

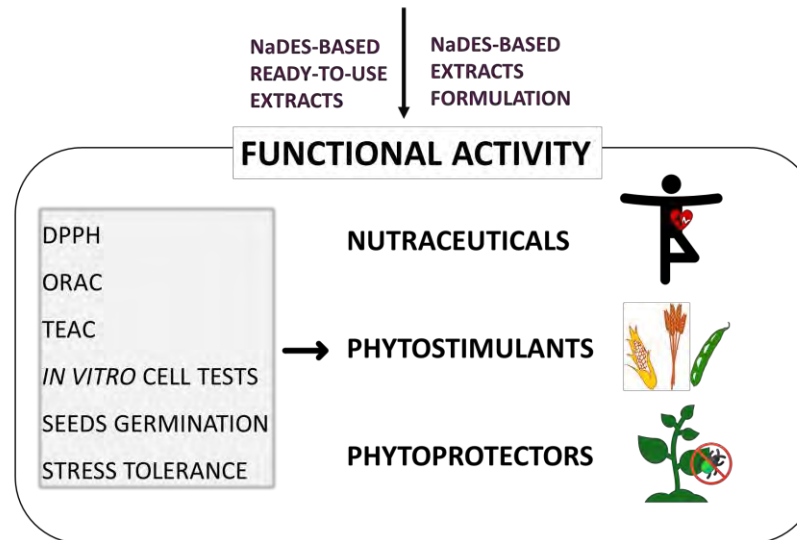
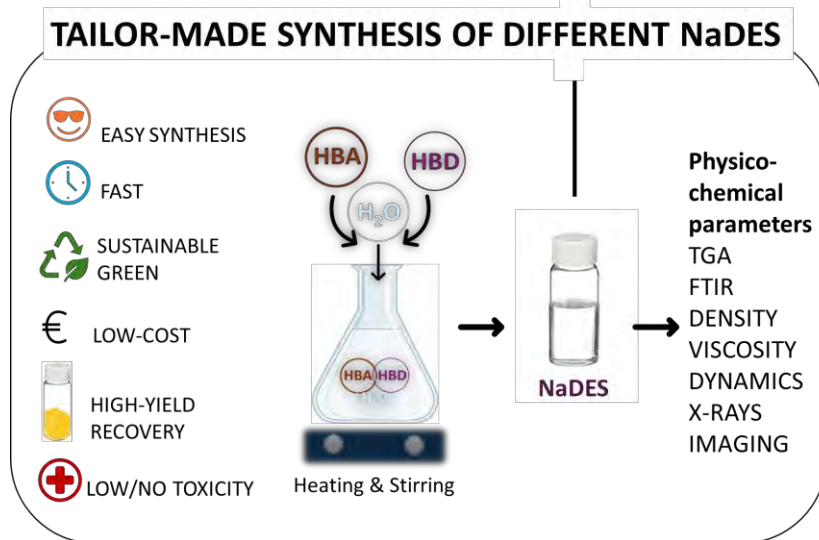
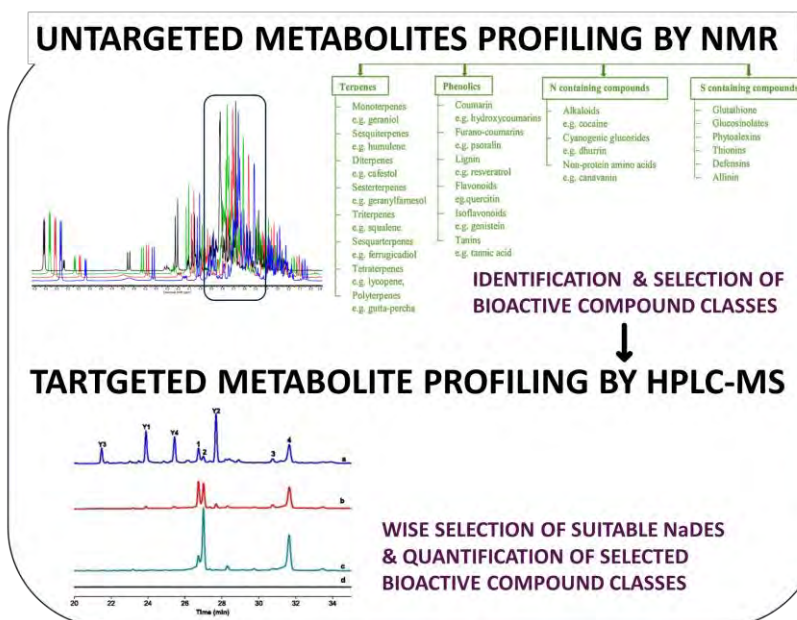
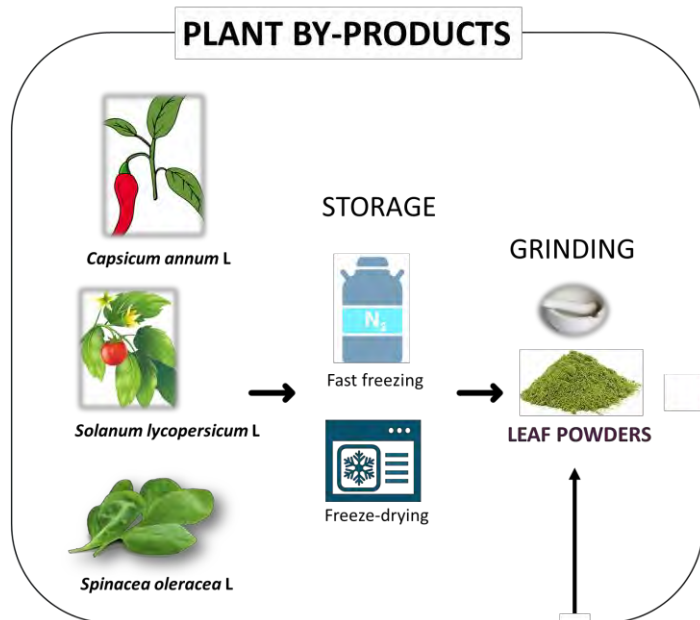


EXTRACTION AND CHARACTERIZATION OF MICROALGAE POLYSACCHARIDES:  
POTENTIAL AND INNOVATIVE FUNCTIONAL INGREDIENTS FOR BIOACTIVE  
MOLECULES AND PHYTOCOMPLEXES ENCAPSULATION

Amina Antonacci, PhD

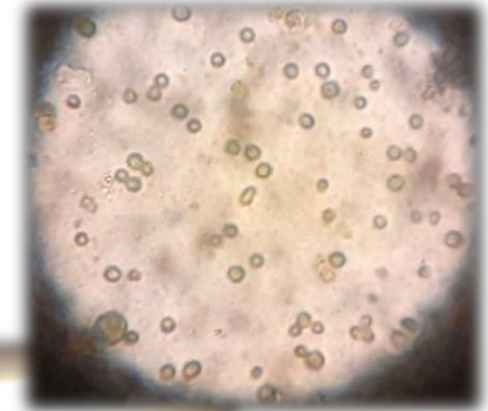
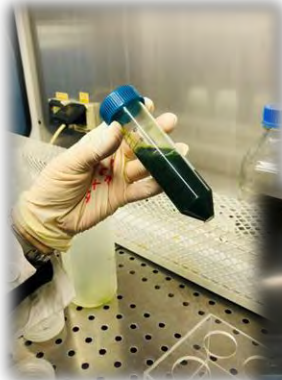
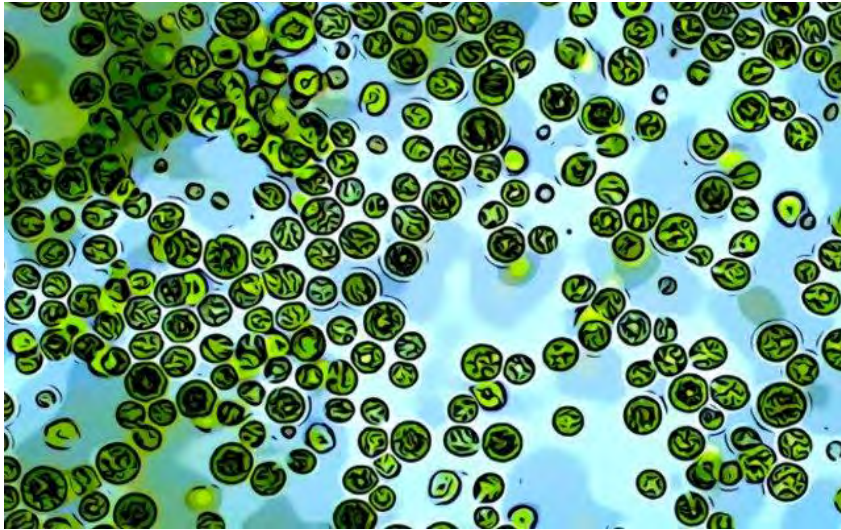


**NUTRAGE**  
Consiglio Nazionale delle Ricerche

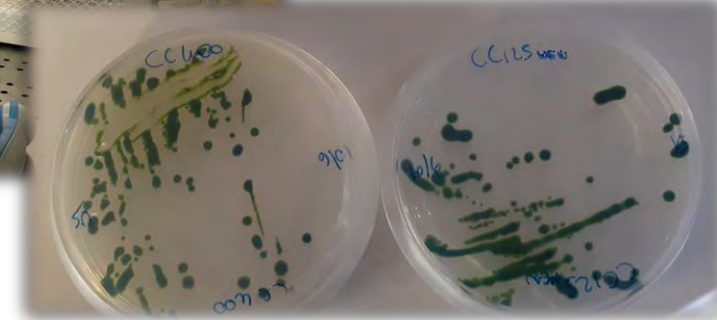
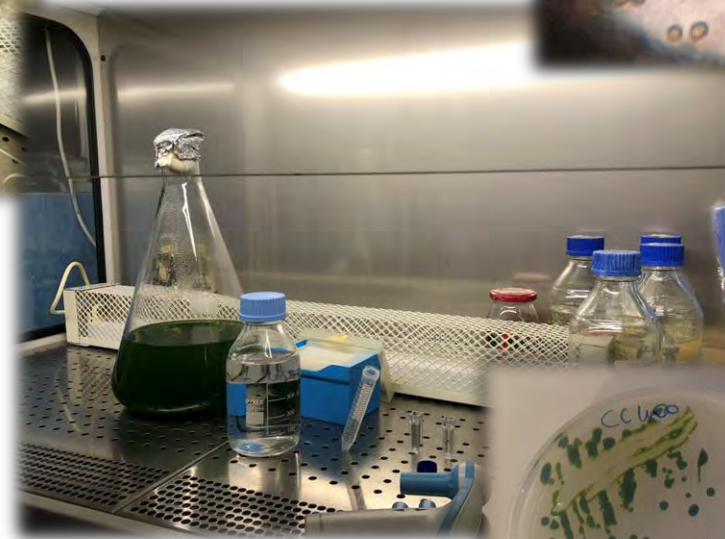




# EXTRACTION OF POLYSACCHARIDES FROM *CHLAMYDOMONAS REINHARDTII*

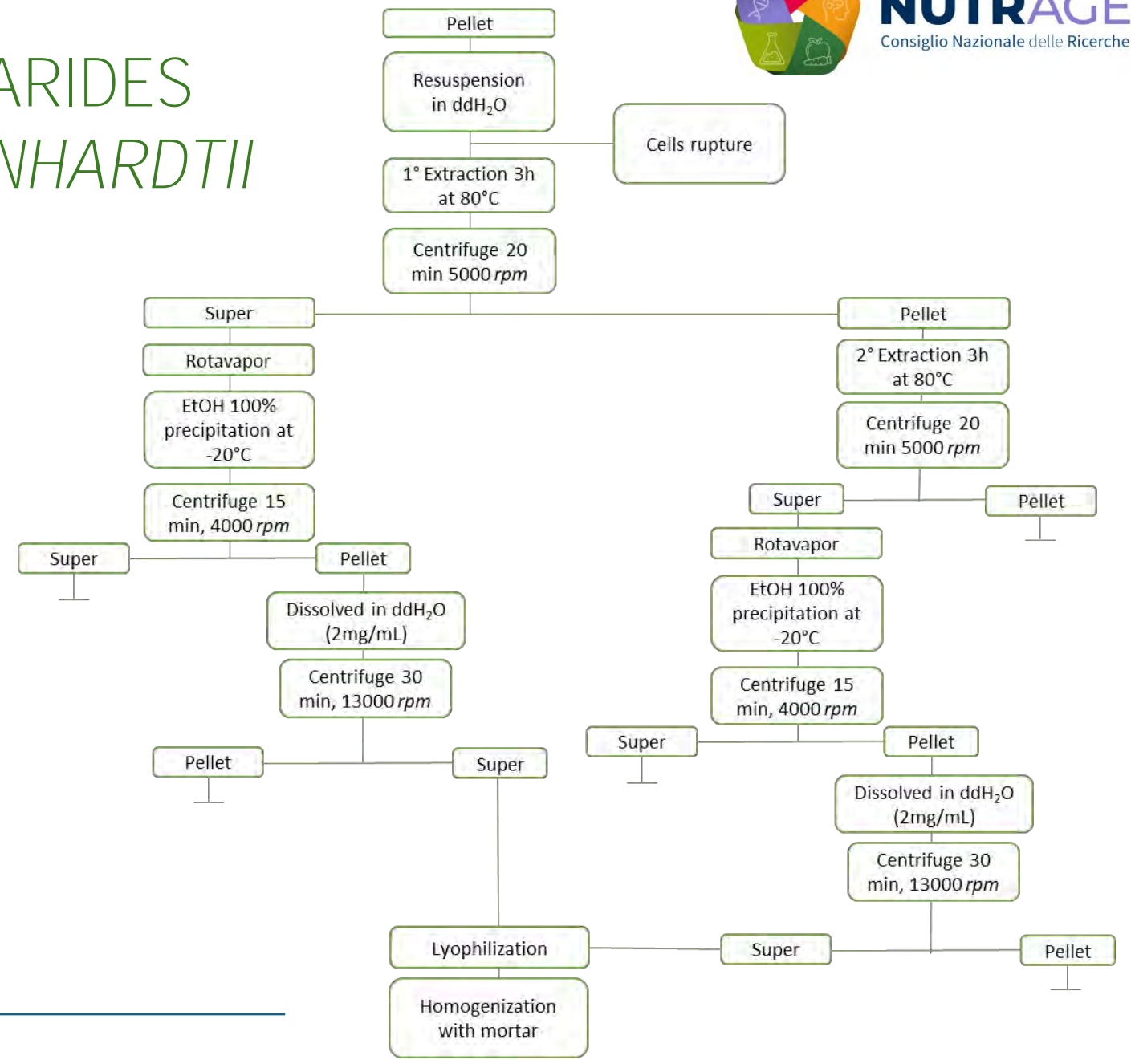
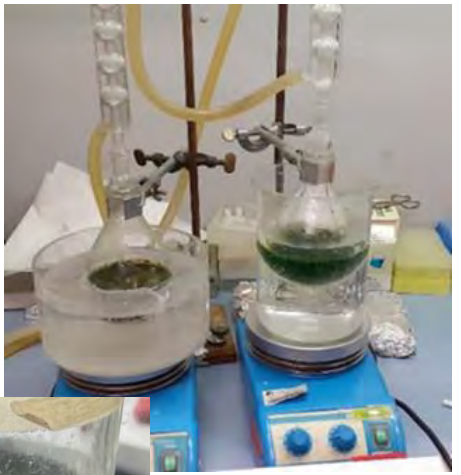


- Growth medium  
*TRIS acetate phosphate (TAP) medium*
- Selection of growing conditions  
*Temperature (25° C) e light (50 μmol di photons/sec/m<sup>2</sup>)*





# EXTRACTION OF POLYSACCHARIDES FROM *CHLAMYDOMONAS REINHARDTII*



# CHARACTERIZATION OF POLYSACCHARIDES FROM *CHLAMYDOMONAS REINHARDTII*

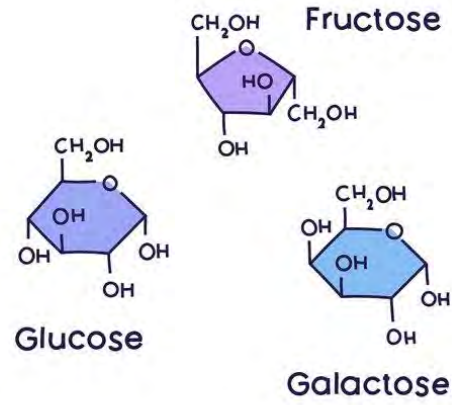
Spectra UV-Vis (190-400 nm)



Fourier transform infrared spectroscopy analysis (FTIR)

Monosaccharide composition of the extracts (GC-MS)

Elementary chemical analysis



# Scheduled activities

- ✓ optimization of the extraction/purification protocol and quantification of polysaccharides, chemical characterization of the raw material extract
- ✓ new methods with low environmental impact for the extraction/purification of polysaccharides (e.g. natural deep eutectic solvents, NADES)
- ✓ formulations of polymeric gels based on bio-polysaccharides for the preparation of active ingredient release systems, stability measurements and release tests



*Thank You...*

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Referente Task 2.2 for DSCTM

Leader SUBTASK 2.2.3 DSTCM-IC

*Sviluppo e ottimizzazione di tecnologie di estrazione e purificazione per il recupero e valorizzazione di molecole bioattive da sotto-prodotti delle filiere agro-alimentari*

ANNALISA MASI, annalisa.masi@cnr.it

Leader SUBTASK 2.2.1 DSTCM-IC

*Individuazione degli scarti/sotto-prodotti a più alto contenuto di biocomposti e dei migliori processi di recupero secondo i criteri di sostenibilità economica ed ambientale*

AMINA ANTONACCI, amina.antonacci@cnr.it

Leader SUBTASK 2.2.5 DSTCM-IC

*Sviluppo e valutazione di tecnologie innovative per l'incapsulamento, la stabilizzazione e la modulazione del rilascio di biocomposti*



## Participants DSCTM-IC

Roberta Montanari

Barbara Pascucci

Maria Moccia

Viviana Scognamiglio

Francesca Petronella

Cecilia Bartolucci

Francesco Capitelli

Davide Capelli

Gaetano Campi

Teresa Sibillano