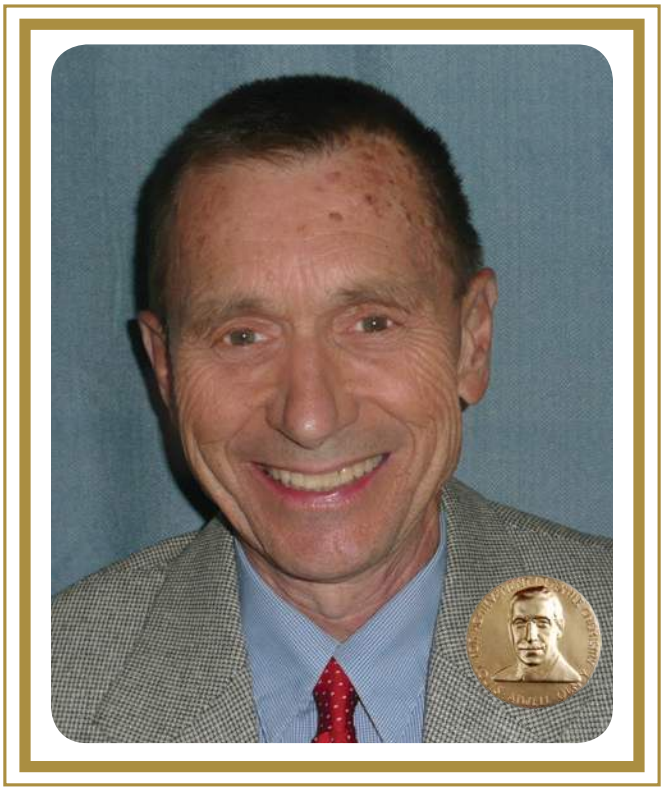

Howard C. Malpass to Receive the Olney Medal

Howard C. Malpass is this year's recipient of the AATCC Olney Medal Award. Malpass is being recognized for his work on the implementation of pre-reduced indigo and its beneficial impacts in the dyeing, manufacturing, and retail industries.

Malpass has been a member of AATCC since 1979. He received a BS in Textile Chemistry at North Carolina State University (NCSU) in 1967 and served as a lieutenant in the US Navy before returning to NCSU to complete a Masters in Textile Technology in 1973. Malpass worked at Milliken & Co. first as a supervisor, and eventually dyeing superintendent. In 1979, he became the technical superintendent for Cone Mills commission dyeing and finishing. In 1989, he went to work with BASF (later DyStar) as a technical advisor. Malpass retired in 2014 and is currently consulting part-time for Denim Dyeing Technical Service LLC.

At BASF, Malpass was assigned responsibility for indigo technical service among other products. Though he had mill experience in batch dyeing diverse fibers and dye classes, he had no experience with indigo and had to learn primarily at his customers' sites in order to serve them. With the US textile industry in decline, and seeing his previous job evaporate, Malpass as a technical advisor felt a responsibility to the mills to minimize costs to sustain their operations. This meant minimizing the consumption and waste of his own company's products as well as maximizing their performance.

Historically, indigo dyeing was a vatting process, involving chemical reduction of blue pigment by water, sodium hydroxide, and sodium hydrosulfite. Filling huge vats with blue pigment powder and chemicals created dusty, toxic air in the dyeing plant. The vatting process required steeping at least two hours in open air to produce a soluble, functionable indigo dye.

In the early 1990s, BASF-Germany introduced the product Indigo Solution, commonly known as pre-reduced indigo, or PRI. PRI is reduced at the dye manufacturing plant by hydrogen gas. It is soluble and ready-to-use, eliminating vatting hydrosulfite

and its resultant Chemical Oxygen Demand (COD) waste treatment and salt burdens; however, hydrosulfite is still required to maintain reduction in the dyeing process, which is openly exposed to air. Seeing it also had better dye fastness and process-cost savings, Malpass realized PRI was a better product. It fit right into Malpass's desire for environmental as well as denim mills' sustainability, but he had to convince his customers. To do this, he delved into their problems with indigo dye. Indigo is as essential to the denim mill as cotton. In fact, it is so important that some of his customers gave him the keys to their labs for off-hours dyeing experiments. Malpass performed hundreds of dyeing trials in laboratories at all hours. From a combination of his own research and experience of his customers and colleagues, Malpass learned that indigo dyeing should not be resigned to with some amount of mystery, but rather respected as a quantitative process subject to specific parametric influences.

To convince his customers about PRI's benefits, with the help of DyStar, he put together dye metering equipment in his garage. This equipment enabled controlled long-term trials to collect data to prove the benefits of pre-reduced indigo. With each new project, Malpass improved his equipment to better demonstrate to his customers that their denim products could be produced with cost savings and better control. The tradition of denim born in the USA caused resistance to change, but working with his DyStar colleagues, nearly 100% of the denim indigo used in the USA was converted to PRI. With Malpass's help, this approach was applied by his colleagues in Mexico to convert nearly all the denim mills in Latin America.

In 2014, Malpass retired, but didn't stop working. He collaborated with Ralph Tharpe of American Cotton Growers Denim Mill and Dean Ethridge of Texas Tech University to win a prestigious Walmart USA Manufacturing Grant to develop a yarn indigo foam dyeing process. From Malpass's initial work with a single yarn running through a plastic tube, a pilot machine was designed and built in cooperation with Gaston Systems Machinery Co. and is now running at Texas Tech University with funding through Indigo Mill Designs LLC. This process removes all hydrosulfite from indigo dyeing by operating totally enclosed with a foam medium. The process can duplicate, without yarn pre-scouring, traditional pure indigo shades. With the benefit of PRI in this process, indigo-dyed denim fabric with a traditional look was created, it is believed for the first time, using no reducing agents. Better than usual wet fastness was achieved even without rinsing. The result is a zero-discharge process. The first production application will begin in January 2019. Malpass's contributions helped introduce a more cost-efficient, sustainable, and salubrious indigo dye process for suppliers, manufacturers, and retailers.

The Olney Medal Award

Established in 1944 in honor of Louis Atwell Olney, the founder and first president of AATCC, the Olney Medal recognizes outstanding achievement in textile or polymer chemistry or other fields of chemistry of major importance to textile science. The award consists of a gold medal, a scroll, and an honorarium. Presentation of the medal each year is a highlight of AATCC's International Conference. This year, the conference will be held at the Sheraton Fort Worth, in Fort Worth, Texas, USA, from April 9-11, 2019. The Association will present the Olney Medal at the Awards Luncheon on April 11, 2019. Malpass will deliver the traditional Olney Medal Address on April 11 at 8:15 a.m. The title of his talk is "Putting Invention into Practice: Conversion of the North American Denim Dyer to a New Form of Indigo."

For a complete list of our esteemed past award recipients, visit **www.aatcc.org/abt/awards/**