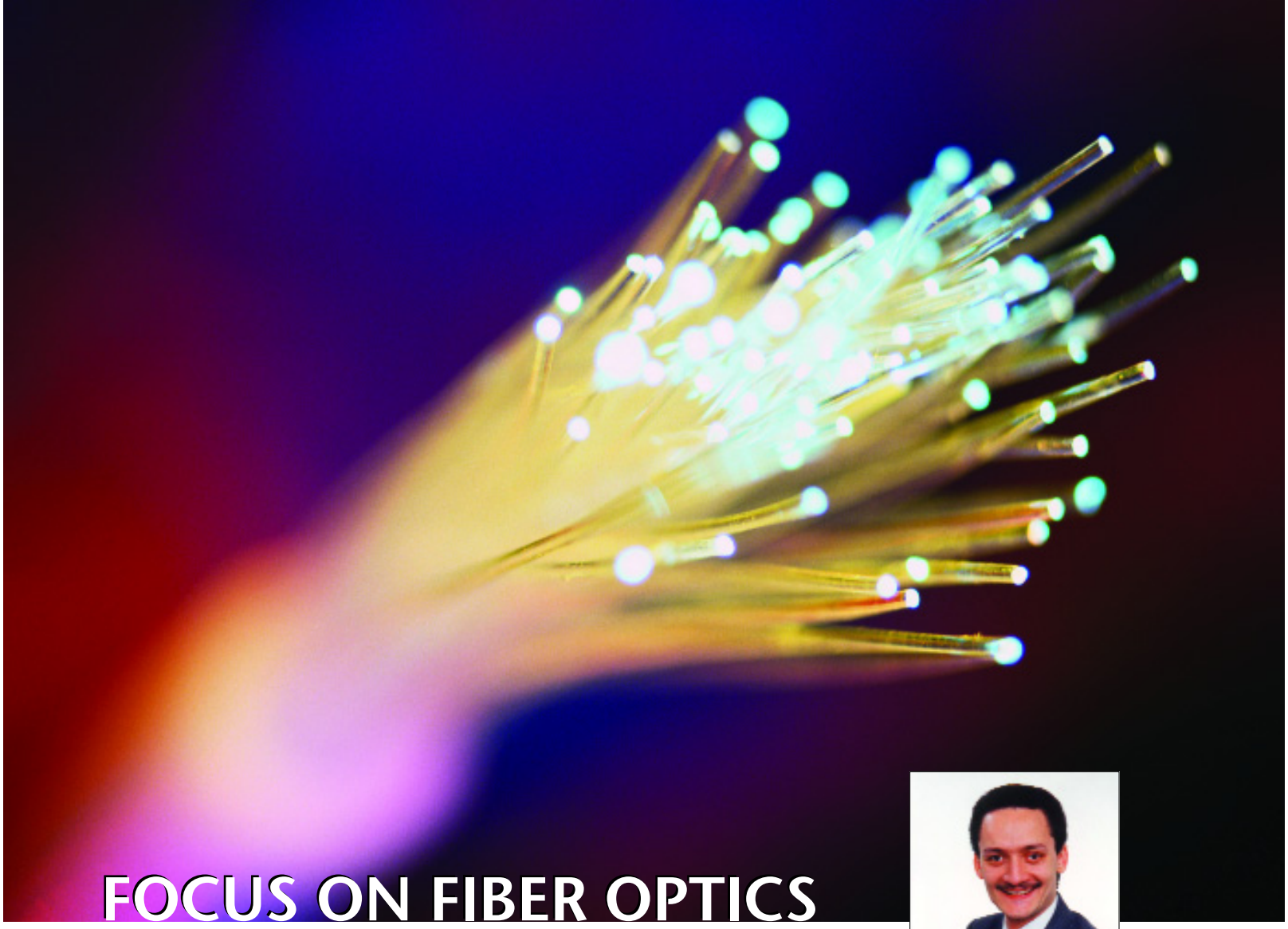

FOCUS ON FIBER OPTICS

Although the optical communications industry is still reeling from the downturn in predicted growth and demand for bandwidth, the development of new component technology continues. This issue of *Optics & Photonics News* focuses on solutions aimed at maximizing network performance and on the development of flexible device technology that allows for a graceful evolution from opaque networks to transparent, all-optical ones.

To set the topics of this special issue of OPN in their proper context, we begin with the article "Fiber to the Home—Why 'the Last Mile' Is Truly the Hardest," by Jeff Hecht. This article offers a provocative perspective on the current status of the "fiber-to-the-home" phenomenon and raises key questions regarding fundamental issues related to the financial collapse of a portion of the optical communications industry.

The second article is "The Evolution of SONET/SDH Over WDM." Author Paul Bonenfant describes how the use of automated optical layered networks allows the evolution of complementary WDM and TDM technologies and can be leveraged to reduce complexity, accelerate service provisioning and improve bandwidth efficiency in transport networks.

The third and fourth articles are devoted to novel active optical component technology. Luis Zenteno and Donnell Walton provide an update on current activity in fiber laser technology for the generation of high output power and multiwavelength operation. These fiber lasers will be used as pump sources for conventional erbium and L-band amplifiers, as well as for multiband pumping of Raman fiber amplifiers.

Next, in a comprehensive overview, Jill Berger and Doug Anthon describe the use of MEMS technology for the realization of cost-effective tunable WDM transmitters and tunable filters. The article describes the promise of tunable devices in all-optical network design in the quest to boost carrier revenues and lower operating expenses.

It is clear from these articles that, despite the reduced investment by industry and venture capitalists in optical communications, researchers are continuing to address key problems that will ultimately allow for unique, information-based services and applications. It should be noted that these articles comprise a subset of the vast areas of research now underway in the field of optical communications. I hope that you enjoy reading them as much as the authors, OPN staff and I had in putting this issue together.

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