

Dr. Russell Gorga, assistant professor, Fiber and Polymer Science Program, NCSU Department of Textile Engineering, Chemistry and Science, presented his work on developing polymer nanocomposites and nanofibers with improved properties. Applications include filtration and tissue scaffolds.



Dr. Behnam Pourdeyhimi (standing, center) presented his observations on the future of nonwovens.

Following the presentations, one-on-one bilateral meetings took place between ACIMIT members and the US delegation. These meetings provided an opportunity for all to investigate the possibilities for cooperation in promoting Italian participation in US technical textiles and nonwovens developments.

Corporate Visits

Chiara Bonino with **Bonino Carding Machines S.r.l.** introduced the delegation to the Bonino product line, which has its roots in producing cards to support the wool industry in the Biella region. After World War II, the company pursued development of nonwovens in support of the blanket and carpet businesses. Having expanded from an Italy-centric supplier to a European marketer, the company in the 1980s pursued development of a short-fiber cotton card, which, as the open-end spinning market declined, was applied to the bleached cotton business of sanitary napkins. More recent developments, after having added fiber preparation machines to its line, include the commercialization of a Turbo airlaid card that produces 40-gram-per-square-meter (g/m^2) and heavier products. The Turbo's gentle carding action keeps short fibers in the product — the opposite result from many traditional carding systems. Bonino systems are standard structures and concepts, but according to the company, typical orders are 20- to 25-percent custom.

Brothers Ezio and Marco Aletti

with **Aletti Giovanni & Figli S.r.l.** — makers of buffing and sueding machinery for a broad range of textile, tannery and rubber applications — also welcomed the delegation to their facility. The process provides classic surfaces such as leveling, peach pile, nubuck and others, but by utilizing an embossed roll similar to a flexographic engraved roll, a pattern effect can be achieved by abrading the surface of the fabric when forced forward by raised parts of the engraving while not affecting the fabric surface where the fabric can fall away into the recessed areas of the engraved roll. The machine has a high level of precision and calibration, which aids in product reproducibility.

Well-known paper and nonwovens industry supplier **A.Celli Nonwovens S.p.A.** offered an overview of its two independent divisions. Sales and Marketing Director Paolo Dini explained the development of A.Celli's business for customized winders and slitter-



Sales and Marketing Director Paolo Dini (center) welcomed the US delegation to A.Celli Nonwovens.

rewinders, which are used for processing nonwovens fabrics. He explained the long-term relationship the nonwovens industry demands and the significant market share A.Celli has been able to earn. The company has also developed Wing-former, an airlaid forming technology; as well as an integrated winding, slitting and roll-packaging process called Slittopack.

Lorenzo Marsiglio with **Tecnorama S.r.l.** showed the delegation through the facilities of the well-known dispensing systems manufacturer. Founded in 1984, the company launched the patented Dosarama system at the 1987 ITMA in Paris. Tecnorama has evolved the technology in terms of accuracy; ability to dispense powders; automated dissolving; movement from weight-based systems to volumetric, fully automatic sample and small production machines; and the incorporation of online spectroscopy. Most recent developments include the addition of an automatic system for analyzing the curves of a dyestuff exhaustion model to the DOS&DYE[®] system creating the DOS&DYE[®] Spectrodye. Later, both transmission and reflectance data were combined into one automated system to create the Spectrorama[®] system.

With all of the recent interest in recycling textiles, the delegation visited **Dell'Orco & Villani S.r.l.**, a firm with a long history in the field. Giovanni Dell'Orco and Silvano Villani came together in the 1960s to manufacture innovative tearing machines that were particularly suited for reclaiming man-made fibers. Dell'Orco & Villani entered fiber opening and blending for spun yarn manufacturing as well as for nonwovens used for insulation panels in automotive and building products. Recent sales include placement of recycling lines at major US carpet manufacturers. According