

**DRAFT REPORT FOR THE PLASTINDIA INTERNATIONAL UNIVERSITY WEBINAR ON
“COMPETITIVE PROS AND CONS OF TRANSPARENT PLASTICS”
MAY 19TH, 2022**

The third webinar on “Competitive Pros and Cons of Transparent Plastics” was delivered by Prof Stephen Driscoll on May 19th, 2022. This is as per part of a joint program between Plastindia International University, PIU, and UMass Lowell, a webinar series has been organised.



Ms Pratiksha Jaipal on behalf of Plastindia International University, welcomed all the attendees. She briefly reviewed the webinar presented by Prof Wan Ting Grace Chen on the launch function, March 10th on ‘Plastic waste Valorization for a Circular Economy : Advanced Recycling 101’. Similarly, the second webinar

on ‘Cost and Sustainability Comparison of Injection Moulding with 3D Printing’ by Prof David Kazmer, Department of Plastics Engineering at UMass Lowell was conducted on April 14th 2022. Both webinars received an overwhelming response.



Jacqueline White, Manager of Corporate Training & Education introduced Professor Stephen Driscoll who was the speaker for the third webinar. He presented the webinar on Competitive Pros and Cons of Transparent Plastics. Steve has been a faculty member in UMass Lowell's Plastics Engineering Department for almost 40 years. He teaches

undergraduate and graduate courses in polymeric materials, additives and modifiers for plastics materials. Steve also facilitates seminars for industry professionals here on campus as well as directly on client sites across the globe.

One of very few Society of Plastics Engineers members who has also been awarded the Honored Service Member recognition, Professor Driscoll received the SPE International Education Award in 2004.



Prof Driscoll lucidly explained the Competitive Pros and Cons of Transparent Plastics. Prof Driscoll briefly reviewed some of the important performance differences among commercially available transparent thermoplastics, starting with the historical commercialization of cellulose nitrate [CN] in the 1860s, advancing through the early 20th

century decades [acrylics, vinyls, olefins, and styrenics], the mid-century introduction of specialty polyolefins [PMP and COC] and subsequent 1960s – based nitriles, PC, PSO, PET, and APA polymers.

He considered various properties of polymers such as MFR/MI, linearity, branching, flexibility, crystalline and amorphous nature of polymers, molecular weight distribution, resistance to environment, glass transition temperature, processing temperature and pressure, mechanical properties, transparency, availability and cost. End-use temperature also needs to be considered. Chemistry and functionality offer few important guidelines for classifying polymers. He evaluated properties of various polymers such as polyethylene, polypropylene, polycarbonate, polystyrene, SAN, polyamides, acrylics, polysulfones, polyesters, unsaturated polyesters, silicones and epoxies etc.

The transparency may be needed for thin coatings too. Multiple polymers can compete for the given application.

He concluded that functional properties remain constant, the economics are ever-changing. Economic considerations [price, availability] as well as design options/restrictions and processability must be addressed in making a material selection.

He fondly remembered number of students from India who studied at Lowell Tech in 1960 and also his 20+ visits to India. He was happy to congratulate more than 400 Indian alumni for their impressive academic achievements, myriad commercial successes, and dedicated commitment to the founding and funding of the PIU, its campus and educational programs. He has very sweet memories of his countless visits to India.



Post the webinar, there was an interesting Q&A session moderated by Prof Dr DD Kale. He congratulated Prof Driscoll for an interesting and informative lecture which encompassed large number of aspects of polymer engineering and science. Prof Driscoll answered all the questions addressed to him.



Mr Achal Thakkar, Managing Director of Tipco Industries Ltd. and Autotech-Sirmax summarised the lecture. He recognised Prof Driscoll's contribution and his association with thousands of students who were trained by him. He profusely thanked Prof Driscoll for a wonderful webinar. He also announced that the next webinar will be delivered by Prof Amir Ameli, UMass Lowell on June 9th, 2022 at 18:00 hrs on the topic '**Foam Injection Molding**'.



Dignitaries from Plastindia International University and University of Massachusetts, Lowell, USA.