IAAF Helsinki Biomechanics Research: A Report on the Completion of the Project

The IAAF World Championships in Athletics and the Olympic Games provide the best possible opportunity for scientists to study the technique of the world’s top athletes in the most demanding competitive conditions. Data gathered on these occasions can be shared with other scientists and coaches to support their efforts to understand top-level performances, improve training methods and raise standards of performance. The information obtained has also proved valuable for the media and athletics fans.

As a part of its commitment to serving its Member Federations and other groups in athletics with scientific information on the sport, the IAAF has facilitated such research at the World Championships and other major events for nearly twenty years. With financial support from the International Athletic Foundation, it has regularly commissioned its own studies, starting with a set of three projects that began at the 1986 World Junior Championships in Athens and then continued at the 1987 World Championships in Rome and the

Set up of the dynometric planting box used in the study of the pole vault at the 2005 IAAF World Championships in Athletics
Back in their various labs, the data was carefully analysed and compiled into reports, four of which have appeared in New Studies in Athletics. A preliminary report on the pole vault was published in NSA 2-2006 and a final report, containing unique information on mechanical energy parameters of the vaulter and angular momentum during the vault, appears in this issue. The report on the 100 metres (NSA 3-2006) concluded, among other things, that maximal step width at the beginning of the race might be better for acceleration, which is contrary to standard coaching advice. The report on the javelin (NSA 2-2006) identified characteristics that enable top-level throwers to obtain higher release velocities that average throwers. The report on the high jump (NSA 2-2007) highlights the importance of arm technique in the final approach strides and take-off.

The final reports from the project, including the previously unpublished report on the triple jump, will be collected in a single booklet, which will ready in the autumn of 2007. This booklet will be sent as an NSA supplement, with our complements, to all IAAF Member Federations and to our subscribers. Additional copies will be available from the IAAF website.

Reported by Elio Locatelli