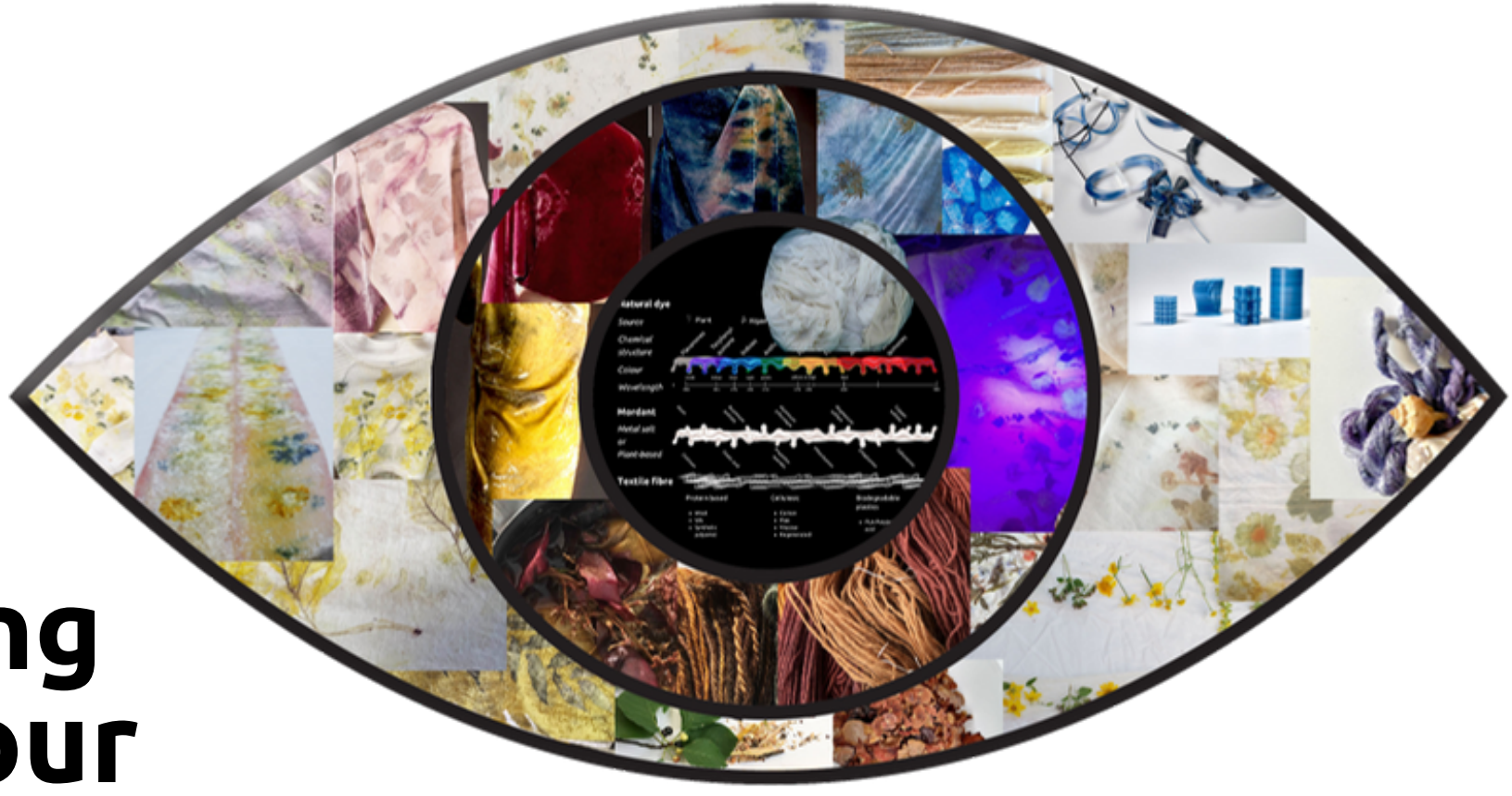


Living Colour

Anthraquinones

Reds, oranged, goldens

Living Colour - August 1-17, 2023 **UPDATED 2023-07-31**

	Date	Lecture	Dye Lab	Topic	Key learnings
				Pre-reading & sourcing materials	*Natural textile materials, common dye sources in your country of origin*
WEEK 31	Aug 1 Tue	9.30-11.30	12-16.30	Preparing the fibres, mordanting	*Origin of natural dyes. Dye safety. Pre-dyeing preparations: material selection, washing & scouring, mordanting. Coloured mordants. Colour fastness, sustainability.*
	Aug 2 Wed	9.30-11.30	12-16.30	Historical dyes, indoles, indigoids	*Brief history of natural dyes. Imperial purple. Vat dyeing with woad blue. Dyer's safety*
	Aug 3 Thu	9.30-11.30	*	Dye portfolio design *independent work	*Planning the dye sample portfolio. Preparing a dye plan. Recipes. Marking your samples before dyeing. Recording your process. Cooperating in the dye kitchen.*
	Aug 4 Fri	9.30-11.30	12-16.30	Anthraquinones, red and orange dyes	*Dyeing reds, low energy & cooking methods. Preparing dye extracts. Effects of temperature, time, pH.*
WEEK 32	Aug 7 Mon	*	-	*9.30-12.30 Excursion to recycling centre 12.30-16.30 Excursion to a supermarket, restaurant & nature	*Finding pre-loved textile materials from re-cycling centre. Recognizing and sustainably collecting plants from nature and/or side-stream dye materials from super-markets / restaurants.*
	Aug 8 Tue	9.30-11.30	12-16.30	Anthochlors, flavones, flavonols, Yellows, golden colours	*Dyeing yellow. Medicinal dye plants. Preparing dye extracts, printing paste, watercolours, inks and pigments. Mordanting more material (e.g. pre-loved) if needed. Local dye plants.*
	Aug 9 Wed	9.30-11.30	12-16.30	Anthocyanins, ecoprinting **Samples to lightfastness test.**	*Ecoprinting i.e. botanical contact printing with fresh and dried plants, flowers, and mushrooms. Dyes from food side-streams.*
	Aug 10 Thu	9.30-11.30	12-16.30	Combinations, experimental techniques	*Oxidation, photo-oxidation, water-solubility. Combining different types dyes, experimental techniques. Monochromatic cyanoprinting. Printing, painting, dyeing pre-loved materials*
	Aug 11 Fri	-	*	*Independent work	*Sample dyeing for your portfolio/continue favourite technique*
WEEK 33	Aug 14 Mon	**Return the learning diaries**	*	*Independent work **Pick up samples from lightfastness test.**	*Sample dyeing for your portfolio/continue favourite technique* (dye kitchen/3D lab)
	Aug 15 Tue	-	*	*9.30-15.30 3D-printing lab, PLA, indigo	*Natural dyes applied in 3D-printing with PLA*
	Aug 16 Wed	-	*	*Independent work	*Sample dyeing for your portfolio/continue favourite technique* (dye kitchen/3D lab)
	Aug 17 Thu	9.30-11.30 **Return the portfolio**	-	Portfolio presentations and evaluation	Sharing dyeing experiences and results. Discussions and evaluation. Exhibition planning (if applicable).

Agenda today

- Dyeing reds and oranges.
- Low energy method.
- Cooking method.
- Effects of temperature, time, pH during extraction and dyeing.

Critical design perspectives:

Exact, repeatable recipes vs. collaborating with the plant/fungi/lichen.

Anthraquinones

Natural dye

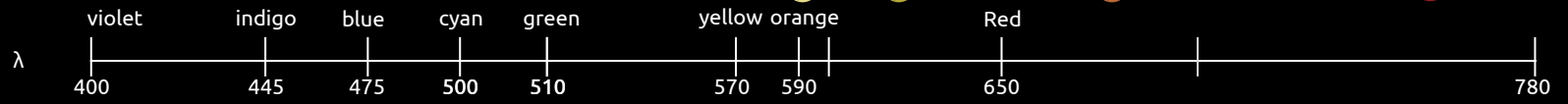
Source

Fungus Plant Invertebrate

Chemical structure

Colour

Wavelength



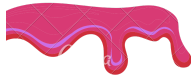
Anthraquinones

Fungus

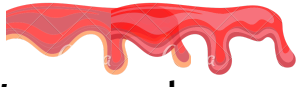
Cortinarius ssp

C. Sanguineous

Dermocybin, emodin



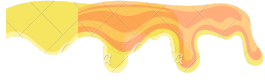
C. Semisanguineous

Cap 

- Warm red, orange
- Cool = max 65°C temperature
- alkaline dye solution

Stem

- yellow, orange

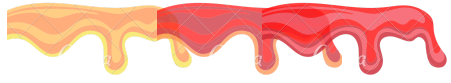


Plant

Rhubia tinctoria

Alizarin

- Warm red, orange
- Cool = max 65°C temperature
- alkaline dye solution



***Rhamnus* berries,**

unripe

emodin

- yellow

***Rhamnus* bark**

- yellow, pH <7
- red-brown, pH >8

Invertebrate

Cochineal

Carminic acid

- Magenta, carmine
- hot = 90°C temperature
- acidic dye solution

- iron post-mordant -> purplish

Lac(ca), Kermes

Cochineal

- dye temperature 90°C
- Start from 40°C to avoid felting wools

Madder *Rubia tinctoria*

- dye temperature <70°C -> 65°C
- Start from 40°C to avoid felting wools

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Agenda for excursion day

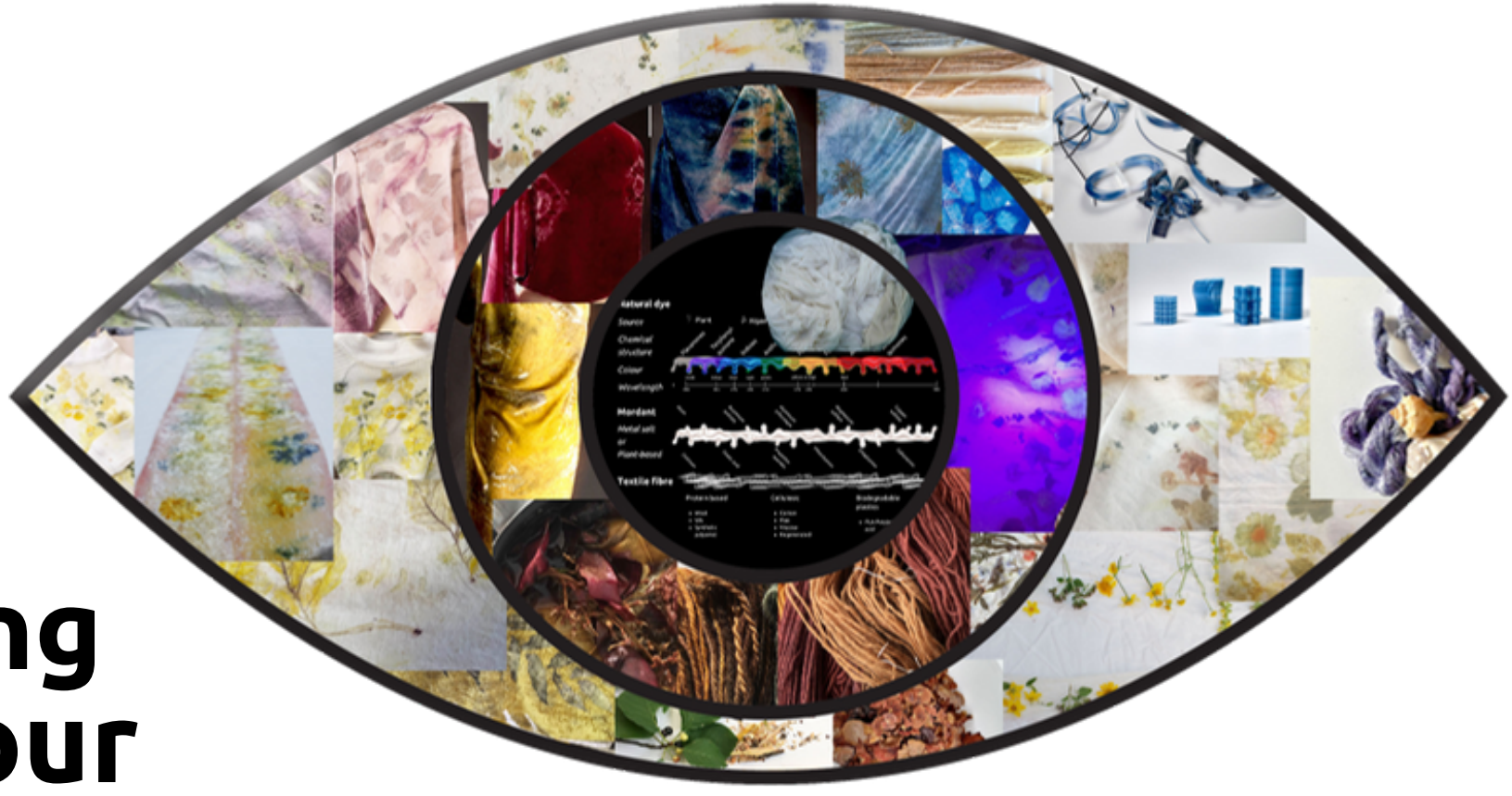
- Finding pre-loved textile materials from re-cycling centre.
- Recognizing and sustainably collecting plants from nature and/or side-stream dye materials from super-markets / restaurants.

9.30-11.30 Nihtisillan Kierrätyskeskus, Kutojantie 3, Espoo

12.00: Visiting a supermarket

13.00-15.00: Getting to know and collecting plants around Aalto campus

If you visit Turku:



Living Colour

Next: Lunch break

Dye lab: 12.00