Unlocking Circular Fashion Design Excellence [ReMODE]

ERASMUS-EDU-2024-PEX-COVE (Centres of Vocational Excellence)

Coordinator: Prof. Dr. Zeynep OMEROGULLARI BASYIGIT

Bursa Uludag University,TÜRKİYE

Vocational school of higher education of Inegol

Department of Textile, Clothing, Footwear and Leather

Textile Technology Programme

Bursa/TR

Funded by the European Union

Short biography

Prof. Dr. Zeynep Omerogullari Basyigit received the -**B.Sc. degree with high honor degree**, taking first place in Textile Engineering Department in Türkiye in 2008 and after completing her **M. Sc. degree in Bursa Uludag University**, Türkiye in 2010, she carried out her Ph.D. thesis in **North Carolina State University Wilson Collage of Textiles** Department, Raleigh, USA and worked as a researcher in **Cotton Incorporated, Cary, USA** until the end of 2014. During her stay in the USA was an active member of the *American Association of Textile Chemists and Colorists* **(AATCC).**

-She is currently working at **Bursa Uludağ University**, Türkiye, teaching finishing courses in the Textile Technology Department and serving as the **coordinator of the CoVE** project entitled Unlocking Circular Fashion Design Excellence – **ReMode** for 4 years, and also academic consultant for several R&D centers in the textile industry. She is an active member of Executive Board of *(Turkish Standardization Institue)* **TSE** and also of **TÜMKAD** *(Association of All Women Engineers in Türkiye)*, where she actively supports and empowers women engineers in the engineering sectors in Bursa and across Türkiye.

-In the early years of her career, Prof. Dr. Ömeroğulları Başyigit gained national and international recognition through scholarships from **TÜBİTAK** (*The Scientific and Technological Research Council of Türkiye)* the **NSF**, invitations from the **Innovation Council of Turkey**, and more than 20 honor awards with 8 registered patents for her innovative R&D work. She has authored over 78 publications, including articles in leading journals, book chapters, and conference papers in the research area of **textile finishing processes, energy&water saving new technologies** and environmental friendly textile applications.

Introduction

Water Consumption

Saving time & money

Energy Consumption

Global warming

Consumptions for convantional T-shirt finishing

Sub-process	Chemical consumption (kg/kg textile)	Energy consumption (MJ/kg textile)	Water consumption (L/kg textile)
Bleaching	0.118	8.34	50
Dyeing	0.95	1.86	10
Washing	0.02	12.63	80
Softening	0.04	0.57	10
Drying	-	1.80	-
Total	1.128	25.20	150

For 1000 kg → 150000 L (!!!)

G. Baydar et al. / Resources, Conservation and Recycling 104 (2015) 213–223.

Textile Wastes

- It ranks as the fourth most harmful sector overall and the third worst in terms of water consumption and land use. In the EU alone, around 5.8 million tonnes of textiles are thrown away each year—that's about 11 kg per person.

- The EU textile and clothing sector is a key economic player, consisting of over 160,000 companies, employing over 1.5 million people. Many workers in the supply chain suffer from poor working conditions.

- However, the fashion industry continues to have negative social and environmental impacts.

Energy consumed;

- About 34% of energy is consumed in spinning, 23% in weaving, 38% in chemical processing and another 5% for other purposes.

- In textile finishing department, energy consumption of 45-75% is for wet-processes, 15-40% is drying & curing processes and 8-18% is for other processes.

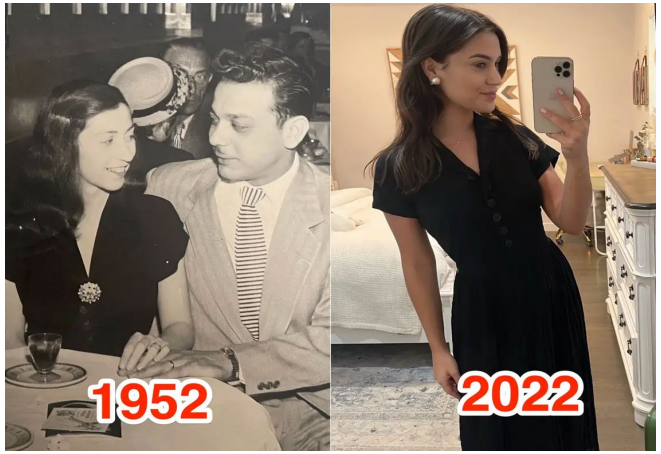
- Power dominates consumption pattern in spinning/weaving, while **thermal energy is major** for chemical processing. It is known that thermal energy in textile mill is largely consumed in two operations, in heating of water and drying of water. Fuel consumption in textile mills is almost directly proportional to amount of water consumed. Hence, if **consumption of water can be reduced, it will also save energy.**

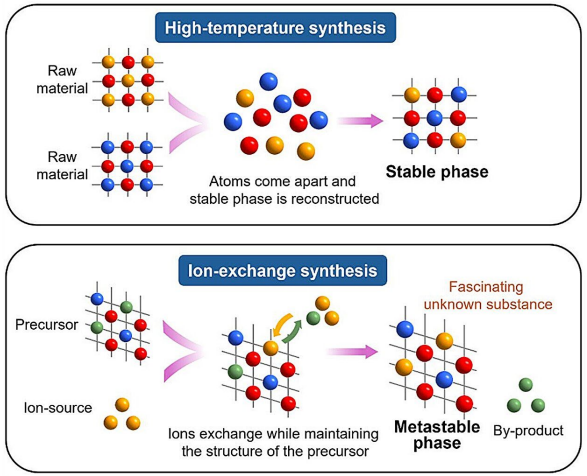
Environmetal Effect

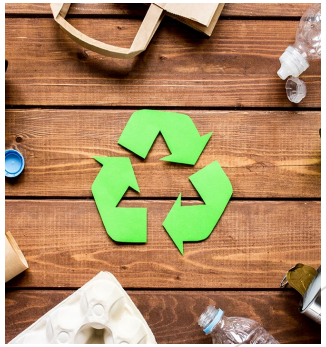
- During the dyeing process, approximately 10–20% of the dyes that fail to fix onto the fibers are released into wastewater, contributing to environmental contamination
- Toxic substances from dyes can accumulate in aquatic organisms such as fish and shellfish. Consequently, when humans consume contaminated seafood, they may be exposed to genotoxic and carcinogenic effects
- These substances induce oxidative stress within cells, damaging DNA, proteins, and lipids. They can also stimulate immune system cells and trigger allergic reactions.

What is sustainability?

-Is it recycling?
-Is it upcycling?
-Is it using natural materials on earth?
-Is it finding new solutions for consuming?
-Is it synthesizing new materials?
or
-Able to use what we have for years??







Project Aim;

- The goal is to upskill textile and clothing industry professionals with an eco-friendly approach.
- In this context, our project, Unlocking Circular Fashion Design Excellence [ReMODE], aims to enhance skills, training, and education for the EU workforce.
- By establishing learning hubs in five European countries, ReMODE supports the EU's vision for a more ethical and human-centered transition to digital and green economies.
- The project aligns with new EU laws and initiatives, including the twin transition (green and digital transformation) to make the textile and fashion industry more sustainable.

RE MODE
UNLOCKING CIRCULAR FASHION DESIGN EXCELLENCE

The most ambitious outcome;

We will establish and strengthen five Centers of Vocational Excellence (CoVEs) in Türkiye, Greece, Italy, Germany, and Finland (apprx.3 million Euro grant for this project)

5 centers of CoVEs

- We will establish and strengthen five Centers of Vocational Excellence (CoVEs) in Türkiye, Greece, Italy, Germany, and Finland.
- These centers will serve as learning hubs that develop, test, and share innovative, flexible, and multi-sectoral training programs.
- The goal is to upskill textile and clothing industry professionals with an eco-friendly approach.
- By collaborating with higher education institutions (HEIs), vocational education and training (VET) centers, small and medium-sized enterprises (SMEs), and non-govermental organizations (NGOs), the project will connect education, industry, science, and business sectors.

RE MODE
UNLOCKING CIRCULAR FASHION DESIGN EXCELLENCE

Project Overview
Objectives

- **Promote Sustainable Practices:** Advocate for circular and sustainable practices within the textile and fashion industry.
- **Enhance Vocational Education and Training (VET):** Develop and deliver advanced training programs for industry professionals, focusing on sustainable fashion design.
- **Develop Digital Resources:** Create an online collaborative platform and digital learning materials to facilitate knowledge sharing and capacity building.
- **Strengthen European Collaboration:** Foster partnerships among European institutions to advance sustainable fashion education and practices.

Expected Outcomes

- **Establishment of CoVEs:** Set up five Centres of Vocational Excellence (CoVEs) across five participating countries, serving as hubs for sustainable fashion education.
- **Educational Program Development:** Design and implement a sector-specific educational program that integrates circular fashion principles and meets industry standards.
- **Industry Adoption:** Achieve measurable increases in the adoption of sustainable practices among textile and fashion industry stakeholders.
- **Online Platform Launch:** Develop and launch an interactive online platform to support continuous learning, resource sharing, and community engagement.

Target Groups

- **VET Students and Educators:** Individuals engaged in vocational education within the fashion and textile sectors, and their instructors.
- **Industry Professionals:** Designers, manufacturers, and other professionals involved in fashion and textile production.
- **Enterprises:** Small, medium, and large companies operating within the textile and fashion industry.
- **Policymakers and Academics:** Stakeholders involved in policy development and academic research related to sustainable fashion.

Kick-off Meeting ;

Industiral Visits;

Thank you…

Coordinator: Assoc. Prof. Dr. Zeynep OMEROGULLARI BASYİGİT

BURSA ULUDAG UNIVERSİTY

zeynepbasyigit@uludag.edu.tr