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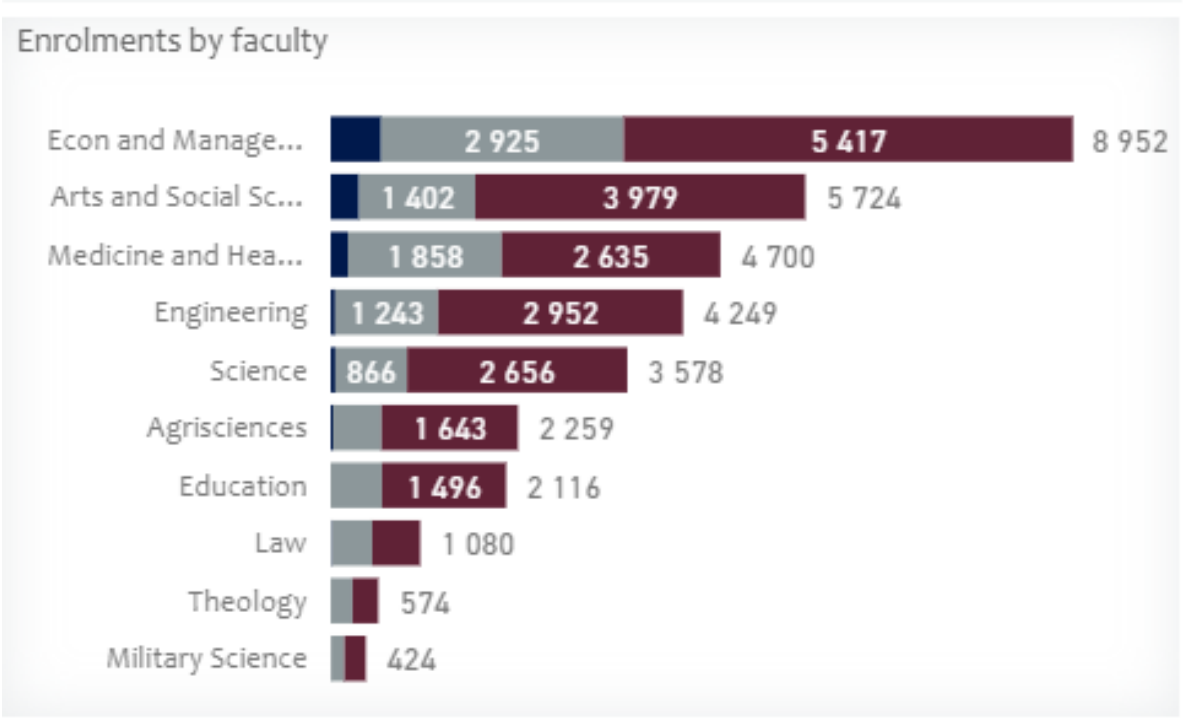
UNIVERSITEIT

Department of Viticulture and Oenology/South African Grape and Wine Research Institute

Prof Wessel du Toit
Chair: Department of Viticulture and Oenology

South African and Stellenbosch

Stellenbosch University



Staff

4764

Undergraduate students

21927

Postgrad students

4762

Faculty of Agrisciences

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saam vorentoe

AGRICULTURAL ECONOMICS

AGRONOMY

ANIMAL SCIENCE

CONSERVATION ECOLOGY AND ENTOMOLOGY

FOOD SCIENCE

FOREST AND WOOD SCIENCE

GENETICS

HORTICULTURAL SCIENCE

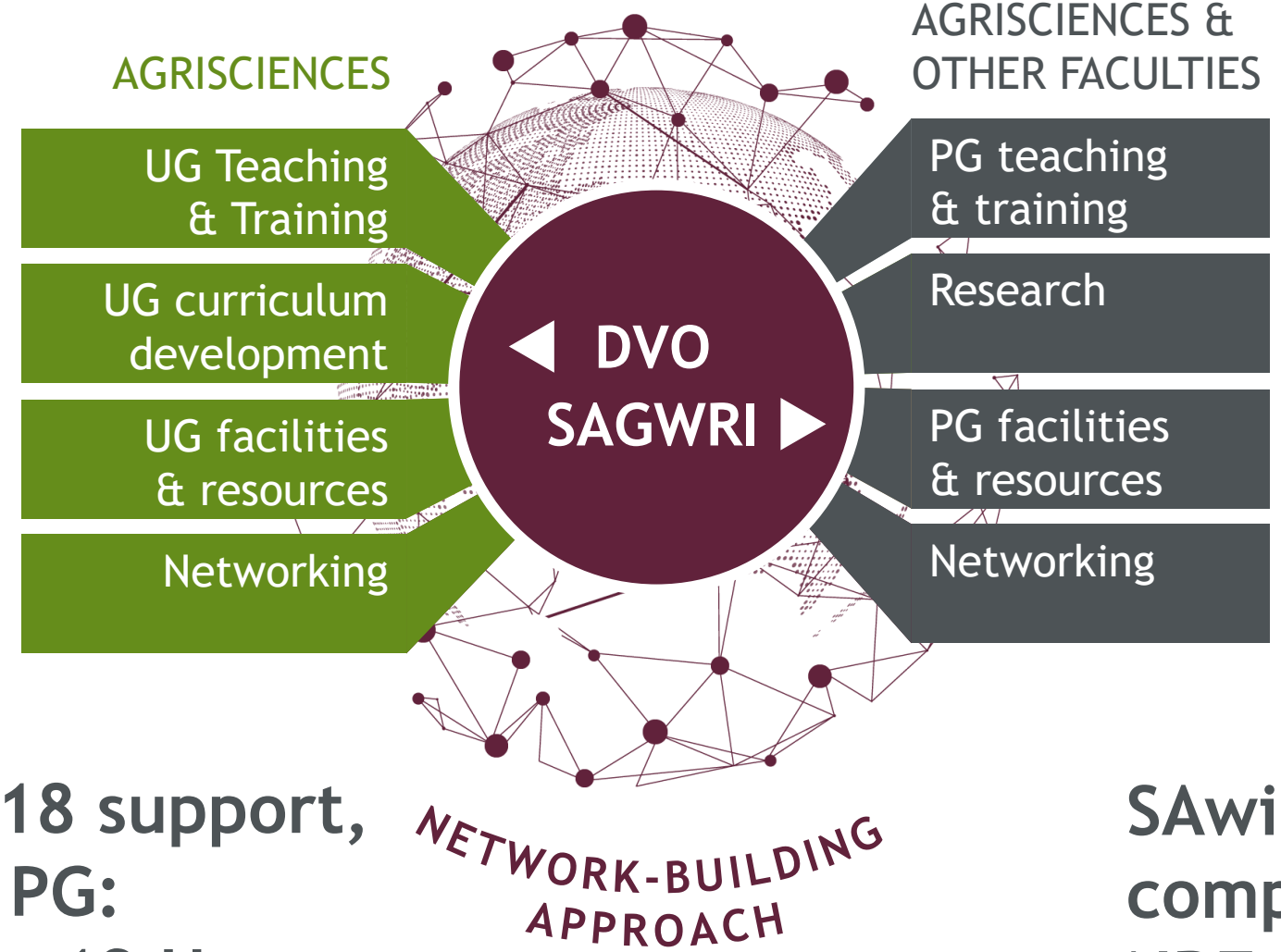
PLANT PATHOLOGY

SOIL SCIENCE

VITICULTURE AND OENOLOGY

SOUTH AFRICAN GRAPE AND WINE RESEARCH INSTITUTE (SAGWRI)

DVO and SAGWRI

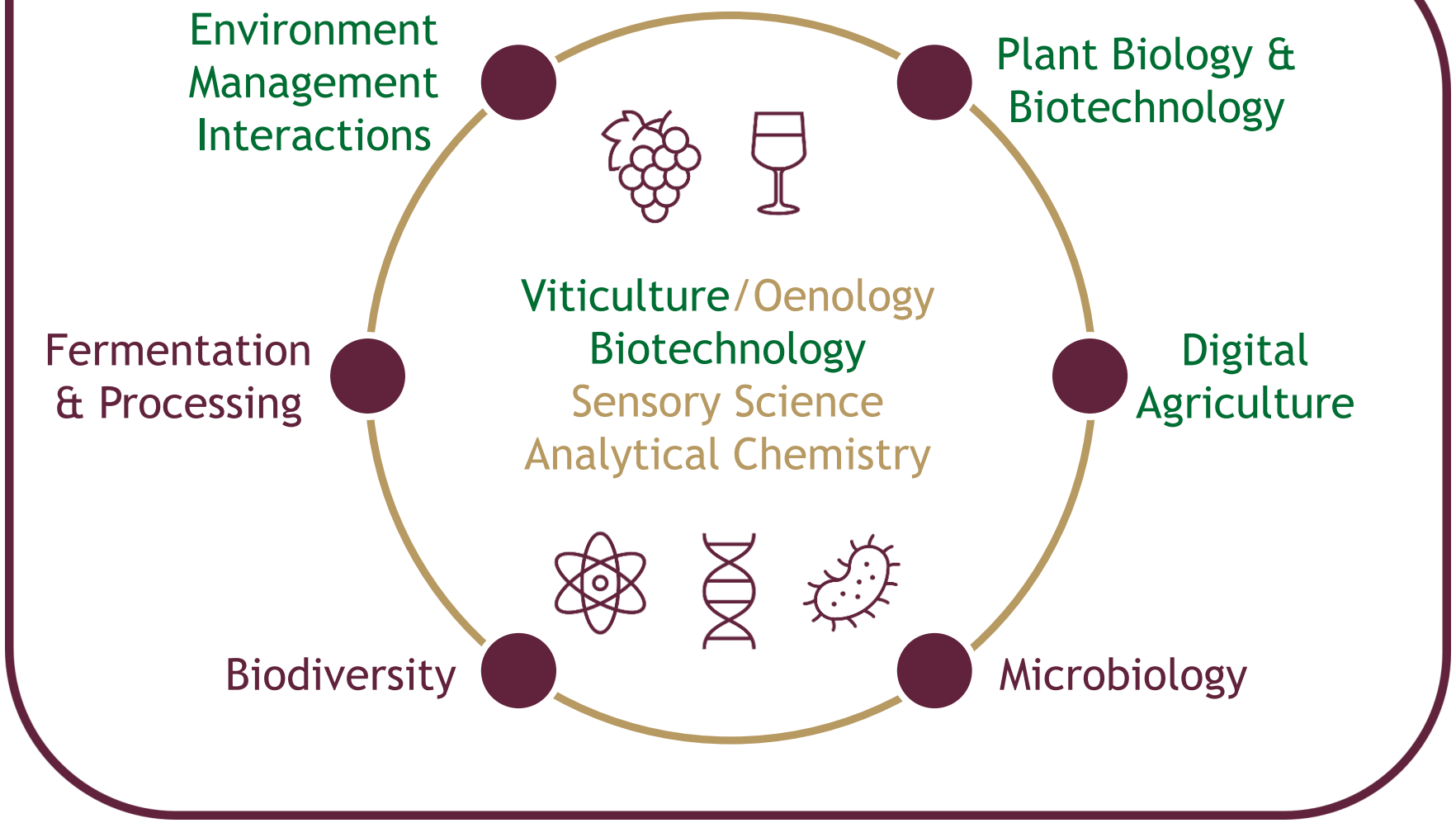


13 academics, 18 support,
164 UG and 87 PG:
23 PhD, 52 MSc, 12 Honors

SAwine, private companies, SATI, NRF

RESEARCH THEMES

INTEGRATED GRAPE & WINE SCIENCES



DVO-SAGWRI: Viticulture UG teaching and research

Prof M Vivier

Crop production

Study of grapevines and stress resistance

Dr A Strever

Grapevine management
Physiology
Terroir
Entrepreneurship
AI

Innovation in viticulture and oenology

Dr J Moore

Grapevine Physiology

Plant cell wall biology applied to grapes and wine

Mrs E Avenant

Table and raisin grape production

Table and raisin grape research

Ms T Venter

Vineyard establishment
Vineyard management
(Practical viticulture)

Digital viticulture: new tools for precision management

Dr E Blancquaert

Ampelography; Grapevine diseases; propagation; Grape berry stress physiology

Viticultural advancement through fundamental and sustainable scholarship

Prof C Poblete

Grapevine physiology
water management
Climate change, new technologies

Digital viticulture: new tools for precision management

DVO-SAGWRI: Oenology teaching and research

Prof Wessel Du Toit

Phenolics
Wood
Redox
Filtration, fining

Redox, aroma and phenolics

Prof Maret Du Toit

Wine microbiology; Malolactic fermentation; Microbial spoilage

Lactic acid bacteria: wine composition and spoilage

Prof Florian Bauer

The Future of wine: Innovation and networks

Microbial ecology/evolution, yeast biotechnology

Prof Benoit Divol

Wine microbiology; Alcoholic fermentation;

Exploring yeast for diversity

Prof Evodia Setati

Grapevine and wine microbiol; Microbial interactions

Vineyard microbiome: sustainable and climate resilient grape and wine production

Dr Jeanne Brand

Sensory analysis Wine style and cultivar characteristics

Wine sensory: collaborative and transdisciplinary research

Wessel du Toit research

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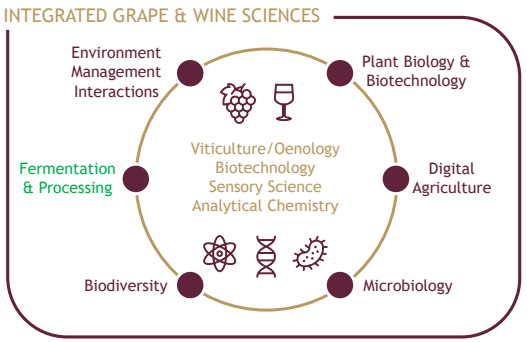
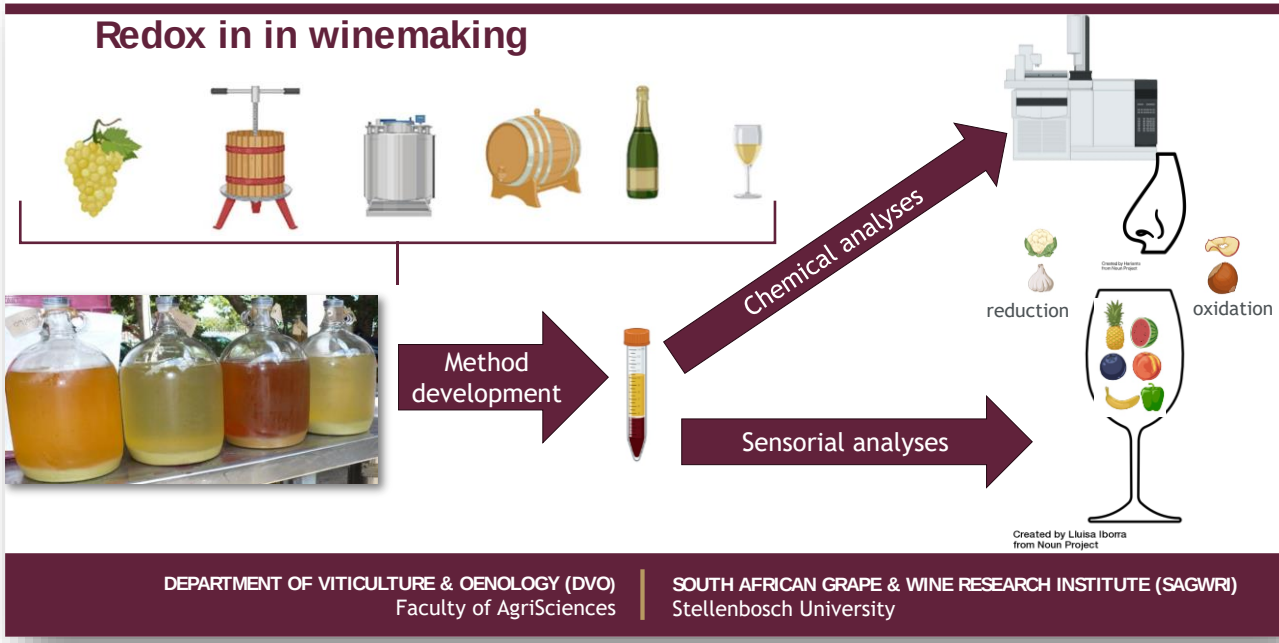
Research themes



Phenolics in red winemaking

Redox in in winemaking



DEPARTMENT OF VITICULTURE & OENOLOGY (DVO)
Faculty of AgriSciences

SOUTH AFRICAN GRAPE & WINE RESEARCH INSTITUTE (SAGWRI)
Stellenbosch University

Technical and administrative staff

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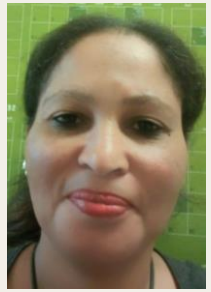
Edmund Lakey

Marisa Nel

Andy van Wyk

Anke Berry

Lynn Engelbrecht



Michelle Korkie

Dr Hans Eyeghe-Bickong

Dr Anscha Zietsman

Athalea Minnaar

Charl Newman

Egon February

Judy Williams

Dr Rene Naidoo-Blassoples

Letlotlo Nyenye

CA lab

DVO-SAGWRI: UG curriculum

FIRST YEAR

Biology	Chemistry	Physics	Crop Production	Computer Literacy	Mathematics	Introduction Grapevine and Wine Sciences

Created by Tyler Gobberdiel from Noun Project

SECOND YEAR

Created by N.Style from Noun Project

Grapevine and Wine Sciences Project 1;

Wine industry; Wine styles and sensory evaluation; Grapevine plant materials; Resource allocation and grapevine physiology; Grapevine and wine microbiology

Biochemistry; Chemistry; Soil Science

Created by Francesco Terzini from Noun Project

THIRD YEAR

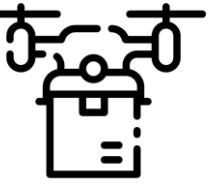
Created by Amethyst Studio from Noun Project

Compulsory: Grapevine and Wine Sciences Project 2; Wine production; Wine stabilization, bottling and faults; Grapevine propagation and cultivation; Trellising and canopy management

Electives (48 credits): Soil Science; Analytical Chemistry; Plant Pathology; Entomology;

Created by Chintuza from Noun Project

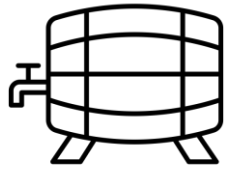
FOURTH YEAR



Created by Nice Design from Noun Project

Industry Internship (6 months - first semester)

Advanced viticulture; Wine flavours; International terroir and wines; The future of wine; Grapevine farming systems and business models



Created by Visual Glow from Noun Project

6 months internship







FACILITIES

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Buildings

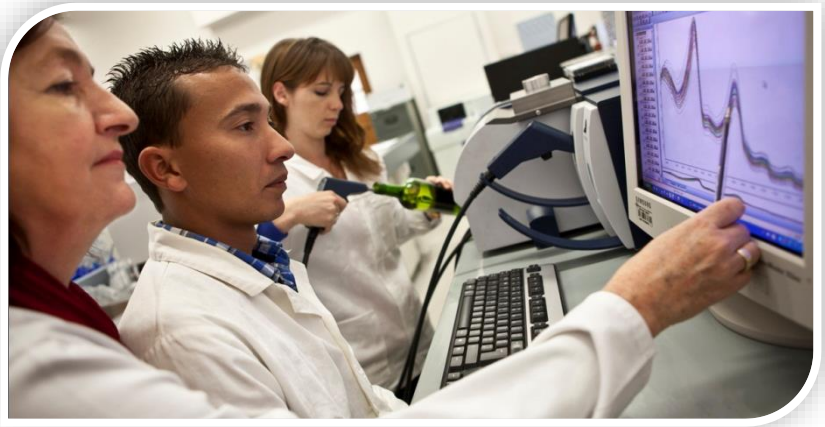
Experimental Cellar

Lecture rooms

Sensory lab

Commercial cellar

Research laboratories



Chemical analytical lab

Agilent 5977 series MSD Inert Plus System GCMS

- Volatile organic compounds (VOCs)
- Fatty acids, PUFAs and sterols
- Volatile phenols (Smoke related)
- Polyunsaturated fatty acids (PUFAs)
- Cutins and waxes
- Derivatized mono & disaccharides
- Untargeted GCMS metabolomics

HP 6890 series GC-FID System

- Major volatiles in dry wines

Agilent 1100 and 1260 series HPLC

- Amino acids
- Organic acids, sugars & alcohols
- Tannins (phloroglucinolysis)
- Fatty acids & sterols
- Chitinase proteins
- Phenolics

Waters Acquity UPLC System

- Carotenoids & chlorophylls
- Phenolics

Thermo Scientific Arena 20XT Enzyme Robot

- Acetaldehyde
- Ammonia
- Citric acid
- D-Fructose
- D-Glucose
- Glycerol
- L-Lactic acid
- D-Lactic acid
- L-Malic acid
- Primary amino nitrogen
- Succinic acid
- Pyruvic acid
- Sugars
- Tartaric acid

Bruker Alpha (ATR) – Mid infrared

- % Alcohol
- Ph
- Acidity
- YAN
- Amonia

Bruker MPA (FT-NIR) – Near infrared

Experimental Vineyard resources (Renewed in 2020)

- Cultivar collection (± 96 different cultivars; 16 different rootstocks)
- Pruning systems (12 different pruning methods)
- Trellis systems (19 different trellis systems)
- Table grape production (27 cultivars on 6 different trellis systems)
- Undergradute winemaking block (19 different cultivars)

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Thank you • Enkosi • Dankie