. Brown) and MSU (Dr. Gordon): Enhancing the Therapeutic Gain of Radiation Therapy for Brain Cancer by Reducing Cellular Senescence (Funded HSC Cancer Integration Grant)
- 3. HFH Radiation Oncology (Dr. Brown) and MSU (Dr. Neubig): Normal tissue radiation injury protection (Funded HSC Pilot Grant).
- 4. HFH Radiation Oncology (Dr. Walker) and MSU (Dr. Hirko): Reducing cancer health disparities (Funded HSC Pilot Grant).
- 5. HFH Radiation Oncology (Drs. Siddiqui/Brown/Movsas) and MSU veterinary school (Dr. Sreevatsan): Gene Therapy imaging (collaboration underway)

6. HFH Radiation Oncology (Drs. Brown/Movsas) and MSU/FRIB (Drs. Glasmacher/Sherrill/Zinn): Theranostic research (collaboration underway)

(b) Education mission

The Radiation Oncology Residency Program consists of six residents for a 4-year training program. Over the past few years, there has been an average of about 100 applications for 1-2 positions for which about 30 candidates are interviewed after careful review of their applications with special attention to diversity of experiences and backgrounds that would contribute to an already culturally diverse practice. One of the faculty members, Dr. Elshaikh, is the director of an international research fellowship. HFH also has a Medical Physics Residency Program that has a total of four trainees for a 2-year training program. Medical students often complete one-month elective rotations in addition to research projects with clinical, physics and radiobiology faculty. In addition to medical students, they host high school, undergraduate, and graduate student rotators. During their clinical rotations, the students and residents are provided with a robust clinical experience and didactic curriculum. The HFH team offers educational programs and faculty and resident development through grand rounds, journal clubs and multiple conferences.

Residency Program Mission:

The Henry Ford Radiation Oncology Residency Program has a mission to provide residents quality clinical training in radiation oncology so that they may serve all patients with compassion and respect while providing exceptional care in the academic or community setting. This mission is accomplished by providing:

- a. comprehensive curriculum encompassing a broad spectrum of clinical radiation oncology subjects, including a high-quality didactic program in the fields of radiation biology and medical physics
- b. service to the population of Detroit and SE Michigan, a setting with a diverse population.
- c. clinical rotations at the main hospital and elective rotations at community satellites
- d. experiences in the optimal use and application of radiotherapeutic modalities, with additional knowledge of the most recent advances in technology, radiobiology and multi-disciplinary treatment available to cancer patients and others who may benefit from ionizing radiation
- e. guidance, opportunities, resources, time and support for residents to participate in clinical/basic science research and non-research radiation oncology-related activities, such as health policy, education, patient advocacy, cancer care for the locally underserved, or global health
- f. opportunities for development of leadership skills and resident participation in local, state, national and international organized medicine forums

Program Aims:

To educate and train radiation oncology residents:

- 1. to be caring, compassionate, expert, and confident radiation oncologists who provide exceptional care to patients, their families/caregivers and collaborate with physicians and non-physician healthcare providers in related disciplines
- 2. to recognize patients' diverse backgrounds (ethnicity, gender, religious, socioeconomic, family support, etc.) and provide individualized care
- 3. to work with a team of multidisciplinary physicians, physicists, dosimetrists, social workers, nurses, nutritionists, speech pathologists, radiation therapists and administrative staff to individualize patient care
- 4. to be motivated life-long learners in radiation oncology
- 5. to recognize limitations in knowledge (or other competencies) and how to overcome these limitations
- 6. to recognize different modalities and techniques of treatment that could be used to treat varying diagnoses
- 7. to learn from and teach colleagues during training and years beyond.

In 2022, the HFH Radiation Oncology Department also became a placement site for advance practice graduate nursing clinical rotations. The full-time advanced practice providers are preceptors to nurses from a variety of advanced nursing specialty programs (acute care, primary care, and family nurse practitioner). The response has been overwhelmingly positive as they continue to receive placement requests with nurse practitioners who teach, coach, support and are role models to these future advanced practice professionals.

(c) Service and outreach mission

The formation of the backbone team of the new department is active in the Detroit metro community in educating people on cancer prevention and treatment. For example, they have been active in several externally funded research projects (\$1M) in the community that focus on reducing cancer disparities. Beyond this, they also support and work with Gilda's Club. Faculty also work with faith-based organizations such as Second Ebenezer Church to educate Black men on prostate cancer and why earlier screening for prostate cancer is important. This work is now supported by a DEIJ grant. They also work with the American Cancer Society and the Alpha Phi Alpha Fraternity on colorectal and prostate cancer education. This was recently done virtually with ~150 attendees. The team also attended the Haitian Festival this year and distributed information on prostate cancer to the attendees in addition to answering any questions. The system has also partnered with the 100 Black Men Association at a health fair where both education and prostate cancer screening was done. There are several other community and faith-based organizations that the faculty partner with such as: The Durfee Innovation Society and Community Block Party; Mt. Vernon Baptist Church; Inkster Community Health Fair; CBTU/Farm Men's Health Fair UAW Region 1; the Caribbean Community Association; New Zion Church. The team is working with Media personality Frankie Darcell on breast and prostate cancer education and screening in the Black community. Faculty partner with another local media personality, Cheron, on both breast and prostate cancer education. They will also be participating in the MIU Men's

Health Event at Ford Field to help educate men on prostate cancer. The faculty are passionate about supporting and fundraising for many community outreach programs. For example, the team comes up with new, creative fundraising ideas every year for HFH Game on Cancer program that supports cancer patients and research. In the spring they sell outdoor hanging flower baskets and in the winter they sell wreaths, poinsettias, and other festive houseplants. These sales are coordinated by the radiation therapy team. Every year radiation oncology team members participate in various community events, such as the "Shoot for the Cure" program to support brain tumor research, as well as the American Heart Association's (AHA) Metro Detroit Heart & Stroke Walk & 5K. Members of the department also provide student mentoring and participate in pipeline programs to increase the number of underrepresented minorities in medicine.

As noted above, several funded research grants are focused on reducing cancer disparities in the community and beyond. Some measures and successful results this past year include:

- Published journal article of a review of strategies to increase enrollment and retention of Black patients to cancer clinical trials.
- Development of a Steering Committee (SC) that oversees and is actively engaged in decision making on all aspects of the project. The 13 person SC involves representatives from several partner organizations, all of which have some history of collaborating with the community and academic partners involved.
- Conduction of several Focus Groups and Individual Meetings with Community
 Members and HFH-Cancer Patients to understand their knowledge and perceptions
 of clinical trial research, explore multilevel concerns they have about participating in
 such trials, and elements that would be necessary or in place for them to
 participate.
- Currently engaging community residents and the SC in interpreting and applying
 findings to inform the design of a strategy/intervention that reduces barriers and
 builds facilitators in order to enhance Black/African American individuals' likelihood
 to participate in clinical trial research, and health care providers behavioral intentions
 to incorporate new strategies in response to community-identified concerns.
- Conducted Focus Groups to understand barriers and facilitators to prostate cancer screening for Black/African American men.
- Conducted outreach and education sessions with community and faith-based organizations.
- Started several marketing/promotional activities to increase awareness of prostate cancer.
- Produced and disseminated prostate cancer education tool kits.
- Conducted educational sessions with HFH primary care physicians, oncologists and urologists to provide training on prostate cancer screening and the disproportionate impact of prostate cancer mortality on Black men.
- Produced and disseminated educational video for primary care physicians.
- Started development of 3-hour interactive Unconscious Bias Training for HFH-Cancer staff to provide training on role implicit biases play in prostate cancer disparities.

For other community outreach projects, one way to measure success relates to the number of participants in such community events, as well as the level of participation in fundraising contributions. The radiation oncology team members are passionate about supporting many community outreach programs.

(d) Clinical mission

The faculty offer state-of-the-art radiation therapy care in a compassionate and patient-centered setting. As noted, there are six locations in Michigan with excellent equipment including the first Varian Edge (stereotactic or precision RT) unit in North America, TrueBeams, Halcyon/Ethos, IMRT/IGRT/SBRT, brachytherapy, and Eclipse treatment planning. The treatment planning is integrated across the entire unit with the same robust quality assurance processes. The weekly chart rounds for peer-review includes all sites and have a Quality Committee for the department that oversees quality issues and improvement. They are accredited by the American College of Radiology (ACR).

The clinical program in the HFH radiation oncology is one of a few programs internationally with two ViewRay MR-Linacs and active programs involving both MR-guided and CT-guided adaptive RT. This is also used to teach others from across the globe and have helped to train >350 radiation oncologists and physicists both in the US and internationally in Stereotactic Radiation Course. This is part of the ongoing focus on more abbreviated, value-based radiation treatment options. The faculty has an active international course for MR-guided adaptive radiation, including participants from Harvard, MD Anderson, and many other leading institutions. Over the last decade, the department has grown from 8 physicians to 15 physicians. These clinicians treat >250 patients each day with radiation across six locations in Michigan. The department has had strong financial growth over the last decade and has exceeded the budget projections for 2021. A key priority of faculty is active mentoring of younger clinicians and investigators. Many faculty members are experts on national guidelines in radiation as part of the American Radium Society, the oldest multidisciplinary cancer society in the US.

Benefits to Michigan State University

Overall, this new Department of Radiation Oncology will strengthen and expand the academic environment of the college and MSU. Addition of this department will allow for curricular expansion of the College of Human Medicine and create additional academic homes for the expanding CHM faculty (both paid and no-pay faculty) across the state of Michigan. The new department will help support students interested in radiation oncology as a field. Currently, students interested in the field do not have access to a chairperson to write a chair's letter. Similarly, our students do not have access to

affiliated residencies, and there is no elective clerkship in the field for the students to take and include in their academic transcript.

The growth of the program and the faculty will bring several opportunities for strengthening and enriching educational and research activities for CHM, including:

- The opportunity to develop new areas of curriculum and offer highly desirable student experiences in disciplines not currently represented in other CHM campuses (e.g., MSU medical student radiation oncology clerkships).
- The ability to establish additional required experiences and competencies that would not be possible without the addition of qualified faculty.
- The enhancement of graduate medical education (e.g., Radiation oncology residency program) throughout our system by the addition of programs in Henry Ford that we cannot currently offer at MSU (see goals under education mission).
- Strengthened subspecialty research, and clinical programs that will provide the necessary platform for translational and population-based research, as well as support the supply of well-trained physicians and physician scientists to meet future recruitment needs in all our communities across the state of Michigan.

The research focus of the faculty in the radiation oncology department will be in the area of cancer research broadly, and this will provide new and additional research training opportunities for undergraduate, graduate and medical students in different biomedical programs at MSU. Importantly, faculty who are in the Henry Ford Radiation Oncology department are funded by external funding (including NIH) and are involved in several grant funded clinical research studies. Addition of the department to MSU will increase NIH funding (to MSU) via multiple ways: (a) Addition to existing NIH funding from these faculty to MSU grant portfolio; (b) Increased collaborative research programs with existing MSU faculty leading to increase NIH and other external funding. Together this will help improve MSU rankings overall. It will also help in achieving MSU's strategic goal for reaching \$1 billion in research expenditures by 2030. Faculty in the Radiation Oncology Department have received several honors and awards, and this will also significantly increase MSU faculty honorifics (another strategic goal for MSU). Lastly, CHM has an active and on-going relationship with several community partners and philanthropists. The addition of the MSU Radiation Oncology Department will provide expanded opportunities for new endowments. Overall, creation of the MSU Department of Radiation Oncology to the College of Human Medicine will bring about several important benefits to the university and to the State of Michigan.

Programmatic, operational and financial considerations

Alignment with existing departments/units in CHM and MSU

Addition of this Radiation Oncology Department will provide research and educational collaborative opportunities across the College of Human Medicine and multiple colleges of MSU. There are already existing funding opportunities for collaborative research and

education, through the Henry Ford-MSU partnership. Faculty from both existing MSU departments and Henry Ford departments will be able to apply for internal and external grant programs collaboratively that will strengthen the grant portfolio of MSU faculty and significantly increase research expenditure.

There are several units in the college and the university that have faculty and students who do research in the broad area of cancer biology. Such collaborations are already taking place. The addition of the Department of Radiation Oncology creates new opportunities and potential collaborations for these faculty and students. There is nothing about the department that would limit the ability of other colleges or departments from hiring faculty in their respective departments and/or research programs.

Department structure

MSU Department of Radiation Oncology will be led by a department chair. The chair will have the responsibilities and privileges of a chair at MSU. In addition of this department will also be an opportunity for the state's Medicaid uplift. We expect significant funding to be available through this program, and we have pledged to use this money to support research, education and scholarship in the MSU-Henry Ford collaborative efforts.

At the present time, faculty in the Henry Ford Radiation Oncology department will become part of the MSU Department of Radiation Oncology. The Henry Ford chair of radiation oncology will be the employer supervisor for Henry Ford employed faculty for Henry Ford related issues. For MSU related issues, the chair of the MSU Department of Radiation Oncology will be the administrative leader. We would support this chair at 5-10% either as a dually employed faculty or leased by CHM from Henry Ford. HFH is using the lease model to support the current position as chair (Dr. Rick Leach) for Ob/Gyn at Henry Ford Health. This chair funding by MSU is essentially facilitating partnership development and we would request access to the "mission-support" funding provided through the partnership Definitive Agreement. Depending on the strategic needs of the department, college and the university, the college may fund faculty positions in these departments as MSU employed faculty.

Faculty appointments

Faculty will be appointed in multiple ways. Faculty that are already in the Henry Ford Radiation Oncology Department will be appointed as no-pay faculty in one of the following tracks depending on their role and contribution to the education and research missions of the college: Prefix, non-prefix and research tracks. For these various faculty tracks, we will follow the same process we currently follow in the college. When funding is available for new MSU-based faculty positions, these will be done using existing faculty hiring processes. In addition to clinical and non-prefixed faculty from Henry Ford Health, there will be clinical and non-prefixed faculty in the discipline joining from other communities, including Lansing and Grand Rapids. Most of these faculty are engaged in elective clerkships for MS3 and MS4 students in our eight campuses across the state.

(New paragraph added in response to CAC request at their October 17, 2022 meeting). Upon establishment, new departments may initially not have voting-eligible, full-time faculty sufficient to participate as regular representatives to the CHM College Advisory Council (see CHM Bylaws Section 1.1.5.2.4. and 1.1.5.2.5. with referred definitions 1.1.1.). Departments with no eligible faculty with university level voting rights will send a CAC representative who will be granted voice but no vote, until such a time as they have eligible faculty to serve. It is expected that full-time MSU faculty will be added over time through enhanced Medicaid funding returned to MSU as well as new Henry Ford Health – MSU Health Science Center (HSC) funding. The college expects there will be 20-40 hires through these mechanisms. Priority will be given to addition and retention of at least two eligible faculty with university level voting rights (see CHM Bylaws Section 3.1.2.3.) within each department.

Chair selection

With the creation of the MSU Department of Radiation Oncology, the dean will first appoint an interim chair. After initial establishment of the department with faculty appointments, the dean (or designate) will work with the faculty and the interim chair to develop departmental bylaws that will go through appropriate approvals at the college and university levels. Once the bylaws are in place, the dean will work with the department to formulate a search for a founding chair and subsequent chairs using existing university guidelines. Depending on the strategic needs of the department and the faculty some of these searches will be national and some may be internal.

Department operations, governance, bylaws and RPT criteria

The department will operate in a manner consistent with other departments in the College of Human Medicine and will adopt a shared governance model. Shared governance with the existing faculty, staff, and students will follow the MSU Academic Governance policies. The interim chair will work with the dean to appoint a bylaws committee. The bylaws committee will include five faculty members and one outside faculty member with expertise in reviewing bylaws. Bylaws will be voted on and approved by a majority of department faculty before ratification. A scaffolding of the bylaws and major sections have already been identified and minimally will include sections on organization; governance; committees; RPT; grievances and complaints; and faculty (e.g., composition, meetings, appointment, reappointment, promotion, tenure, responsibilities, etc.). Reappointment, promotion, and tenure criteria will align with the College of Human Medicine criteria which are written, well-specified, and available on the CHM Faculty Affairs website. An RPT committee will be established within the Department of Radiation Oncology to work with the chair to manage the RPT processes.

Department Finance

Current Funding Status, Allocation, and Reserve Funds

The college is proposing a series of new departments based on faculty joining MSU and CHM from Henry Ford Health that complement the work of the college and university and highlight unique strengths of the HFH faculty. The health system, college, and partnership will provide support for the faculty and administration of the department. Most support will be in the form of faculty salary, which will come from the medical group within the health system. The Office of Health Sciences has committed financial resources from the overall MSU-HFHS partnership effort to support creation of departments. Discretionary funding will be used to support a small part of the salary and an administrative increment for the chair's MSU employment. As the department integrates into the college, the department will enter the Medicaid uplift program providing additional support for the department and funding additional MSU faculty in the department. The department will accrue reserves and start-up funds as all other departments in the college do.

Projected financial needs and how financial obligations of the department, including administrative costs, will be met

Projected financial needs are centered around ongoing recruitment and retention of high-caliber faculty to support our education, research, and service missions. The college will direct Medicaid uplift derived from HFH to use in the departments based out of HFH to fund new positions and programs in the departments and college. The current college allocation and reserve funds more than meet the projected financial needs and financial obligations of the proposed department, including administrative costs. The college and the department expect additional philanthropy as well.

Oversight of the curriculum

The department will participate in the college's educational programs as all other departments do. Electives and rotations in the MD curriculum will be approved and supervised by the CHM MD Curriculum Committee. All other courses and educational programs will be reviewed by the college's Graduate Studies Curriculum Committee. The department's residency and fellowship programs operate with oversight from the departmental residency committees consistent with the ACGME accreditation of Henry Ford Health. The department will have a clerkship committee to oversee its medical student and any other educational programs not a part of the residency programs. For additional information on clerkships and residencies, see "Educational mission" under "Goals of the radiation oncology department".

Evaluation of departmental effectiveness

The new MSU Department of Radiation Oncology will enter the standardized process for assessing departmental effectiveness consistent with all departments at CHM. There will be the usual five-year department and chair review as well as annual chair reviews. Note that HF radiation oncology department already has a defined structure for departmental effectiveness as follows:

Systems for Effectiveness of Departmental Operations

There are a variety of processes for evaluating departmental effectiveness as listed below. Overall, our findings have been positive with excellent patient satisfaction scores (>95% for recommend provider office), patient access (within 5-7 days), clinical productivity (increased patient visits), academic growth (based on meeting presentations, publications, etc.), educational programs (in top quartile nationally for residency program), and quality metrics (ACR accreditation). In terms of faculty engagement, we are proud that the Radiation Oncology Department ranked 2nd of all the surveyed departments at HFH (Press Ganey 2022 data). Areas of ongoing attention relate to the changing reimbursements over time due to more abbreviated treatment regimens and the pending CMS Alternative Payment Model for our field.

- Focused Professional Performance Evaluations (FPPE First two years of practice and/or remediation, bi-annual))
- Ongoing Professional Performance Evaluations (OPPE bi-annual)
- Financial Reviews and Chair Performance reviews (bi-annual)
- Peer Reviews (ad hoc and bi-annual)
- Annual HFH resident survey
- Annual ACGME Resident Survey
- Annual ACGME Faculty Survey
- Annual Program Evaluation by the GME program
- Semi Annual Faculty Evaluations by the residents
- Annual Faculty Evaluations of the Program
- Med Hub Resident and faculty evaluation

Systems for Effectiveness of Residency Teaching Program

The Radiology Oncology Residency Program at Henry Ford Hospital was established in 1972. The program offers exceptional clinical training with exposure to a wide diversity of malignant and benign diseases managed with ionizing radiation. We offer a four-year program (PGY-2 through PGY-5), which begins after the successful completion of a PGY-1 year. For over ten years, the radiation oncology residency program has had continued accreditation by the ACGME with no citations. Our program's 10-year and quartile rankings are the highest possible, indicating performance better than 75% of all radiation oncology training programs. Regular systematic updates are submitted to the ACGME Review Committee. The residency Program Evaluation Committee convenes annually and reviews the entire program. This is then evaluated by the Henry Ford

Hospital Designated Institutional Official and GME office. Dr. Shah is the program director (PD) and Dr. Feldman is the associate PD.

The Medical Physics Residency Program has been fully accredited by the Commission on Accreditation of Medical Physics programs (CAMPEP) since 2010. Accreditation has been successfully reviewed every 5 years (maximum term) since 2010. The medical physics residency program is a 2-year program, which includes a comprehensive list of didactics, practicums, and reading assignments that need to be successfully completed for the various clinical physics rotations. Medical Physics faculty are actively engaged in training residents, and for creating the content for practical and didactic training and examinations. Currently there are 4 medical physics residents enrolled in the program. Medical physics students work in a multidisciplinary environment, being trained by physicians, radiation therapists and nurses, in addition to medical physicists.

The medical physics division is actively engaged in education involving didactic courses and practicums in radiation oncology physics provided to our medical residents as well as medical physics residents within the department of radiation oncology. The medical physics division currently partners with the medical physics graduate program at Wayne State University to educate MS and PhD students. Our faculty are often engaged in finding dissertation research projects for MS students, who work with the faculty at no cost (part of their training requirements). The physics faculty also work with PhD students, as primary committee members for PhD students who are sometimes partly funded by the physics division here and as secondary committee members for students who are funded elsewhere. The medical physics division also partners with the physics department at Oakland University, where they have a specialty track in medical physics.

Existing system for annual performance reviews of faculty and staff:

Bi-annual reviews of the Radiation Oncology department faculty are conducted by the HFMG Chair. This review looks at operational effectiveness and performance goals including clinical productivity, academic achievements, educational contributions, patient and staff satisfaction/engagement, professional development, and programming. The outcomes of our recent review were positive with the second highest department Press Ganey faculty engagement scores in the HFMG.

Our faculty are actively engaged in training residents. A process has been created for routine evaluations whereby the residents provide anonymized scoring and comments on the effectiveness of the instruction provided by the specific faculty pertaining to the reading assignment, practicum or other graded instruction. Generally, scores for faculty are high. In cases where scores can be improved, the program directors provide anonymized feedback to the faculty member to assist them with improving their methods.

Educator Staff Evaluation Reviews

Teaching performance of faculty is evaluated annually by department leadership and trainees as well as after each clinical rotation, by all trainees. In addition, all medical residents and core faculty complete an annual survey of the training program that is designed and mandated by the ACGME. Year after year, the results of this survey have shown that all residents would either probably or definitely choose this program again for training. Areas of excellence from the ACGME surveys include training resources, integration of trainees into clinical workflow, educational content, and diversity and inclusion, among many others. Moreover, the program director seeks feedback from each resident regarding teaching performance during the bi-annual evaluations, and more frequently throughout the academic year during group meetings with the trainees and regular resident retreats.

Per resident feedback, we continue to develop opportunities for research with our clinical as well as radiobiology and physics faculty. As we do not have a pediatric oncology practice, residents have a 1-month mandatory rotation at the University of Cincinnati Pediatric Hospital; resident feedback from this rotation has been very positive; we supplement this rotation with pediatric didactic courses/sessions with expert faculty 1-2 times/year.

Assurances

For the university and college, the creation of the Department of Radiation Oncology will help solidify and expand the scholarly opportunities for students and faculty across the institution. With the addition of the department to MSU, it is expected that the unit will grow, adding to NIH funding in support of AAU metrics and building on the reputation of the existing faculty and programming. The leadership of the college has discussed the creation of the department with related departments and units including meetings with leadership and faculty. Many people across the university do work related to different areas of oncology, similar to many people across the university that do work related to other areas of medicine. The addition of the Department of Radiation Oncology does not limit the scholarly opportunities of others in the university, and this department will not change or limit the activity of faculty interested in the above-mentioned research areas across the institution. In fact, the success and expansion of this department increases opportunities for all.

Distribution of proposal for endorsement, assurances, or concerns:

(All communication by email unless otherwise indicated) Dean Amalfitano (September 9, 2022) See Attachment D

Chair Delano (September 9, 2022) – Discussed in meeting of October 17. The Dean and chair agreed that establishing a HFH based Radiation Oncology Department will create opportunity for growth of theranostics in cooperation and collaboration with MSU Radiology and will not divert programmatic support for the Department of Radiology, Nuclear Medicine, and Theranostics in East Lansing.

College Advisory Council Summary

• Recommendation/endorsement
The CHM CAC unanimously endorsed the proposal for a new Department of Radiation
Oncology on November 21, 2022

Attachment A - HFC RadOnc Publications 2019-2021

Chang SS, and Movsas B. How Vital are Patient Reported Outcomes? *J Natl Cancer Inst* 2021; Epub ahead of print. PMID: 34508599. Full Text

Amini A, Verma V, Simone CB, 2nd, Chetty IJ, Chun SG, Donington J, Edelman MJ, Higgins KA, Kestin LL, Movsas B, Rodrigues GB, Rosenzweig KE, Rybkin, II, Slotman BJ, Wolf A, and Chang JY. American Radium Society™ Appropriate Use Criteria on Radiation Therapy in Oligometastatic or Oligoprogressive Non-Small Cell Lung Cancer. *Int J Radiat Oncol Biol Phys* 2021. PMID: 34571054. Full Text

Anker CJ, Dragovic J, Herman JM, Bianchi NA, Goodman KA, Jones WE, 3rd, Kennedy TJ, Kumar R, Lee P, Russo S, Sharma N, Small W, Suh WW, Tchelebi LT, and Jabbour SK. Executive Summary of the American Radium Society Appropriate Use Criteria for Operable Esophageal and Gastroesophageal Junction Adenocarcinoma: Systematic Review and Guidelines. *Int J Radiat Oncol Biol Phys* 2021; 109(1):186-200. PMID: 32858113. Full Text

Babar A, Woody NM, Ghanem AI, Tsai J, Dunlap NE, Schymick M, Liu HY, Burkey BB, Lamarre ED, Ku JA, Scharpf J, Prendes BL, Joshi NP, Caudell JJ, Siddiqui F, Porceddu SV, Lee N, Schwartzman L, Koyfman SA, Adelstein DJ, and Geiger JL. Outcomes of Post-Operative Treatment with Concurrent Chemoradiotherapy (CRT) in High-Risk Resected Oral Cavity Squamous Cell Carcinoma (OCSCC): A Multi-Institutional Collaboration. *Curr Oncol* 2021; 28(4):2409-2419. PMID: 34209302. Full Text

Bagher Ebadian H, Siddiqui F, Ghanem A, Zhu S, Lu M, Movsas B, and Chetty IJ. Radiomics outperforms clinical factors in characterizing human papilloma virus (HPV) for patients with oropharyngeal squamous cell carcinomas. *Biomed Phys Eng Express* 2021; Epub ahead of print. PMID: 34781281. Full Text

Bagher-Ebadian H, Zhu S, Siddiqui F, Lu M, Movsas B, and Chetty IJ. Technical Note: On the development of an outcome-driven frequency filter for improving Radiomics-based modeling of Human Papilloma Virus (HPV) in patients with oropharyngeal squamous cell carcinomas. *Med Phys* 2021; 48(11):7552-7562. PMID: 34390003. Full Text

Barton KN, Siddiqui F, Pompa R, Freytag SO, Khan G, Dobrosotskaya I, Ajlouni M, Zhang Y, Cheng J, Movsas B, and Kwon D. Phase I trial of oncolytic adenovirus-mediated cytotoxic and interleukin-12 gene therapy for the treatment of metastatic pancreatic cancer. *Mol Ther Oncolytics* 2021; 20:94-104. PMID: 33575474. Full Text

Cook A, Modh A, Ali H, Sheqwara J, Chang S, Ghanem T, Momin S, Wu V, Tam S, Money S, Han X, Fakhoury L, Movsas B, and Siddiqui F. Randomized Phase III, Double Blind, Placebo-Controlled Study of Prophylactic Gabapentin for the Reduction of Oral Mucositis Pain During the Treatment of Oropharyngeal Squamous Cell Carcinoma. *Int J Radiat Oncol Biol Phys* 2021; Epub ahead of print. PMID: 34808255. Full Text

Cook AE, Aref I, Burmeister C, Hijaz M, and Elshaikh MA. Quantification of recurrence risk based on number of adverse prognostic factors in women with stage I uterine endometrioid carcinoma. *J Turk Ger Gynecol Assoc* 2021; 22(4):262-267. PMID: 34866366. Full Text

Corey L, Fucinari J, Elshaikh M, Schultz D, Mussallam R, Zaiem F, Daaboul F, Fehmi O, Dyson G, Ruterbusch J, Morris R, Cote ML, Ali-Fehmi R, and Bandyopadhyay S. Impact of positive cytology in uterine serous carcinoma: A reassessment. *Gynecol Oncol Rep* 2021; 37:100830. PMID: 34345643. Full Text

Fucinari J, Elshaikh MA, Ruterbusch JJ, Khalil R, Dyson G, Shultz D, Ali-Fehmi R, and Cote ML. The impact of race, comorbid conditions and obesity on survival endpoints in women with high grade endometrial carcinoma. *Gynecol Oncol* 2021; 162(1):134-141. PMID: 33985795. Full Text

Ghanem AI, Elsaid AA, Elshaikh MA, and Khedr GA. Volumetric-Modulated Arc Radiotherapy with Daily Image-Guidance Carries Better Toxicity Profile for Higher Risk Prostate Cancer. *Asian Pac J Cancer Prev* 2021; 22(1):61-68. PMID: 33507680. Full Text

Glide-Hurst CK, Lee P, Yock AD, Olsen JR, Cao M, Siddiqui F, Parker W, Doemer A, Rong Y, Kishan AU, Benedict SH, Li XA, Erickson BA, Sohn JW, Xiao Y, and Wuthrick E. Adaptive Radiation Therapy (ART) Strategies and Technical Considerations: A State of the ART Review From NRG Oncology. *Int J Radiat Oncol Biol Phys* 2021; 109(4):1054-1075. PMID: 33470210. Full Text

Hall WA, Dawson LA, Hong TS, Palta M, Herman JM, Evans DB, Tsai S, Ferrone CR, J BF, Chang DT, Crane C, Koong AC, Oar A, Parikh P, Erickson B, Hoffe S, and Goodman KA. Value of Neoadjuvant Radiation Therapy in the Management of Pancreatic Adenocarcinoma. *J Clin Oncol* 2021; 39(34):3773-3777. PMID: 34623894. Full Text

Hall WA, Small C, Paulson E, Koay EJ, Crane C, Intven M, Daamen LA, Meijer GJ, Heerkens HD, Bassetti M, Rosenberg SA, Aitken K, Myrehaug S, Dawson LA, Lee P, Gani C, Chuong MD, Parikh PJ, and Erickson BA. Magnetic Resonance Guided Radiation Therapy for Pancreatic Adenocarcinoma, Advantages, Challenges, Current Approaches, and Future Directions. *Front Oncol* 2021; 11:628155. PMID: 34046339. Full Text

Hathout L, Elshaikh MA, and Albuquerque KV. In reply to Onal et al. *Int J Radiat Oncol Biol Phys* 2021; 111(3):838-839. PMID: 34560029. Full Text

Hathout L, Wang Y, Wang Q, Vergalasova I, Elshaikh MA, Dimitrova I, Damast S, Li JY, Fields EC, Beriwal S, Keller A, Kidd EA, Usoz M, Jolly S, Jaworski E, Leung EW, Donovan E, Taunk NK, Chino J, Natesan D, Russo AL, Lea JS, Albuquerque KV, and Lee LJ. A Multi-Institutional Analysis of Adjuvant Chemotherapy and Radiation Sequence in Women with Stage IIIC Endometrial Cancer. *Int J Radiat Oncol Biol Phys* 2021; 110(5):1423-1431. PMID: 33677053. Full Text

Jagsi R, Griffith KA, Moran JM, Matuszak MM, Marsh R, Grubb M, Abu-Isa E, Dilworth JT, Dominello MM, Heimburger D, Lack D, Walker EM, Hayman JA, Vicini F, and Pierce LJ. Comparative Effectiveness Analysis of 3D-Conformal Radiotherapy versus Intensity Modulated Radiotherapy (IMRT) in a Prospective Multicenter Cohort of Breast Cancer Patients. *Int J Radiat Oncol Biol Phys* 2021; Epub ahead of print. PMID: 34634437. Full Text

Jagsi R, Griffith KA, Vicini FA, Abu-Isa E, Bergsma D, Bhatt A, Dilworth JT, Dominello M, Franklin S, Heimburger DK, Kaufman I, Kocheril PG, Kretzler AE, Paximadis P, Radawski JD, Walker EM, and Pierce L. Disease Control After Hypofractionation Versus Conventional Fractionation for Triple Negative Breast Cancer: Comparative Effectiveness in a Large Observational Cohort. *Int J Radiat Oncol Biol Phys* 2021; Epub ahead of print. PMID: 34718094. Full Text

Janic B, Brown SL, Neff R, Liu F, Mao G, Chen Y, Jackson L, Chetty IJ, Movsas B, and Wen N. Therapeutic enhancement of radiation and immunomodulation by gold nanoparticles in triple negative breast cancer. *Cancer Biol Ther* 2021; 22(2):124-135. PMID: 33459132. Full Text

Jaworski EM, Yin H, Griffith KA, Pandya R, Mancini BR, Jolly S, Boike TP, Moran JM, Dominello MM, Wilson M, Parker J, Burmeister J, Fraser C, Miller L, Baldwin K, Mietzel MA, Grubb M, Kendrick D, Spratt DE, and Hayman JA. Contemporary practice patterns for palliative radiotherapy of bone metastases: Impact of a quality improvement project on extended fractionation. *Pract Radiat Oncol* 2021; 11(6):498-505. PMID: 34048938. Full Text

Karim S, Benn R, Carlson LE, Fouladbakhsh J, Greenlee H, Harris R, Henry NL, Jolly S, Mayhew S, Spratke L, Walker EM, Zebrack B, and Zick SM. Integrative Oncology Education: An Emerging Competency for Oncology Providers. *Curr Oncol* 2021; 28(1):853-862. PMID: 33578660. Full Text

Kim H, Pedersen K, Olsen JR, Mutch MG, Chin RI, Glasgow SC, Wise PE, Silviera ML, Tan BR, Wang-Gillam A, Lim KH, Suresh R, Amin M, Huang Y, Henke LE, Park H, Ciorba MA, Badiyan S, Parikh PJ, Roach MC, and Hunt SR. Nonoperative Rectal Cancer Management With Short-Course Radiation Followed by Chemotherapy: A Nonrandomized Control Trial. *Clin Colorectal Cancer* 2021; 20(3):e185-e193. PMID: 34001462. Full Text

Liu HY, Tam L, Woody NM, Caudell J, Reddy CA, Ghanem A, Schymick M, Joshi N, Geiger J, Lamarre E, Burkey B, Adelstein D, Dunlap N, Siddiqui F, Koyfman S, and Porceddu SV. Failure rate in the untreated contralateral node negative neck of small lateralized oral cavity cancers: A multi-institutional collaborative study. *Oral Oncol* 2021; 115:105190. PMID: 33581503. Full Text

Mao W, Liu C, Gardner SJ, Elshaikh M, Aref I, Lee JK, Pradhan D, Siddiqui F, Snyder KC, Kumarasiri A, Zhao B, Kim J, Li H, Wen NW, Movsas B, and Chetty IJ. How does CBCT reconstruction algorithm impact on deformably mapped targets and accumulated dose distributions? *J Appl Clin Med Phys* 2021; 22(9):37-48. PMID: 34378308. Full Text

McCormick B, Winter KA, Woodward W, Kuerer HM, Sneige N, Rakovitch E, Smith BL, Germain I, Hartford AC, O'Rourke MA, Walker EM, Strom EA, Hopkins JO, Pierce LJ, Pu AT, Sumida KNM, Vesprini D, Moughan J, and White JR. Randomized Phase III Trial Evaluating Radiation Following Surgical Excision for Good-Risk Ductal Carcinoma In Situ: Long-Term Report From NRG Oncology/RTOG 9804. *J Clin Oncol* 2021; 39(32):3574-3582. PMID: 34406870. Full Text

McFarlane MR, Hochstedler KA, Laucis AM, Sun Y, Chowdhury A, Matuszak MM, Hayman J, Bergsma D, Boike T, Kestin L, Movsas B, Grills I, Dominello M, Dess RT, Schonewolf C, Spratt DE, Pierce L, Paximadis P, Jolly S, and Schipper M. Predictors of Pneumonitis after Conventionally Fractionated Radiotherapy for Locally Advanced Lung Cancer. *Int J Radiat Oncol Biol Phys* 2021; 111(5):1176-1185. PMID: 34314815. Full Text

Mickevicius NJ, Kim JP, Zhao J, Morris ZS, Hurst NJ, Jr., and Glide-Hurst CK. Toward magnetic resonance fingerprinting for low-field MR-guided radiation therapy. *Med Phys* 2021; 48(11):6930-6940. PMID: 34487357. Full Text

Morris ED, Ghanem AI, Zhu S, Dong M, Pantelic MV, and Glide-Hurst CK. Quantifying inter-fraction cardiac substructure displacement during radiotherapy via magnetic resonance imaging guidance. *Physics and Imaging in Radiation Oncology* 2021; 18:34-40. PMID: 34258405. Full Text

Nagaraja TN, Bartlett S, Farmer KG, Cabral G, Knight RA, Valadie OG, Brown SL, Ewing JR, and Lee IY. Adaptation of laser interstitial thermal therapy for tumor ablation under MRI monitoring in a rat orthotopic model of glioblastoma. *Acta Neurochir (Wien)* 2021; 163(12):3455-3463. PMID: 34554269. Full Text

Nagaraja TN, Elmghirbi R, Brown SL, Rey JA, Schultz L, Mukherjee A, Cabral G, Panda S, Lee IY, Sarntinoranont M, Keenan KA, Knight RA, and Ewing JR. Imaging acute effects of bevacizumab on tumor vascular kinetics in a preclinical orthotopic model of U251 glioma. *NMR Biomed* 2021; 34(7):e4516. PMID: 33817893. Full Text

Prasanna PG, Citrin DE, Hildesheim J, Ahmed MM, Venkatachalam S, Riscuta G, Xi D, Zheng G, van Deursen J, Goronzy J, Kron SJ, Anscher MS, Sharpless NE, Campisi J, Brown SL, Niedernhofer LJ, O'Loghlen A, Georgakilas AG, Paris F, Gius D, Gewirtz DA, Schmitt CA, Abazeed ME, Kirkland JL, Richmond A, Romesser PB, Lowe SW, Gil J, Mendonca MS, Burma S, Zhou D, and Coleman CN. Therapy-Induced Senescence: Opportunities to Improve Anti-Cancer Therapy. *J Natl Cancer Inst* 2021; 113(10):1285-1298. PMID: 33792717. Full Text

Skinner H, Hu C, Tsakiridis T, Santana-Davila R, Lu B, Erasmus JJ, Doemer AJ, Videtic GMM, Coster J, Yang AX, Lee RY, Werner-Wasik M, Schaner PE, McCormack SE, Esparaz BT, McGarry RC, Bazan J, Struve T, Paulus R, and Bradley JD. Addition of Metformin to Concurrent Chemoradiation in Patients With Locally Advanced Non-Small Cell Lung Cancer: The NRG-LU001 Phase 2 Randomized Clinical Trial. *JAMA Oncol* 2021; 7(9):1324-1332. PMID: 34323922. Full Text

Snyder KC, Cunningham J, Huang Y, Zhao B, Dolan J, Wen N, Chetty IJ, Shah MM, and Siddiqui SM. Dosimetric Evaluation of Fractionated Stereotactic Radiation Therapy for Skull Base Meningiomas Using HyperArc and Multicriteria Optimization. *Adv Radiat Oncol* 2021; 6(4):100663. PMID: 33997481. Full Text

Sood A, Keeley J, Palma-Zamora I, Novara G, Elshaikh M, Jeong W, Hensley P, Navai N, Peabody JO, Trinh QD, Rogers CG, Menon M, and Abdollah F. High-intensity local treatment of clinical node-positive urothelial carcinoma of the bladder alongside systemic chemotherapy improves overall survival. *Urol Oncol* 2021; Epub ahead of print. PMID: 34348860. Full Text

Speers C, Murthy VL, Walker EM, Glide-Hurst CK, Marsh R, Tang M, Morris EL, Schipper MJ, Weinberg RL, Gits HC, Hayman J, Feng M, Balter J, Moran J, Jagsi R, and Pierce LJ. Cardiac MRI and blood biomarkers for evaluation of radiation-induced cardiotoxicity in breast cancer patients: results of a phase II clinical trial. *Int J Radiat Oncol Biol Phys* 2021; Epub ahead of print. PMID: 34509552. Full Text

Wilkie JR, Hochstedler KA, Schipper MJ, Matuszak MM, Paximadis P, Dominello MM, Grills I, Hayman JA, Dess R, Dragovic AF, Jagsi R, Pierce LJ, Spratt DE, Bergsma D, Boike TP, Movsas B, and Jolly S. Association Between Physician and Patient Reported Symptoms in Patients Treated with Definitive Radiotherapy for Locally Advanced Lung Cancer in a Statewide Consortium. *Int J Radiat Oncol Biol Phys* 2021; Epub ahead of print. PMID: 34838865. Full Text

Willett G, Chang DT, Czito BG, Liauw SL, Wo JY, Klein PEE, Chen Z, Carlson DJ, and Chetty IJ. Reflections on Anthony Zietman From Gastrointestinal Cancer and Physics Editors. *Int J Radiat Oncol Biol Phys* 2021; 111(5):1114-1117. PMID: 34793734. Full Text

Xhaferllari I, Kim JP, Liyanage R, Liu C, Du D, Doemer A, Chetty IJ, and Wen N. Clinical utility of Gafchromic film in an MRI-guided linear accelerator. *Radiat Oncol* 2021; 16(1):117. PMID: 34174932. Full Text

Xu Y, Brovold N, Cyriac J, Bossart E, Padgett K, Butkus M, Diwanj T, King A, Dal Pra A, Abramowitz M, Pollack A, and Dogan N. Assessment of Knowledge-Based Planning for Prostate Intensity Modulated Proton Therapy. *Int J Part Ther* 2021; 8(2):62-72. PMID: 34722812. Full Text

Yahya JB, Zhu S, Burmeister C, Hijaz MY, and Elshaikh MA. Matched-pair Analysis for Survival Endpoints Between Women With Early-stage Uterine Carcinosarcoma and Uterine Serous Carcinoma. *Am J Clin Oncol* 2021; 44(9):463-468. PMID: 34265785. Full Text

Yoon J, Fitzgerald H, Wang Y, Wang Q, Vergalasova I, Elshaikh MA, Dimitrova I, Damast S, Li JY, Fields EC, Beriwal S, Keller A, Kidd EA, Usoz M, Jolly S, Jaworski E, Leung EW, Donovan E, Taunk NK, Chino J, Natesan D, Russo AL, Lea JS, Albuquerque KV, Lee LJ, and Hathout L. Does prophylactic para-aortic lymphatic irradiation improve outcomes in women with stage IIIC1 endometrial carcinoma? A multi-institutional pooled analysis. *Pract Radiat Oncol* 2021; Epub ahead of print. PMID: 34822999. Full Text

S Zhu, R Khalil, O Altairy, C Burmeister, I Dimitrova, MA Elshaikh: Increased Risk of Recurrence in Early-stage Endometrial Carcinoma After Delays in Adjuvant Radiation Treatment. *Int J Gynecological Cancer* 2021 Jan;31(1):73-77. (Study PI).

A Cook, R Khalil, C Burmeister, I Dimitrova, G Allo, M Elshaikh: The Impact of Adjuvant Management Strategies on Outcomes in Women with Early Stage Uterine Serous Carcinoma. Cereus 2021; 13(2): e13505 (Study PI).

Andrew E. Cook, Ibrahim Aref, Charlotte Burmeister, Miriana Hijaz, MA. Elshaikh: Quantification of Recurrence Risk Based on Number of Adverse Prognostic Factors in Women with Stage I Uterine Endometrioid Carcinoma. The Journal of The Turkish German Gynecological Association 2021 (22): 262-7. (Study PI).

Nagaraja TN, deCarvalho AC, Brown SL, Griffith B, Farmer K, Irtenkauf S, Hasselbach L, Mukherjee A, Bartlett S, Valadie OG, Cabral G, Knight RA, Lee IY, Divine GW, Ewing JR. The impact of initial tumor microenvironment on imaging phenotype. Cancer Treat Res Commun. 2021;27:100315. doi: 10.1016/j.ctarc.2021.100315. Epub 2021 Jan 19. PMID: 33571801; PMCID: PMC8127413.

Wang J, Li K, Zhang X, Li G, Liu T, Wu X, Brown SL, Zhou L, Mi QS. MicroRNA-155 Controls <i>i</i>NKT Cell Development and Lineage Differentiation by Coordinating Multiple Regulating Pathways. Front Cell Dev Biol. 2021 Jan 12;8:619220. doi: 10.3389/fcell.2020.619220. PMID: 33585457; PMCID: PMC7874147.

Claudia R. Miller BSE, Eric D. Morris PhD, Ahmed I. Ghanem MD, Milan V. Pantelic MD, Eleanor M. Walker MD, Carri K. Glide-Hurst PhD, Characterizing Sensitive Cardiac Substructure Excursion due to Respiration, Advances in Radiation Oncology (2021); https://doi.org/10.1016/j.adro.2021.100876

Jagsi R, Griffith KA, Vicini F, ...Walker, EM, Pierce, Lori., Toward improving patients' experiences of acute toxicity from breast radiotherapy: insights from the analysis of patient-reported outcomes in a large multicenter cohort. J Clin Oncol. 2020 Sep 28:JCO2001703. doi: 10.1200/JCO.20.01703. Epub ahead of print. PMID: 32986529.

Devpura S, Feldman A, Rusu S, Brown S, Cook A, Movsas A, Sun Z, Vance S, Simoff M, Ajlouni M, Siddiqui MS, Movsas B, and Chetty I. An Analysis of Clinical Toxic Effects and Quality of Life as a Function of Radiation Dose and Volume After Lung Stereotactic Body Radiation Therapy. *Advances in Radiation Oncology 6 (6)*, 100815 ISSN 2452-1094. https://doi.org/10.1016/j.adro.2021.100815.

Dess RT, Sun Y, Muenz DG, Paximadis PA, Dominello MM, Grills IS, Kestin LL, Movsas B, Masi KJ, Matuszak MM, Radawski JD, Moran JM, Pierce LJ, Hayman JA, Schipper MJ, Jolly S; Michigan Radiation Oncology Quality Consortium. Dess RT, et al. Cardiac Dose in Locally Advanced Lung Cancer: Results From a Statewide Consortium. Pract Radiat Oncol. 2020 Jan-Feb;10(1):e27-e36. doi: 10.1016/j.prro.2019.07.013. Epub 2019 Aug 2.Pract Radiat Oncol. 2020. PMID: 31382026

Hassan Bagher-Ebadian, Mei Lu, Farzan Siddiqui, Ahmed I Ghanem, Ning Wen, Qixue Wu, Chang Liu, Benjamin Movsas, Indrin J Chetty, "Application of radiomics for the prediction of HPV status for patients with head and neck cancers", Med Phys. 2020 Feb;47(2):563-575. DOI:10.1002/mp.13977. PMID: 31853980 Ghanem AI, Khalil RM, Khedr GA, Tang A, Elsaid AA, Chetty IJ, Movsas B, Elshaikh MA. Charlson Comorbidity Score Influence on Prostate-Cancer Survival and Radiation-related Toxicity. Canadian J of Urology 2020; 27(2):10154-10161.

Wang J, Li G, Wu X, Liu Q, Yin C, Brown SL, Xu S, Mi QS, Zhou L. miR-183-96-182 Cluster Is Involved in Invariant NKT Cell Development, Maturation, and Effector Function. J Immunol. 2019;203(12):3256-3267. PMID: 31748350.

Howell K, Matuszak M, Maitz CA, Eisaman SH, Padilla L, Brown SL, Joiner MC, Dominello MM, Burmeister J. Three Discipline Collaborative Radiation Therapy (3DCRT) special debate: In the future, at least 20% of NIH funding for radiotherapy research should be allocated to non-oncologic applications. J Appl Clin Med Phys. 2020;21(2):7-13. PMID: 31573150.

Glide-Hurst CK, Lee P, Yock AD, Olsen JR, Cao M, Siddiqui F, Parker W, Doemer A, Rong Y, Kishan AU, Benedict SH, Li XA, Erickson BA, Sohn JW, Xiao Y, Wuthrick E. Adaptive Radiation Therapy (ART) Strategies and Technical Considerations: A State of the ART Review From NRG Oncology. Int J Radiat Oncol Biol Phys. 2020 Oct 24:S0360-3016(20)34409-6. doi: 10.1016/j.ijrobp.2020.10.021. Epub ahead of print. PMID: 33470210.

Janic B, Brown SL, Neff R, Liu F, Mao G, Chen Y, Jackson L, Chetty IJ, Movsas B, Wen N. Therapeutic enhancement of radiation and immunomodulation by gold nanoparticles in triple negative breast cancer. Cancer Biol Ther. 2021 Jan 18:1-12. doi: 10.1080/15384047.2020.1861923. Epub ahead of print. PMID: 33459132.

Chetvertkov M, Monroe JI, Boparai J, Solberg TD, Pafundi DH, Ruo RL, Gladstone DJ, Yin FF, Chetty IJ, Benedict S, Followill DS, Xiao Y, Sohn JW. NRG Oncology Survey on Practice and Technology Use in SRT and SBRT Delivery. Front Oncol. 2020 Nov 27;10:602607. doi: 10.3389/fonc.2020.602607. PMID: 33330102; PMCID: PMC7729187. Ghanem AI, Khalil RM, Khedr GA, Tang A, Elsaid AA, Chetty IJ, Movsas B, Elshaikh MA. Charlson Comorbidity score influence on prostate cancer survival and radiation-related toxicity. Can J Urol. 2020 Apr;27(2):10154-10161. PMID: 32333734.

Bagher-Ebadian H, Lu M, Siddiqui F, Ghanem AI, Wen N, Wu Q, Liu C, Movsas B, Chetty IJ. Application of radiomics for the prediction of HPV status for patients with head and neck cancers. Med Phys. 2020 Feb;47(2):563-575. doi: 10.1002/mp.13977. Epub 2020 Jan 6. PMID: 31853980.

Ma CMC, Chetty IJ, Deng J, Faddegon B, Jiang SB, Li J, Seuntjens J, Siebers JV, Traneus E. Beam modeling and beam model commissioning for Monte Carlo dose calculation-based radiation therapy treatment planning: Report of AAPM Task Group 157. Med Phys. 2020 Jan;47(1):e1-e18. doi: 10.1002/mp.13898. Epub 2019 Nov 19. PMID: 31679157.

Hassan Bagher-Ebadian, Mei Lu, Farzan Siddiqui, Ahmed I Ghanem, Ning Wen, Qixue Wu, Chang Liu, Benjamin Movsas, Indrin J Chetty, "Application of radiomics for the prediction of HPV status for patients with head and neck cancers", Med Phys. 2020 Feb;47(2):563-575. DOI:10.1002/mp.13977. PMID: 31853980

Al Feghali KA, Wu QC, Devpura S, Liu C, Ghanem AI, Wen NW, Ajlouni M, Simoff MJ, Movsas B, and Chetty IJ. Correlation of normal lung density changes with dose after stereotactic body radiotherapy (SBRT) for early stage lung cancer. Clin Transl Radiat Oncol 2020; 22:1-8. PMID: 32140574.

Bagher-Ebadian H, and Chetty IJ. Technical Note: ROdiomX: A Validated Software for Radiomics Analysis of Medical Images in Radiation Oncology. Med Phys 2020; Epub ahead of print. PMID: 33169367.

Bergman D, Modh A, Schultz L, Snyder J, Mikkelsen T, Shah M, Ryu S, Siddiqui MS, and Walbert T. Randomized prospective trial of fractionated stereotactic radiosurgery with chemotherapy versus chemotherapy alone for bevacizumab-resistant high-grade glioma. J Neurooncol 2020; 148(2):353-361. PMID: 32444980.

Chun SG, Simone CB, 2nd, Amini A, Chetty IJ, Donington J, Edelman MJ, Higgins KA, Kestin LL, Movsas B, Rodrigues GB, Rosenzweig KE, Slotman BJ, Rybkin, II, Wolf A, and Chang JY. American Radium Society Appropriate Use Criteria: Radiation Therapy for Limited-Stage SCLC 2020. J Thorac Oncol 2020; 16(1):66-75. PMID: 33166720.

Dai Z, Carver E, Liu C, Lee J, Feldman A, Zong W, Pantelic M, Elshaikh M, and Wen N. Segmentation of the Prostatic Gland and the Intraprostatic Lesions on Multiparametic Magnetic Resonance Imaging Using Mask Region-Based Convolutional Neural Networks. Adv Radiat Oncol 2020; 5(3):473-481. PMID: 32529143. Dumas M, Laugeman E, Sevak P, Snyder KC, Mao W, Chetty IJ, Ajlouni M, and Wen N. Technical Note: Comparison of the internal target volume (ITV) contours and dose calculations on 4DCT, average CBCT, and 4DCBCT imaging for lung stereotactic body radiation therapy (SBRT). J Appl Clin Med Phys 2020; Epub ahead of print. PMID: 33044040.

Ellis MM, Jones LR, Siddiqui F, Sunkara PR, and Ozog DM. The Efficacy of Surgical Excision Plus Adjuvant Multimodal Therapies in the Treatment of Keloids: A Systematic Review and Meta-Analysis. Dermatol Surg 2020; 46(8):1054-1059. PMID: 32224709.

Elshaikh MA, Modh A, Jhingran A, Biagioli MC, Coleman RL, Gaffney DK, Harkenrider MM, Heskett K, Jolly S, Kidd E, Lee LJ, Li L, Portelance L, Sherertz T, Venkatessan AM, Wahl AO, Yashar CM, and Small W, Jr. Executive summary of the American Radium Society® Appropriate Use Criteria for management of uterine carcinosarcoma. Gynecol Oncol 2020; 158(2):460-466. PMID: 32475772.

Ennis RD, Movsas B, Park C, Sandler HM, Smith BD, Wilson L, and Deweese TL. Examinations in Radiation Oncology: Listening, Learning, and Looking Forward Together. Int J Radiat Oncol Biol Phys 2020; 106(1):29-31. PMID: 31647971.

Ghanem AI, Modh A, Burmeister C, Mahmoud O, and Elshaikh MA. Does the Interval Between Hysterectomy and Start of Adjuvant Radiation Treatment Influence Survival in Women With Endometrial Carcinoma?: A National Cancer Database analysis. Am J Clin Oncol 2020; 43(8):602-606. PMID: 32398405.

Hagan M, Kapoor R, Michalski J, Sandler H, Movsas B, Chetty I, Lally B, Rengan R, Robinson C, Rimner A, Simone C, Timmerman R, Zelefsky M, DeMarco J, Hamstra D, Lawton C, Potters L, Valicenti R, Mutic S, Bosch W, Abraham C, Caruthers D, Brame R, Palta JR, Sleeman W, and Nalluri J. VA-Radiation Oncology Quality Surveillance Program. Int J Radiat Oncol Biol Phys 2020; 106(3):639-647. PMID: 31983560.

Higgins KA, Simone CB, 2nd, Amini A, Chetty IJ, Donington J, Edelman MJ, Chun SG, Kestin LL, Movsas B, Rodrigues GB, Rosenzweig KE, Slotman BJ, Rybkin, II, Wolf A, and Chang JY. American Radium Society™, Appropriate Use Criteria on Radiation Therapy for Extensive-stage Small Cell Lung Cancer. J Thorac Oncol 2020; 16(1):54-65. PMID: 33011389.

Jagsi R, Griffith KA, Vicini F, Boike T, Burmeister J, Dominello MM, Grills I, Hayman JA, Moran JM, Paximadis P, Radawski JD, Walker EM, and Pierce LJ. Toward Improving Patients' Experiences of Acute Toxicity From Breast Radiotherapy: Insights From the Analysis of Patient-Reported Outcomes in a Large Multicenter Cohort. J Clin Oncol 2020; 38(34):4019-4029. PMID: 32986529.

Keall PJ, Sawant A, Berbeco RI, Booth JT, Cho B, Cerviño LI, Cirino E, Dieterich S, Fast MF, Greer PB, Munck Af Rosenschöld P, Parikh PJ, Poulsen PR, Santanam L, Sherouse GW, Shi J, and Stathakis S. AAPM Task Group 264: The Safe Clinical Implementation of MLC Tracking in Radiotherapy. Med Phys 2020; Epub ahead of print. PMID: 33260251.

Kumar S, Nahum AE, and Chetty IJ. Monte-Carlo-computed dose, kerma and fluence distributions in heterogeneous slab geometries irradiated by small megavoltage photon fields. Phys Med Biol 2020; 65(17):175012. PMID: 32485691.

Laucis AM, Jagsi R, Griffith KA, Dominello MM, Walker EM, Abu-Isa EI, Dilworth JT, Vicini F, Kocheril PG, Browne CH, Mietzel MA, Moran JM, Hayman JA, and Pierce LJ. The Role of Facility Variation on Racial Disparities in Use of Hypofractionated Whole Breast Radiotherapy. Int J Radiat Oncol Biol Phys 2020; 107(5):949-958. PMID: 32376311.

Li B, Sarria GR, Hermansen M, Hao J, Martinez D, Garcia B, Liu J, McLeod M, Castaneda S, Oladeru OT, Lee B, Sarria GJ, Gay H, Chetty IJ, and Roa D. Impact of a SBRT/SRS longitudinal telehealth training pilot course in Latin America. Crit Rev Oncol Hematol 2020; 154:103072. PMID: 32805497.

Liu SW, Woody NM, Wei W, Appachi S, Contrera KJ, Tsai JC, Ghanem AI, Matia B, Joshi NP, Geiger JL, Ku JA, Burkey BB, Scharpf J, Prendes BL, Caudell JJ, Dunlap NE, Adelstein DJ, Porceddu S, Liu H, Siddiqui F, Lee NY, Koyfman S, and Lamarre ED. Evaluating compliance with process-related quality metrics and survival in oral cavity squamous cell carcinoma: Multi-institutional oral cavity collaboration study. Head Neck 2020; 43(1):60-69. PMID: 32918373.

Lukovic J, Henke L, Gani C, Kim TK, Stanescu T, Hosni A, Lindsay P, Erickson B, Khor R, Eccles C, Boon C, Donker M, Jagavkar R, Nowee ME, Hall WA, Parikh P, and Dawson LA. MRI-Based Upper Abdominal Organs-at-Risk Atlas for Radiation Oncology. Int J Radiat Oncol Biol Phys 2020; 106(4):743-753. PMID: 31953061.

Margalit DN, Sacco AG, Cooper JS, Ridge JA, Bakst RL, Beadle BM, Beitler JJ, Chang SS, Chen AM, Galloway TJ, Koyfman SA, Mita C, Robbins JR, Tsai CJ, Truong MT, Yom SS, and Siddiqui F. Systematic review of postoperative therapy for resected squamous cell carcinoma of the head and neck: Executive summary of the American Radium Society appropriate use criteria. Head Neck 2020; 43(1):367-391. PMID: 33098180.

Morris ED, Aldridge K, Ghanem AI, Zhu S, and Glide-Hurst CK. Incorporating sensitive cardiac substructure sparing into radiation therapy planning. J Appl Clin Med Phys 2020; Epub ahead of print. PMID: 33073454. Nejad-Davarani SP, Zakariaei N, Chen Y, Haacke EM, Hurst NJ, Siddiqui MS, Schultz LR, Snyder JM, Walbert T, and Glide-Hurst C. Rapid Multi-contrast Brain Imaging on a 0.35T MR-linac. Med Phys 2020; 47(9):4064-4076. PMID: 32434276. Full Text

Parikh PJ, and Chapman W, Jr. Same results, 20% of the cost: Short-course total neoadjuvant therapy. Int J Radiat Oncol Biol Phys 2020; 106(4):672-673. PMID: 31924409.

Pugh SL, Rodgers JP, Yeager KA, Chen RC, Movsas B, Bonanni R, Dignam J, and Bruner DW. Characteristics of Participation in Patient-Reported Outcomes and Electronic Data Capture Components of NRG Oncology Clinical Trials. Int J Radiat Oncol Biol Phys 2020; 108(4):950-959. PMID: 32590048.

Shumway DA, Kapadia N, Walker EM, Griffith KA, Do TT, Feng M, Boike T, Helfrich Y, DePalma B, Gillespie EF, Miller A, Hayman J, Jagsi R, and Pierce LJ. Development of an Illustrated Scale for Acute Radiation Dermatitis in Breast Cancer Patients. Pract Radiat Oncol 2020; Epub ahead of print. PMID: 32947041.

Sood A, Keeley J, Palma-Zamora I, Arora S, Dalela D, Olson P, Hanna R, Cotter D, Jeong W, Elshaikh M, Rogers CG, Peabody JO, Menon M, and Abdollah F. Ten-year disease progression and mortality rates in men who experience biochemical recurrence versus persistence after radical prostatectomy and undergo salvage radiation therapy: A post-hoc analysis of RTOG 9601 trial data. Urol Oncol 2020; 38(6):599. PMID: 32229186. Tam S, Wu VF, Williams AM, Girgis M, Sheqwara JZ, Siddiqui F, and Chang SS. Disparities in the Uptake of Telemedicine During the COVID-19 Surge in a Multidisciplinary Head and Neck Cancer Population by Patient

Demographic Characteristics and Socioeconomic Status. JAMA Otolaryngol Head Neck Surg 2020; Epub ahead of print. PMID: 33151289.

Thanikachalam K, Damarla V, Seixas T, Dobrosotskaya I, Wollner I, Kwon D, Winters K, Raoufi M, Li J, Siddiqui F, and Khan G. Neoadjuvant Phase II Trial of Chemoradiotherapy in Patients With Resectable and Borderline Resectable Pancreatic Cancer. Am J Clin Oncol 2020; 43(6):435-441. PMID: 32251119.

Tsai CJ, Galloway TJ, Margalit DN, Bakst RL, Beadle BM, Beitler JJ, Chang S, Chen A, Cooper J, Koyfman SA, Ridge JA, Robbins J, Truong MT, Yom SS, and Siddiqui F. Ipsilateral radiation for squamous cell carcinoma of the tonsil: American Radium Society appropriate use criteria executive summary. Head Neck 2020; 43(1):392-406. PMID: 33068064.

Vscariello I, Evans S, Parker S, Schofield D, Miller B, Gardner S, Fong de Los Santos L, Hallemeier C, Jordan L, Kim E, and Ford E. A multi-institutional assessment of COVID-19-related risk in radiation oncology. Radiother Oncol 2020; 153:296-302. PMID: 33096163.

Wen N, Cao Y, and Cai J. Editorial: Magnetic Resonance Imaging for Radiation Therapy. Front Oncol 2020; 10:483. PMID: 32351888.

Xiao C, Hurst N, and Movsas B. The State of the Science in Patient-Reported Outcomes for Patients with Lung Cancer. Semin Respir Crit Care Med 2020; 41(3):377-385. PMID: 32450592.

Zhu S, Khalil R, Altairy O, Burmeister C, Dimitrova I, and Elshaikh M. Increased risk of recurrence in early-stage endometrial carcinoma after delays in adjuvant radiation treatment. Int J Gynecol Cancer 2020; 31(1):73-77. PMID: 33087415. Full Text

Zong W, Lee JK, Liu C, Carver EN, Feldman AM, Janic B, Elshaikh MA, Pantelic MV, Hearshen D, Chetty IJ, Movsas B, and Wen N. A Deep Dive into Understanding Tumor Foci Classification using Multiparametric MRI Based on Convolutional Neural Network. Med Phys 2020; 47(9):4077-4086. PMID: 32449176.

Bruner DW, Pugh SL, Lee WR, Dignam JJ, Low D, Swanson GP, Shah AB, Malone S, Michalski JM, Dayes IS, Seaward SA, Nguyen PL, Hall WA, Pisansky TM, Chen Y, Sandler HM, Movsas B. Quality of Life in Patients With Low-Risk Prostate Cancer Treated With Hypofractionated vs Conventional Radiotherapy: A Phase 3 Randomized Clinical Trial. JAMA Oncol. 2019 May 1;5(5):664-670. PMID: 30763425.

Elshaikh MA, Modh A, Sakr S, Shrestha R, Burmeister C, Ali-Fehmi R, Hanna RK. Externally-Validated Prognostic Index of Cancer Recurrence in Women with Stage I Uterine Endometrioid Carcinoma. Am J Clinical Oncology 2019; 42(2): 131-137 (Study PI).

Nejad-Davarani SP, Sevak P, Moncion M, Garbarino K, Weiss S, Kim J, Elshaikh MA, Renisch S, Glide-Hurst C. Geometric and Dosimetric Impact of Anatomical Changes for MR-only Prostate Radiation Therapy. Journal of Applied Clinical Medical Physics 2019; 20(4): 10-17.

Feldman A, Chaugle S, Burmeister C, Munkarah A, Elshaikh MA. A Matched Analysis on the Impact of Race on Survival Endpoints of Women with Early Stage Endometrial Cancer. Gynecologic Obstetric Invest 2019; 84(3): 283-289 (Study PI).

Bagher-Ebadian H, Janic B, Liu C, Pantelic M, Hearshen D, Elshaikh MA, Movsas B, Chetty IJ, Wen N. Detection of Dominant Intra-prostatic Lesions in Patients With Prostate Cancer Using an Artificial Neural Network and MR Multi-modal Radiomics Analysis. Front Oncol. 2019 Nov 26;9:1313. PMID: 31850209.

Bagher-Ebadian H, Lu M, Siddiqui F, Ghanem AI, Wen N, Wu Q, Liu C, Movsas B, Chetty IJ. Application of Radiomics for the Prediction of HPV Status For Patients With Head and Neck Cancers. Med Phys. 2019 Dec 19. doi: 10.1002/mp.13977. [Epub ahead of print] PMID: 31853980.

Ennis RD, Movsas B, Park C, Sandler HM, Smith BD, Wilson L, Deweese TL. Examinations in Radiation Oncology: Listening, Learning, and Looking Forward Together. Int J Radiat Oncol Biol Phys. 2020 Jan 1;106(1):29-31. PMID: 31647971.

Lee J, Carver E, Feldman A, Pantelic M, Elshaikh MA, Wen N. Volumetric and Voxel-Wise Analysis of Intraprostatic Lesions on Multiparametric MRI. Frontiers Oncology 2019; 5;9:616.

Modh A, Burmeister C, Elshaikh MA, Lee I, Shah M. Disparities in the Utilization of Stereotactic Radiosurgery for the Treatment of Brain Metastases. Cureus 2019; 11(2): e4031.

Bagher-Ebadian H, Janic B, Liu C, Pantelic M, Hearshen D, Elshaikh MA, Movsas B, Chetty IJ, Wen N. A. Detection of Dominant Intraprostatic Lesions in Patients with Prostate Cancer using An Artificial Neural Network and MR Multi-Modal Radiomics Analysis. Frontiers Oncology 2019; 9:1313.

Feldman AM, Modh A, Glide-Hurst C, Chetty IJ, Movsas B. Real-time Magnetic Resonance-guided Liver Stereotactic Body Radiation Therapy: An Institutional Report Using a Magnetic Resonance-Linac System. Cureus. 2019 Sep 26;11(9):e5774. PMID: 31723533.

Al Feghali KA, Ghanem AI, Burmeister C, Chang SS, Ghanem T, Keller C, Siddiqui F. Impact of smoking on pathological features in oral cavity squamous cell carcinoma. J Cancer Res Ther. 2019;15(3):582-588. doi:10.4103/jcrt.JCRT_641_16. PMID: 31169224.

Bagher-Ebadian H, Lu M, Siddiqui F, Ghanem AI, Wen N, Wu Q, Liu C, Movsas B, Chetty IJ. Application of radiomics for prediction of HPV status for patients with head and neck cancers. Med Phys. 2019;Epub ahead of print. doi:10.1002/mp.13977. PMID: 31853980.

Beeler WH, Griffith KA, Jones RD, Chapman CH, Holliday EB, Lalani N, Wilson E, Bonner JA, Formenti SC, Hahn SM, Kalnicki S, Liu FF, Movsas B, Thomas CR, Jr., Jagsi R. Gender, Professional Experiences, and Personal Characteristics of Academic Radiation Oncology Chairs: Data to Inform the Pipeline for the 21(st) Century. Int J Radiat Oncol Biol Phys. 2019;Epub ahead of print doi:10.1016/j.ijrobp.2019.01.074. PMID: 30684662. Bottrell A, Meng YH, Najy AJ, Hurst N, Kim S, Kim CJ, Kim ES, Moon A, Kim EJ, Park SY, Kim HRC. An oncogenic activity of PDGF-C and its splice variant in human breast cancer. Growth Factors. 2019;Epub ahead of print doi:10.1080/08977194.2019.1662415. PMID: 31542979.

Brown SL, Kolozsvary A, Isrow DM, Al Feghali K, Lapanowski K, Jenrow KA, Kim JH. A Novel Mechanism of High Dose Radiation Sensitization by Metformin. Front Oncol. 2019;9:247. doi:10.3389/fonc.2019.00247. PMID: 31024849.

Chetty IJ, Rosu-Bubulac M. Deformable Registration for Dose Accumulation. Semin Radiat Oncol. 2019;Epub ahead of print doi:10.1016/j.semradonc.2019.02.002. PMID: Not assigned.

Chuong MD, Kaiser A, Khan F, Parikh P, Ben-Josef E, Crane C, Brunner T, Okumura T, Schreuder N, Bentzen SM, Gutierrez A, Mendez Romero A, Yoon SM, Sharma N, Kim TH, Kishi K, Moeslein F, Hoffe S, Schefter T, Hanish S, Scorsetti M, Apisarnthanarax S. Consensus Report From the Miami Liver Proton Therapy Conference. Front Oncol. 2019;9:457. doi:10.3389/fonc.2019.00457. PMID: 31214502.

Cunningham JM, Barberi EA, Miller J, Kim JP, Glide-Hurst CK. Development and evaluation of a novel MR-compatible pelvic end-to-end phantom. J Appl Clin Med Phys. 2019;20(1):265-275. doi:10.1002/acm2.12455. PMID: 30411477.

de Groot PM, Chung JH, Ackman JB, Berry MF, Carter BW, Colletti PM, Hobbs SB, McComb BL, Movsas B, Tong BC, Walker CM, Yom SS, Kanne JP. ACR Appropriateness Criteria® Noninvasive Clinical Staging of Primary Lung Cancer. J Am Coll Radiol. 2019;16(5):S184-S195. doi:10.1016/j.jacr.2019.02.008. PMID: 31054745.

Dess RT, Sun Y, Muenz DG, Paximadis PA, Dominello MM, Grills IS, Kestin LL, Movsas B, Masi KJ, Matuszak MM, Radawski JD, Moran JM, Pierce LJ, Hayman JA, Schipper MJ, Jolly S. Cardiac Dose in Locally Advanced Lung Cancer: Results from a Statewide Consortium. Pract Radiat Oncol. 2020 Jan-Feb;(1):e27-e36. PMID: 31382026. Dziemianowicz E, Gardner SJ, Chin Snyder K, Wen N, Walker EM, Fraser C, Reding A, Chetty IJ. Modeling Aeroform Tissue Expander for Postmastectomy Radiation Therapy. J Appl Clin Med Phys. 2019 Aug;20(8):87-97. PMID: 31332943.

Gardner SJ, Kim J, Chetty IJ. Modern Radiation Therapy Planning and Delivery. Hematol Oncol Clin North Am. 2019;33(6):947-962. doi:10.1016/j.hoc.2019.08.005. PMID: Not assigned.

Gardner SJ, Mao W, Liu C, Aref I, Elshaikh MA, Lee JK, Pradhan D, Movsas B, Chetty IJ, Siddiqui F. Improvements in CBCT Image Quality Using a Novel Iterative Reconstruction Algorithm: A Clinical Evaluation. Adv Radiat Oncol. 2019 Jan 10;4(2):390-400. PMID: 31011685.

Ghanem AI, Schymick M, Bachiri S, Mannari A, Sheqwara J, Burmeister C, Chang S, Ghanem T, Siddiqui F. The effect of treatment package time in head and neck cancer patients treated with adjuvant radiotherapy and concurrent systemic therapy. World J Otorhinolaryngol Head Neck Surg. 2019;5(3):160-167. doi:10.1016/j.wjorl.2018.09.005. PMID: Not assigned.

Hall WA, Paulson ES, van der Heide UA, Fuller CD, Raaymakers BW, Lagendijk JJW, Li XA, Jaffray DA, Dawson LA, Erickson B, Verheij M, Harrington KJ, Sahgal A, Lee P, Parikh PJ, Bassetti MF, Robinson CG, Minsky BD, Choudhury A, Tersteeg R, Schultz CJ. The transformation of radiation oncology using real-time magnetic resonance guidance: A review. Eur J Cancer. 2019;122:42-52. doi:10.1016/j.ejca.2019.07.021. PMID: 31614288.

Hall WA, Pugh SL, Wefel JS, Armstrong TS, Gilbert MR, Brachman DG, Werner-Wasik M, Wendland MM, Brown PD, Chao ST, Roof KS, Robins HI, Mehta MP, Curran WJ, Jr., Movsas B. Influence of Residual Disease Following

Surgical Resection in Newly Diagnosed Glioblastoma on Clinical, Neurocognitive, and Patient Reported Outcomes. Neurosurgery. 2019;84(1):66-76. doi:10.1093/neuros/nyy003. PMID: 29618054.

Horwitz EM, Ridge JA, Bruner DW, Movsas B, Pollack A, Fowble B. Gerald E. Hanks, MD, FASTRO. Int J Radiat Oncol Biol Phys. 2018;102(5):1393-1395. doi:10.1016/j.ijrobp.2018.08.043. PMID: 31014777.

Howell K, Matuszak M, Maitz CA, Eisaman SH, Padilla L, Brown SL, Joiner MC, Dominello MM, Burmeister J. Three Discipline Collaborative Radiation Therapy (3DCRT) special debate: In the future, at least 20% of NIH funding for radiotherapy research should be allocated to non-oncologic applications. J Appl Clin Med Phys. 2019;Epub ahead of print doi:10.1002/acm2.12729. PMID: 31573150.

Ivanics T, Proctor E, Chen Y, Ali H, Severson D, Nasser H, Colbert S, Susick L, Walker E, Petersen L, Bensenhaver J, Loutfi R, Nathanson SD, Newman LA. Evaluation of a Multidisciplinary Team Approach for Generating Survivorship Care Plan Treatment Summaries in Patients With Breast Cancer. J Oncol Pract. 2019;Epub ahead of print:Jop1800509. doi:10.1200/jop.18.00509. PMID: 30946641.

Janssen QP, Buettner S, Suker M, Beumer BR, Addeo P, Bachellier P, Bahary N, Bekaii-Saab T, Bali MA, Besselink MG, Boone BA, Chau I, Clarke S, Dillhoff M, El-Rayes BF, Frakes JM, Grose D, Hosein PJ, Jamieson NB, Javed AA, Khan K, Kim KP, Kim SC, Kim SS, Ko AH, Lacy J, Margonis GA, McCarter MD, McKay CJ, Mellon EA, Moorcraft SY, Okada KI, Paniccia A, Parikh PJ, Peters NA, Rabl H, Samra J, Tinchon C, van Tienhoven G, van Veldhuisen E, Wang-Gillam A, Weiss MJ, Wilmink JW, Yamaue H, Homs MYV, van Eijck CHJ, Katz MHG, Koerkamp BG. Neoadjuvant FOLFIRINOX in patients with borderline resectable pancreatic cancer: a systematic review and patient-level meta-analysis. J Natl Cancer Inst. 2019;Epub ahead of print doi:10.1093/jnci/djz073. PMID: 31086963.

Kim J, Miller B, Siddiqui MS, Movsas B, Glide-Hurst C. FMEA of MR-Only Treatment Planning in the Pelvis. Adv Radiat Oncol. 2019;4(1):168-176. doi:10.1016/j.adro.2018.08.024. PMID: 30706025.

Lee J, Carver E, Feldman A, Pantelic MV, Elshaikh M, Wen N. Volumetric and Voxel-Wise Analysis of Dominant Intraprostatic Lesions on Multiparametric MRI. Front Oncol. 2019;9:616. doi:10.3389/fonc.2019.00616. PMID: 31334128.

Lee JK, Ghanem AI, Modh A, Burmeister C, Mahmoud O, Maxwell GL, Elshaikh MA. The impact of adjuvant vaginal brachytherapy in women with Stage II uterine endometrioid carcinoma: Results of a National Cancer Database analysis. Brachytherapy. 2018;17(2):319-325. doi:10.1016/j.brachy.2017.10.011. PMID: 29174935. Liu C, Gardner SJ, Wen N, Elshaikh MA, Siddiqui F, Movsas B, Chetty IJ. Automatic segmentation of the prostate on CT images using deep neural networks (DNN).). Int J Radiat Oncol Biol Phys. 2019 Jul 15;104(4):924-932. PMIC 30890447.

Ma CMC, Chetty IJ, Deng J, Faddegon B, Jiang SB, Li J, Seuntjens J, Siebers JV, Traneus E. Beam modeling and beam model commissioning for Monte Carlo dose calculation-based radiation therapy treatment planning: Report of AAPM Task Group 157. Med Phys. 2019;Epub ahead of print doi:10.1002/mp.13898. PMID: 31679157. Mao W, Liu C, Gardner SJ, Siddiqui F, Snyder KC, Kumarasiri A, Zhao B, Kim J, Wen NW, Movsas B, Chetty IJ. Evaluation and Clinical Application of a Commercially Available Iterative Reconstruction Algorithm for CBCT-Based IGRT. Technol Cancer Res Treat. 2019;18:1533033818823054. doi:10.1177/1533033818823054. PMID: 30803367.

Maughan NM, Garcia-Ramirez J, Arpidone M, Swallen A, Laforest R, Murty Goddu S, Parikh PJ, Zoberi JE. Validation of Post-Treatment PET-Based Dosimetry Software for Hepatic Radioembolization of Yttrium-90 Microspheres. Med Phys. 2019;Epub ahead of print doi:10.1002/mp.13444. PMID: 30742714.

Milano MT, Kong FS, Movsas B. Stereotactic body radiotherapy as salvage treatment for recurrence of non-small cell lung cancer after prior surgery or radiotherapy. Transl Lung Cancer Res. 2019;8(1):78-87. doi:10.21037/tlcr.2018.08.15. PMID: 30788237.

Miller C, Mittelstaedt D, Black N, Klahr P, Nejad-Davarani S, Schulz H, Goshen L, Han X, Ghanem AI, Morris ED, Glide-Hurst C. Impact of CT reconstruction algorithm on auto-segmentation performance. J Appl Clin Med Phys. 2019;20(9):95-103. doi:10.1002/acm2.12710. PMID: 31538718.

Modh A, Doshi A, Burmeister C, Elshaikh MA, Lee I, Shah M. Disparities in the Use of Single-fraction Stereotactic Radiosurgery for the Treatment of Brain Metastases From Non-small Cell Lung Cancer. Cureus.

2019;11(2):e4031. doi:10.7759/cureus.4031. PMID: 31011494.

Nejad-Davarani SP, Sevak P, Moncion M, Garbarino K, Weiss S, Kim J, Schultz L, Elshaikh MA, Renisch S, Glide-Hurst C. Geometric and dosimetric impact of anatomical changes for MR-only radiation therapy for the prostate. J Appl Clin Med Phys. 2019;Epub ahead of print doi:10.1002/acm2.12551. PMID: 30821881.

Njeh CF, Snyder KC, Cai J. The use of six degrees of freedom couch is only clinically beneficial in stereotactic radio surgery. Med Phys. 2019;Epub ahead of print doi:10.1002/mp.13380. PMID: 30620084.

Reyngold M, Parikh PJ, Crane CH. Ablative radiation therapy for locally advanced pancreatic cancer: techniques and results. Radiat Oncol. 2019;14(1):95. doi:10.1186/s13014-019-1309-x. PMID: 31171025.

Rudra S, Jiang N, Rosenberg SA, Olsen JR, Roach MC, Wan L, Portelance L, Mellon EA, Bruynzeel A, Lagerwaard F, Bassetti MF, Parikh PJ, Lee PP. Using adaptive magnetic resonance image-guided radiation therapy for treatment of inoperable pancreatic cancer. Cancer Med. 2019;8(5):2123-2132. doi:10.1002/cam4.2100. PMID: 30932367.

Russo S, Anker CJ, Abdel-Wahab M, Azad N, Bianchi N, Das P, Dragovic J, Goodman KA, Jones W, 3rd, Kennedy T, Kumar R, Lee P, Sharma N, Small W, Suh WW, Jabbour SK. Executive Summary of the American Radium Society Appropriate Use Criteria for Treatment of Anal Cancer. Int J Radiat Oncol Biol Phys. 2019;105(3):591-605. doi:10.1016/j.ijrobp.2019.06.2544. PMID: 31288054.

Russo S, Anker CJ, Abdel-Wahab M, Azad N, Das P, Dragovic J, Goodman KA, Herman JM, Jones W, 3rd, Kennedy T, Konski A, Kumar R, Lee P, Patel NM, Sharma N, Small W, Suh WW, Jabbour SK. Executive Summary of the ARS Appropriate Use Criteria for Local Excision in Rectal Cancer. Int J Radiat Oncol Biol Phys. 2019;Epub ahead of print. doi:10.1016/j.ijrobp.2019.08.020. PMID: 31445109.

Shah MM, Isrow D, Fareed MM, Wen N, Ryu S, Ajlouni M, Siddiqui F. Single institution experience treating adrenal metastases with stereotactic body radiation therapy. J Cancer Res Ther. 2019;15(Supplement):S27-s32. doi:10.4103/jcrt.JCRT 655 16. PMID: 30900616.

Sharifi H, Brown S, McDonald GC, Chetty IJ, Zhong H. 4-Dimensional computed tomography-based ventilation and compliance images for quantification of radiation-induced changes in pulmonary function. J Med Imaging Radiat Oncol. 2019;Epub ahead of print doi:10.1111/1754-9485.12881. PMID: 30932346.

Sharifi H, McDonald GC, Lee JK, Ajlouni MI, Chetty IJ, Zhong H. Four-dimensional computed tomography-based biomechanical measurements of pulmonary function and their correlation with clinical outcome for lung stereotactic body radiation therapy patients. Quant Imaging Med Surg. 2019;9(7):1278-1287. doi:10.21037/qims.2019.07.03. PMID: Not assigned.

Silva SR, Martin B, Choi M, Emami B, Hurst NJ. A National Cancer Database Analysis of the effect of brachytherapy on overall survival in patients with base of tongue cancer. Head Neck. 2019;Epub ahead of print doi:10.1002/hed.25497. PMID: 30788877.

Tsiamas P, Brown SL, Chetty IJ, Kim JH, Isrow D. Dosimetric evaluation and beam characterization of pair production enhanced radiotherapy (PPER) with the use of organometallics. Phys Med Biol. 2019;Epub ahead of print doi:10.1088/1361-6560/ab103a. PMID: 30875697.

Wang J, Li G, Wu X, Liu Q, Yin C, Brown SL, Xu S, Mi QS, Zhou L. miR-183-96-182 Cluster Is Involved in Invariant NKT Cell Development, Maturation, and Effector Function. J Immunol. 2019; Epub ahead of print doi:10.4049/jimmunol.1900695. PMID: 31748350.

Ward MC, Lee NY, Caudell JJ, Zajichek A, Awan MJ, Koyfman SA, Dunlap NE, Zakem SJ, Hassanzadeh C, Marcrom S, Boggs DH, Isrow D, Vargo JA, Heron DE, Siddiqui F, Bonner JA, Beitler JJ, Yao M, Trotti AM, Riaz N. A competing risk nomogram to predict severe late toxicity after modern re-irradiation for squamous carcinoma of the head and neck. Oral Oncol. 2019;90:80-86. doi:10.1016/j.oraloncology.2019.01.022. PMID: 30846182. Weiss S, Nejad-Davarani SP, Eggers H, Orasanu E, Renisch S, Glide-Hurst CK. A novel and rapid approach to estimate patient-specific distortions based on mDIXON MRI. Phys Med Biol. 2019;Epub ahead of print doi:10.1088/1361-6560/ab2b0a. PMID: 31216529.

Zakaria HM, Llaniguez JT, Telemi E, Chuang M, Abouelleil M, Wilkinson B, Chandra A, Boyce-Fappiano D, Elibe E, Schultz L, Siddiqui F, Griffith B, Kalkanis SN, Lee IY, Chang V. Sarcopenia Predicts Overall Survival in Patients with Lung, Breast, Prostate, or Myeloma Spine Metastases Undergoing Stereotactic Body Radiation Therapy (SBRT), Independent of Histology. Neurosurgery. 2019;Epub ahead of print doi:10.1093/neuros/nyz216. PMID: 31232439.

Kunos CA, Capala J, Dicker AP, Movsas B, Ivy SP, Minasian LM. Clinical outcome assessments toolbox for radiopharmaceuticals. Front Oncol. 2019;9 doi:10.3389/fonc.2019.01028. PMID: 31649885.

Attachment B - HFC RadOnc Awards & Honorifics 2019-2021

Positions in Regional, National and International Professional Organizations.

Benjamin Movsas, MD

Chair: Education Council, American Society of Therapeutic Radiology and Oncology

(ASTRO) Board of Directors

Chair: Patient Centered Outcomes Committee, NCI NRG/RTOG Cooperative Group

President: American Radium Society (ARS)

President: Society of Chairs of Academic Radiation Oncology Programs (SCAROP)

Member: VA Blue Ribbon Lung Cancer Panel

Member: National Quality Forum (Cancer Committee)

Chair: ASTRO Lung Cancer Resource Panel

Member: NRG Lung Committee
Member: NRG Publications Committee

Member: American Radium Society (ARS) Appropriateness Criteria (AC) Expert Panel for

Lung Cancer

Best Doctor's Award 2019-2021

Castle Connolly America's Top Doctors® for Cancer Award 2019-2021 Hour Detroit Top Docs Award in Radiation Oncology 2019-2021

Hassan Bagher-Ebadian, PhD

Voting Member: AAPM Data Science Committee; Radiomics Subcommittee

Stephen Brown, PhD

Member: NIH/NCI (RTB) Study Section

Member: AAPM Working Group for the Veterinary Radiation Therapy Oncology

NIH RTB Study Section – Full Member (4-yr term)

Indrin Chetty, PhD

Board Member: American Association of Physicists in Medicine (AAPM) Board Member: Indian-American Society of Medical Physics (IASMP)

Vice-Chair: AAPM Radiation Dosimetry and Treatment Planning Sub-Committee Member: American Radium Society (ARS) Annual Meeting Planning Committee Member: American Board of Radiology – Therapeutic Radiologic Physics

Written and Oral Board Examination Committee

Member: American Association of Physicists in Medicine (AAPM):

Therapy Physics Committee
Task Group Committee No. 157

Member: Radiosurgery Society (RSS) Physics Committee

Member: AAPM Management of Medical Physics Programs and Departments (MMPPD)

Member: American Society of Radiation Oncology (ASTRO):

Science and Education Program Development Committee

Scientific Program Committee
Annual Meeting Program Committee

Emerging Technology Committee (ETC) Evaluation Sub-Committee

Radiation Physics Committee (RPC)

Written and Oral Board Examination Committee

Chair, Physics: ASTRO State of the Art Annual Meeting

Abstract Reviewer: ASTRO Annual Meeting - Radiation Physics Committee

Abstract Reviewer: AAPM Annual Meeting Session Chair: AAPM Annual Meeting

Reviewer / Associate Editor: 7 national / international peer-reviewed Journals Wendell Anderson Endowed Chair for Research, Henry Ford Health System

Suneetha Devpura, PhD

Best abstract Award in "Clinical Research category" at the 18th Annual Henry Ford Research Symposium. April, 2021

Michael Dumas, MS

Manuscript Reviewer: 2 national / international peer-reviewed Journals

Anthony Doemer, PhD

Elected Treasurer: Society of Directors of Academic Medical Physics Programs (3yr term)

Mohamed Elshaikh, MD

Member: American Brachytherapy Society (ABS) Abstract Review Committee Member: American Board of Radiology (ABR) Gynecologic Cancer Committee for

qualifying exam Member: American Board of Radiology (ABR) Gynecologic Cancer Committee for

certifying exam

Member: American Radium Society (ARS) Appropriateness Criteria Committee (AC) for

Radiation Oncology Gynecologic Malignancies

Fatigue CO-Chair: RTOG Study 0815

Moderator: American Brachytherapy Society (ABS) Gyn Proffered Papers I

Member: Task Force of Radiation Therapy for Endometrial Cancer Guidelines Committee of the

American Society of Radiation Oncology (ASTRO)

Member: International Educational Subcommittee of the American Society of Radiation

Oncology (ASTRO)

Leader: Gynecologic Oncology Research Group of the Cancer Research Advisory Group

(CRAG), HFCI

Member: 15 national / international peer-reviewed Journals

Manuscript Reviewer: 15 national / international peer-reviewed Journals

Hour Detroit Top Docs Award in Radiation Oncology 2019-2021

Stephen Gardner, MS

President: American Association of Physicists in Medicine (AAPM) Great Lakes Chapter 2020

Yimei Huang, PhD

Leader: NRG/RTOG SBRT Physics Sub-Committee

Kenneth Levin, MD

Hour Detroit Top Docs Award in Radiation Oncology 2019-2021

Shyam Nyati, PhD

Member: AACR-RSM (Radiation Sciences and Medicine) Working Group

Mira Shah, MD

Vice-President: RadiatingHope Organization Co-Director: Greater Horn Oncology Symposium

Ellen Stoval Young Career Leader: International Cancer Expert Corps

Farzan Siddiqui, MD, PhD

Chair: American Radium Society (ARS) Scientific Committee

Surveyor: American College of Radiology Radiation Oncology Practice Accreditation (ACR

ROPA)

Council Member: National Council for Healthcare Leadership (NCHL)

Certified Physician Executive (CPE): Certifying Commission in Medical Management

Member: American Board of Radiology Examination Committee- Head/ Neck and Skin Cancer

Chair: American Radium Society (ARS) Appropriateness Criteria (AC) Expert Panel for

Head and Neck Cancer

Chair: Henry Ford Medical Group Operations Council

Chair: Henry Ford Medical Group Bylaws and Governance Committee Member: Henry Ford Medical Group Physician Wellness Committee Hour Detroit Top Docs Award in Radiation Oncology 2019-2021

M. Salim Siddiqui, MD, PhD

President-Elect: Michigan State Medical Society 2021

President: Wayne County Medical Society of Southeast Michigan 2019

Young Physicians Section Representative: Michigan State Medical Society Board of

Directors

Chair: Legislative Committee of the Wayne County Medical Society of Southeast

Michigan

Hour Detroit Clinical Innovation Award

Hour Detroit Top Docs Award in Radiation Oncology 2019-2021

Chadd Smith, PhD

Representative: American Association of Physicists in Medicine (AAPM) Board of Directors, Great Lakes Chapter Representative

Sean Vance, MD

Member: HFHS Communication Access Team

Member: HFHS Radiation Oncology Quality & Safety Committee

HFHS Helios (EPIC) Super User

Eleanor Walker, MD

Member: NRG Breast Working Group Member: RTOG Foundation Advisory Board Member: NRG Health Disparities Committee

Board Member: Society of Integrative Oncology, Board of Trustees

Member: HFHS Pain Management Steering Committee

Member: American Radium Society (ARS) Appropriateness Criteria Committee (AC) for

Radiation Oncology Breast

Chair: Women and Diversity Committee of CARROS

Representative: Diversity, Equity and Inclusion for the HFCI Council

Co-Chair: SIO Board, DEI

Member: SIO-ASCO Integrative Approach to Pain Management Guidelines Panel

Hour Detroit Top Docs Award in Radiation Oncology 2019-2021

Attachment C - HFC Radiation Oncology Grants

Current Federal Funding:

R01 CA218596-05 (co-PIs: Ewing/Brown)

2018-2023

Annual direct cost: \$479,072

Title: MRI Signatures of Response to High-Dose Radiotherapy in Rat Models of Cerebral Tumor

R21 CA252010-01A1 (co-PIs: Green/Nyati)

2021-2023

Annual direct cost: \$401,117

Title: Targeting BUB 1 for radio- and immuno-sensitization of Triple Negative Breast Cancer

U10CA180868 (Wolmark/Curran/DiSaia; Movsas: PCOR chair)

NIH/NCI 2021-2024

NRG Oncology Network Group Operations

Goal: NRG Oncology's primary mission is to improve the lives of adults with cancer by conducting

multi-institutional clinical and translational research trials

Role: Chair, Patient Centered Outcomes Research Committee

Current Non-federal Grants:

Current DEIJ grants:

"Your Prostate, Your Health" Initiative (PI: Walker)

Pfizer/ACS Grant \$250,000

DEIJ grant to improve awareness/attitudes among Black men regarding the importance of prostate cancer and to increase the representation of Black men in on-going clinical oncology trials

Participatory Action for Access to Clinical Trials (PIs: Jiagge/Walker)

Genentech Grant \$750,000

DEIJ grant to increase participation of Black individuals in the community in clinical oncology trials

Current HSC Cancer Grants:

HFH Radiation Oncology (Dr. Chetty) and MSU (Dr. Alessio):

An Adaptive Pre-Treatment Stratification Al Model for Clinical Decision Support of Patients with Head & Neck Cancers

Funded HSC Cancer Integration Grant (\$100,000)

HFH Radiation Oncology (Dr. Brown) and MSU (Dr. Gordon)

Enhancing the Therapeutic Gain of Radiation Therapy for Brain Cancer by Reducing Cellular Senescence

Funded HSC Cancer Integration Grant (\$55,000)

HFH Radiation Oncology (Dr. Brown) and MSU (Dr. Neubig): Normal tissue radiation injury protection

Funded HSC Pilot Grant (\$25,000)

HFH Radiation Oncology (Dr. Walker) and MSU (Dr. Hirko):

Reducing cancer health disparities Funded HSC Pilot Grant (\$25,000)

Current Physics/Imaging Grant

Master Research Agreement (PI: Chetty)

Varian Medical Systems 2021-2023 ~\$200,000/year

Grant to study adaptive radiotherapy for prostate and head/neck cancers

Past Federal Funding: Gene Therapy

R01 CA160289 (PI: Freytag)

2012-2016

Annual direct cost: \$303,988

Title: Gene Therapy and Radiation Therapy for Prostate Cancer

P01 CA097012 (PI: Freytag)

2004-2009

Annual direct cost: \$1,501,075

Title: Molecular Gene and Radiation Therapies for Cancer

R01 DK057833 (PI: Freytag)

2000-2004

Annual direct cost: \$133,006

Title: Trimodal Gene Therapy for Prostate Cancer

R01 CA075456 (PI: Freytag)

1997-2003

Annual direct cost: \$228,109

Title: Combined Suicide Gene Therapy/Radiotherapy for Cancer

R21 A085551 (PI: Freytag)

1999-2001

Annual direct cost: \$307,594

Title: Phase I Study of Combined Viral & Suicide Gene Therapies

R01 CA064323 (PI: Kim)

1996-2002

Annual direct cost: \$243,502

Title: Radiotherapy of HSV/TK Transduced Tumors by a Viral Agent

Past Federal Funding: Mitigation of Radiation Injury

261201200078C-6-0-1 SBIR - Phase I/II (PI: Kaytor; clinical PI: Movsas)

2011-2016

Annual direct cost: \$1,499,181

Title: Development of BIO 300 as a Radiation Modulator for Use During Radiotherapy of Lung

Cancer

R21 CA205660 (PI: Kim)

2017-2019

Annual direct cost: \$195,859

Title: Improving the Radiation Therapeutic Ratio by Inhibiting Proinflammatory Cytokines

R21 ES019251 (PI: Kim)

2010-2012

Annual direct cost: \$146,500

Title: Mitigating Cutaneous Radiation Injury with CXCR4 Antagonist

U19 AI067734 (PI: Kim)

2005-2011

Annual direct cost: \$463,9202

Title: Mitigating & Treating Radiation-Induced CNS Injury with ACE Inhibitors and Statins

Past Federal Funding: Physics/Imaging

NIH/NCI R01 2005-2009 Better correlation of dose with clinical outcome (PI: Indrin J. Chetty)

NIH/NCI RO1 2010-2015 Image Registration Errors and Dosimetric Consequences in IGRT (PI: Hualiang Zhong, PhD)

NIH/NCI RO1 2012-2016 A synchronized moving grid system to improve CBCT for IGRT and ART (PI: JianYue Jin, PhD)

NIH/NCI RO1 2016-2020 Development of Anatomical Patient Models to Facilitate MR-only Treatment Planning (PI: Carri Glide-Hurst, PhD)

Attachment D

CHM Assurances in Response to Dean Amalfitano's Concerns Submitted to CAC October 17, 2022

On Friday, October 14, Dean Amalfitano sent the email copied below in response to the CHM submissions for Departments of Neurosurgery and Urology. To help clarify our response to the questions, we have inserted bold numbers before the questions. Our responses follow the email.

"Afternoon Aron, Nara, Carol, and members of the CHM CAC. I have also cc'ed Dr. David Kaufman, Asst.VP of Clinical Affairs in the Office of Health Sciences, as there are clinical implications related to the new department request(s), as noted below.

We again appreciate the opportunity to participate in the "assurances" portion of your processes. We have had several questions and suggestions generally arise in regard to the proposed departments, which I've again pasted below for your team's consideration.

[1]Questions as to adding these departments (some of which are clearly duplicative of existing depts/divisions-with vague plans as to how to reconcile these duplications in the future) will create confusion as to which departments are East Lansing based, vs Providence based, vs HF based, and where faculty will be residing primarily, in particular when initially responding to job postings etc. [2] This also touches on referral pattern confusion, for example if we have Neurosurgeons/Spine Surgeons in the COM Osteopathic Surgical and Orthopedic Specialties depts at MSU-HCI in East Lansing, yet there is another "Neurosurg" dept, practicing in South East Michigan, and another at Providence Hospital as well.

[Variation for the urology proposal also emailed on October 14, "This also touches on referral pattern confusion, for example if we have Urologists in the COM Osteopathic Surgical Specialties dept at MSU-HCI in East Lansing, yet there is another Urology dept, practicing in South East Michigan."]

[Variation for the Dermatology proposal emailed by Dean Amalfitano on September 19, 2022, "Morning Aron, and members of the CHM CAC.

We appreciate the opportunity to participate in the "assurances" portion of your processes. We have had several questions and suggestions generally arise in regard to the proposed 4 new departments, which I've basically pasted below for your team's consideration. Thank you. AA

This also touches on referral pattern confusion, for example if we have ENT's at MSU-HCI in East Lansing, yet there is another ENT dept, practicing in South East Michigan."]

- [3] Will any research done by the no-cost faculty becoming part of these depts., be attributed to MSU generally, MSU CHM or strictly to the jointly funded Health Sciences Center at Henry Ford?. [4] Will future investments in research faculty be shared across colleges, should they reside in a HF located dept?
- [5] In line with the above, a general theme is questioning why these departments, and the faculty assigned to them, could not be shared between the medical schools, just as several other departments already are. We note that in the creation of the most recent dept on the MSU East Lansing campus., the Dept. of Orthopedics, this premise was highly desired by both colleges, and indeed the current Dept of Orthopedics is shared between COM and CHM.

[6] Is there a mechanism or plan for clinically active HF faculty to also be appointed through the MSU HCI?

[7] We are concerned with the lack of acknowledgement of COM education or role in some of these proposed new departments. For example, it is critical that the new Urology dept. chair recognize two completely different educational approaches in CHM and COM and joint appointments might be considered to recognize these dichotomies, especially as both COM and CHM students are being trained currently at Henry Ford System hospitals.

Thank you for your thoughtful consideration of these comments and questions. AA"

The College of Human Medicine responds:

As to [1]

It is true that we have some existing divisions (e.g., Neurosurgery division which is not a department). Divisions are constructs of the dean's office and are not recognized by the university. Our proposal here is to create statewide departments, as all CHM departments are. In general, if there are existing divisions, structurally these will be incorporated into the appropriate departments either as a sub-entity or as a merger (depending on faculty needs and wishes). It is true that some departments have more faculty based in East Lansing (e.g., Medicine) or Grand Rapids (e.g., Pediatrics and Emergency Medicine), but that does not define the department, and faculty from all over the state can be in the department. It is also true that the collaborations in each department can be complex, but all departments in the university that engage with the community deal with complexity at some level. The college does not specify where faculty have to live as long as they can fulfill their role. Also note, we are purposely not creating duplicative departments.

As to [2]

Inclusion in MSU HealthCare, Inc. practices (and referrals to MSU physicians) is a separate issue than membership in a department. In this sense, these new departments will be the same as existing departments that include non-HCI faculty, including non-prefix faculty, from Flint, Grand Rapids, Detroit, the Upper Peninsula, or other communities across Michigan. Clinical integration partnerships between MSU and hospital systems, including joint ventures in radiology, or non-clinical relationships, including a statewide residency consortium, create more areas for confusion than these departments will. As a particular example, the neurosurgeons based at Ascension Providence are faculty for both CHM and COM, yet both colleges have decided that any confusion clinically is tolerable given the benefits to students.

As to [3]

The creation of this department will not change the eventual attribution of research funding. As a matter separate from the creation of these departments, we believe MSU, the Health Science Center, applicable college and department will all have attribution, but that system has not been implemented.

As to [4]

Investments from the college to departments will continue as they have for all departments, whether they are joint or in a single college. The attribution and indirect costs follow the appointments and investments as they do now, regardless of the geographical location of the department. For example, for departments located in Grand Rapids and Flint and invested in by CHM- research attribution and indirect costs will flow through CHM. Similarly, for departments located in East Lansing and jointly invested by COM- research attribution and indirect costs flow through the respective college in which the faculty is appointed. CHM has no interest in overturning the current system.

As to [5]

Neither the College of Human Medicine nor the collaborating physicians at Henry Ford Health envision these as joint departments. Some joint departments have been successful, but they are more difficult to administer. The orthopedics department is an interesting example, because administration of that unit has been a challenge and not an experience to be replicated. As in all of our departments, we will welcome faculty from other departments and colleges who are interested in secondary appointments in the new departments.

As to [6]

As of October 16, 2022, there is no pathway for Henry Ford Medical Group faculty to be appointed in MSU HeathCare, Inc., and any decisions to create such a pathway are separate from the department decisions. This is analogous to the CHM Emergency Medicine department created a decade ago; faculty employed by ECS are not "appointed" or credentialed in MSU HCI.

As to [7]

We expect the new department will only increase options available to COM students. The college and the new department are open to cross-listing classes as happens now across the university, and we will ensure the courses of the new department will be available to medical students regardless of college. Finally, there is nothing in the creation of the department that disturbs the existing curricular courses used by COM students. In fact, these additional departments enhance research, educational and clinical opportunities for COM students.