# Goal 2: Promote highest quality basic and translational physics research applied to medicine and biology

## Objective 1 – Promote research

1. Promote basic physical science research leading to new discoveries, technologies and methods for medicine and biology
2. Bring developments in basic physics as well as other basic sciences (chemistry, pharmacology, bioinformatics) into the arena of medicine and biology
3. Promote research and development to improve safety, quality, accuracy, efficacy and cost effectiveness
4. Promote research to evaluate the clinical effectiveness of technologies and techniques/methods through engineering tests and clinical trials
5. Promote development of research-enabling infrastructure

## Objective 2 – Raise awareness about the importance of research

1. Educate AAPM memberships about the long term economic and clinical benefits of research
2. Collaborate with international medical physics research education programs (e.g., IOMP, ESTRO)
3. Educate leaderships and membership of collaborating professional and scientific societies (e.g., RSNA, ASCO) about the long term economic and clinical benefits of physics research in medicine and biology
4. Educate industry, medical institution administrators and leaders, about the clinical and financial end-value of physics research in medicine and biology
5. Interact with patient advocacy groups to promote medical physics research
6. Educate the general public and governmental leaders about important scientific discoveries in the field and their impact on society

## Objective 3 – Increase research quality and funding

1. Work with government, foundations, societies and industry leaders to promote increased funding for physics research in medicine and biology
2. Educate AAPM membership about funding opportunities and grantsmanship
3. Promote mentoring in research of AAPM members
4. Promote the establishment of AAPM organized (in collaboration with other scientific societies) courses on specific research methods (e.g. clinical trial design)

## Objective 4 – Promote multidisciplinary research collaborations

1. Promote multidisciplinary research and development collaborations among institutions and organizations, nationally and internationally, and between institutions and industry
2. Organize research-focused meetings, workshops, symposia with other disciplines
3. Encourage collaboration with basic scientists (e.g., physics, biology, engineering, computer sciences, chemistry) to promote physical sciences research in medicine and biology
4. Encourage collaboration with clinical and medical scientists to solve problems using physics methods