

Biotechnology in the AO Foundation

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The AO Biotechnology Advisory Board (BAB) was founded by the AO Academic Council (AcC) in 2003 to support AO in their Clinical Priority Programs in areas concerning biotechnology. AO's clinical research funded by the AO Research Board is increasingly emphasizing and applying biotechnology. Across the three clinical priority fields, new implant materials, and cell engineering for bone and cartilage healing and repair are frequently proposed. As most of this research comes from clinicians, most projects are driven towards clinical translation.

Biotechnology broadly represents diverse fields, including cell biology, biochemistry, materials science, drug delivery and pharmacokinetics, bioengineering and much more. As biotechnology continually and rapidly evolves, with important breakthroughs continually reported, no single expert or even small panel of experts can hope to accurately track all progress. Hence, tapping into the international external expert network is essential to provide an up-to-date and informed consensus that the BAB seeks in advising and evaluating AO research programs. Leaders within the AO Foundation recognize that various specialities are not sufficiently represented, requiring the foundation to find experts in these fields who additionally have connections to clinical specialities like trauma, CMF and spine. Exploiting synergies between research and clinical networks, high quality research programs are created to help to further improve the reputation of AO as clinical and research-driven foundation.

BAB has four main foci which include: (1) advising the AO Foundation on important biotechnology developments relevant to the

clinical priority areas, (2) peer review and monitoring of all biotechnology research programmes and proposals submitted for AO support, (3) creation and funding of new research programmes through research calls that support AO Clinical Priorities, and (4) creation and maintenance of a network of external experts involved with biotechnological aspects of orthopedic medicine that provide an input on AO research programmes and directions, and link to existing AO networks.

BAB-funded projects seek to deliver an additional value by combining basic research knowledge and innovative approaches with the expertise from clinicians for possible use of these approaches in clinical applications. BAB therefore promotes research and development synergies where they are most appropriate within the AO. Through such partnerships, clinical practice and patient care can both benefit from new technologies. BAB will continually survey clinical priorities to attempt to produce new research calls that fit and partner into these clinical goals. Hence, both fundamental and applied research can be integrated across the AO, and biotechnology can be selected to fit as these priorities evolve. This is a challenging goal for a focused but open research foundation like the AO.

Within the last 3 years interfaces have been created by: a) the Academic Council with its suggestions for clinical priority programs in which BAB may recommend biotechnology as one research focus; b) the AO Research Board, in which projects already in the creation phase can be considered for potential to integrate biotechnology approaches, and c) BAB assistance with the AORF in reviewing biotechnology-related research projects.