

**The DIFS:**  
*Department of Ichthyology and Fisheries Science*  
African Union  *Centre of Excellence*    
*for Training in Marine Fisheries and Aquaculture*

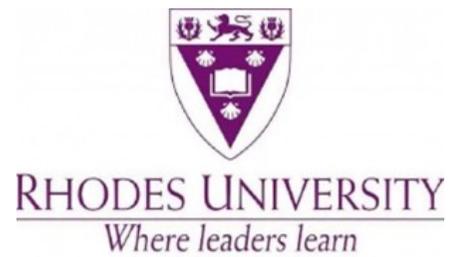


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## **AU-IBAR – Launch of Centers of Excellence**

27 January 2023

Cairo, Egypt



**Department of Ichthyology  
& Fisheries Science**

**“The DIFS”**

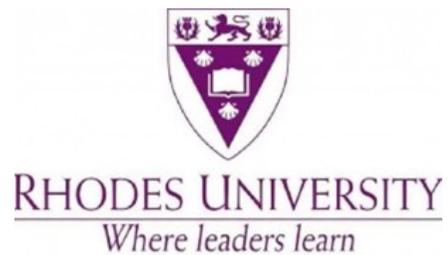
**Cliff Jones  
Head of Department**



**c.jones@ru.ac.za**

**Makhanda, South Africa**





## Department of Ichthyology & Fisheries Science

# “The DIFS”

## Rhodes University:

### 5 Faculties

- Science
- Pharmacy
- Law
- Education
- Humanities

### 8000± students \*

### Research intensive \*

- PhD - 610±
- MSc - 890±
- Honours/P-grad diplomas - 900±
- Undergrads - 5400±

### Equity (student body) \*

- Female – 60%
- Black – 75%
- Foreign – 18%



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**Department of Ichthyology  
& Fisheries Science**

**“The DIFS”**

**Only department in Africa that offers  
degrees in Ichthyology & Fisheries Science:**

- Undergraduate major
- Honours (Ichthy, Fisheries & Aquaculture)
- MSc (by thesis only)
- PhD



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**8 academic teaching staff members**

... **6 permanent full time**

**what it is that  
we do...**



**Prof. Cliff Jones**

PhD Fisheries Science  
(Rhodes)



- **aquaponics** and **IMTA**
- water & nutrient – the **circular economy**
- **student mobility** in Africa: **COTRA**
- abalone **feed** ingredients
- **collaboration**
- **algae**





**Prof. Peter Britz**  
PhD Fisheries Science  
(Rhodes)

- **governance**
- **aquaculture**
- **small-scale** fisheries management
- **abalone** aquaculture & ranching
- **Aquaculture feeds**
- **WAS Africa Chapter conferences**

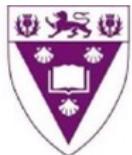
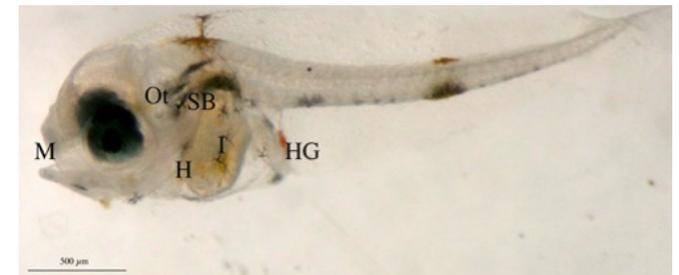
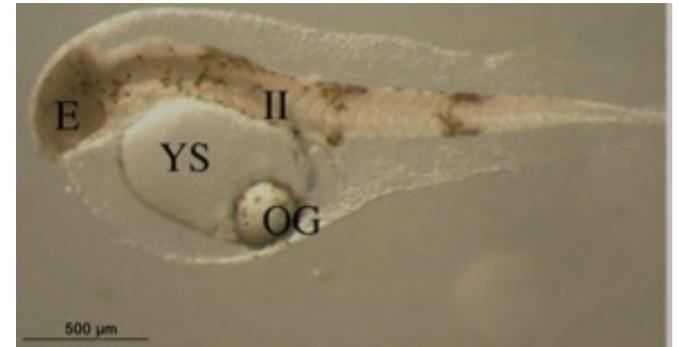




**Prof. Horst Kaiser**

Dr agr. sci.  
(Bonn, Germany)

- fish health management
- fish physiology
- recirculating aquaculture
- artemia biology



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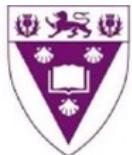
**Prof. Warren Potts**

PhD Fisheries Science  
(Rhodes)

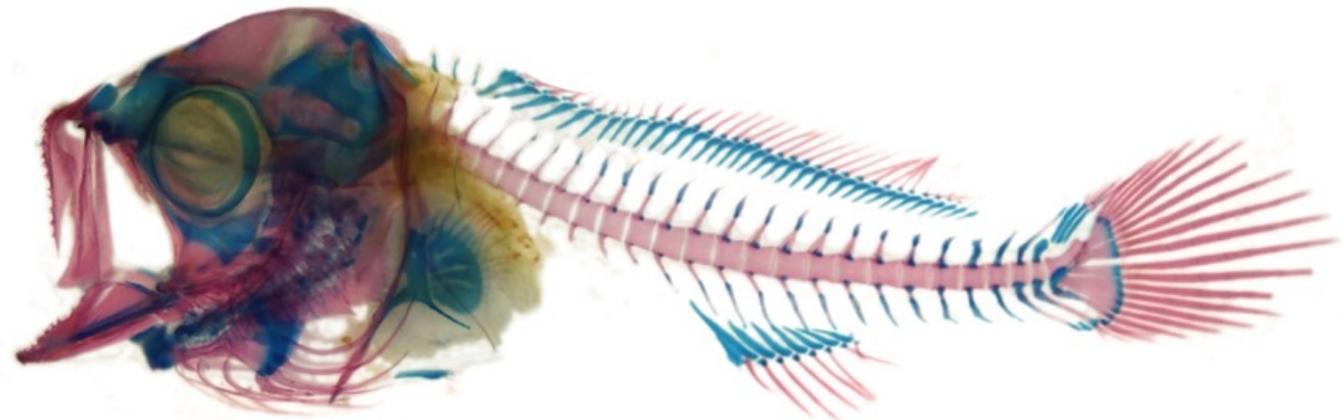
- fisheries **management**
- **recreational** fisheries
- physiological/behaviour **climate change**
- **spawning** and larval rearing



**SAFER** LAB  
at Rhodes University



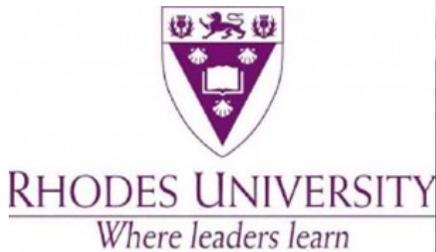
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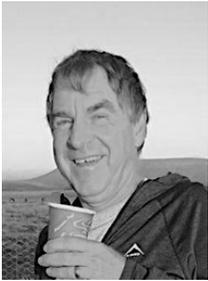




**Prof. Amber-Robyn Childs**  
PhD Fisheries Science  
(Rhodes)

- physiological/behaviour **climate change**
- **spawning** and larval rearing
- estuarine **ecology**
- **movement** behaviour

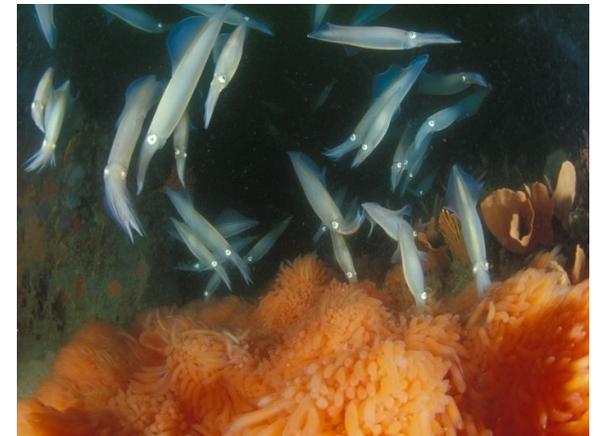




**Prof. Warwick Sauer**

PhD Fisheries Science  
(NMU)

- **African fisheries**
- **oceanography**
- **ocean governance**
- **fisheries ecology and economics**
- **fisheries management:**
- **Ecosystem Approach to Fisheries**



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**Prof. Wilbert Kadye**

PhD Fisheries Science  
(Rhodes)

- freshwater **ecology & taxonomy**
- **community** ecology and **invasion biology**
- **stream ecosystem** functioning
- **food web** interactions
- fisheries **resource management**

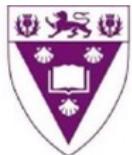
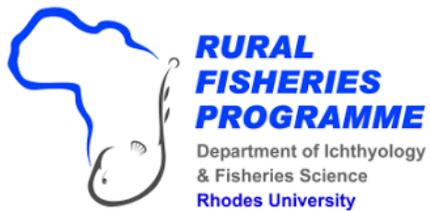




**Mr Quarban Rouhani**

MSc Fisheries Science  
(Rhodes)

- Director of **Rural Fisheries** Program
- Focus on developmental aspects of **aquaculture** and **small-scale fisheries**
- **Buna Africa** - an online aquaculture tool



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## Department of Ichthyology & Fisheries Science

# “The DIFS”

Only department in Africa that offers degrees in Ichthyology & Fisheries Science:

- Undergraduate major
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- MSc (by thesis only)
- PhD

7 academic teaching staff members

### Facilities:

#### Aqualab:

- Commercial-scale freshwater hatchery
- Marine laboratories
- Aquaponics & green house tunnels
- Ecophysiology lab

#### Partner facilities & research platforms:

- molecular labs
- ships and vessels
- BRUVs
- national government platforms
- Industry...

# “The DIFS”

## People:

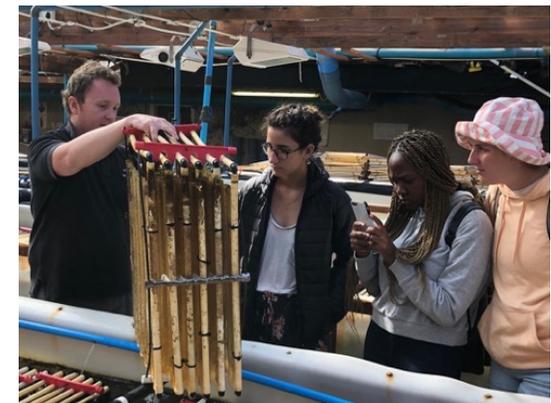
### a) Student body:

- Undergraduates: 15 to 30±
  - Honours: 8 to 12
  - MSc: 20-30
  - PhD: 30-45
- Ichthyology or  
Fisheries Science

### b) Full time academic staff – 6

### c) Technical & admin staff – 7½

### d) Associate academic staff – 25±





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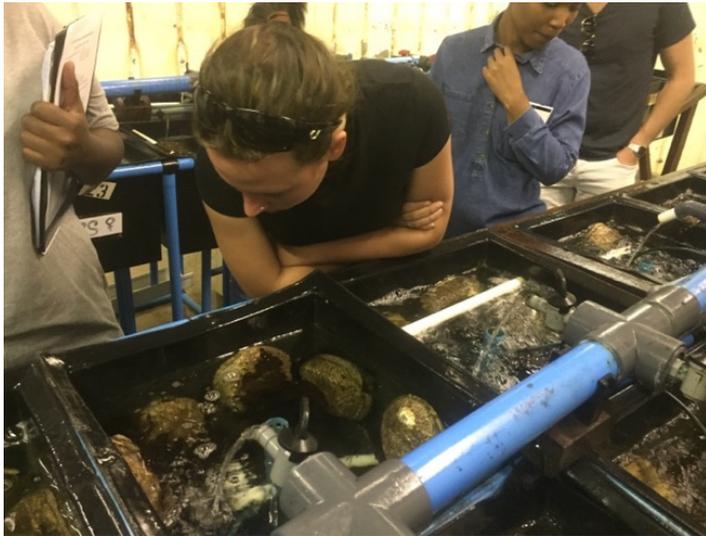
Strength in **partnerships**

- Associate staff body
- **SAIAB, SAEON, Gov (DFFE), Industry...**
- **33 university** collaborations
- >20 countries

# “The DIFS”

## Approach to aquaculture research – partnerships with industry

- Research problem identification
- Conceptualization
- Fund raising
- Experimental design
- Data collection & interpretation



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## Approach to aquaculture research – partnerships with industry

- Research problem identification
- Conceptualization
- Fund raising
- Experimental design
- Data collection & interpretation

Industry partner  
involvement



Technology transfer  
More research  
Student employment



# “The DIFS”

## Approach to aquaculture research – partnerships with industry

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- Experimental design
- Data collection & interpretation

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involvement



Technology transfer  
More research  
Student employment



## Employment

record of my 20 own MSc/PhD students (only two not involved in this industry):

Rowan Yearsley MSc – Chief Executive Officer (CEO) of Aquinion Pty Ltd

Alistair Green MSc – General Manager, WastePlan Pty Ltd.

Lindsey Woolley MSc – Hatchery Technician, Challenger Institute of Technology, Australia.

Nani Rossetti MSc – Production Supervisor, Camanor Marine Products, Brazil.

Matthew Naylor MSc – Director of Marifeed Pty Ltd and Production Manager of HIK Abalone Farm Pty Ltd.

Nicholas Riddin MSc – Senior Scientific Technician, South African Institute for Aquatic Biodiversity.

Devon Ayres MSc – Hatchery Manager, HIK Abalone Farm Pty Ltd.

Sean Power MSc – Environmental Coordinator for Africa, Anheuser-Busch InBev

Gareth Nicholson MSc – Assistant Farm Manager, High Country Salmon farm, New Zealand

Ann (Yu) Wu MSc – PhD student, studying with me at Rhodes University.

Kyle Lloyd MSc – Research Manager, Aquinion Pty Ltd, and then: Head of Department: Grow-out I&J Danger Point.

Richard Taylor MSc – PhD student, studying with me at Rhodes University.

Mmathbo Mogane – Environmental Officer in the Aquaculture Division, DAFF.

Georgie Robinson PhD – Postdoctoral fellow, Scottish Association for Marine Science.

Adejoke Adesola PhD – Postdoctoral fellow, Dalhousie University, Canada.

Nyiko Mabasa MSc – PhD student, studying with me at Rhodes University.

[Jefferson van Staden – Hatchery Manager, HIK Abalone Farm]

[Thato Tlakedi MSc – Researcher I&J.]

[Jason Write – Production, Aquinion Pty Ltd]

[Christopher Gornall MSc – Production manager, Viking Aquaculture.]

# “The DIFS”



... and its strong  
partnership network  
of **associates**

... consists of people

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... and its strong  
partnership network  
of associates

... consists of people

... what we **do best** is  
generate **NEW KNOWLEDGE**  
through  
**TRAINING**  
and **STUDENT RESEARCH**

we have the expertise:  
**expertise** within our staff  
and expertise **through partnerships**

we have  
**access to facilities**

... we have **IMPACT** in  
... **South Africa**  
... **Africa**

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... consists of people

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what we **need** to have

**GREATER IMPACT** that will

**transform Africa...**

# “The DIFS”



... and its strong partnership network of associates

... consists of people

... we need

... what we **do best** is

generate **NEW KNOWLEDGE**

through

**TRAINING**

and **STUDENT RESEARCH**

what we **need** to have

# CAPACITY

**GREATER**

# IMPACT

that will

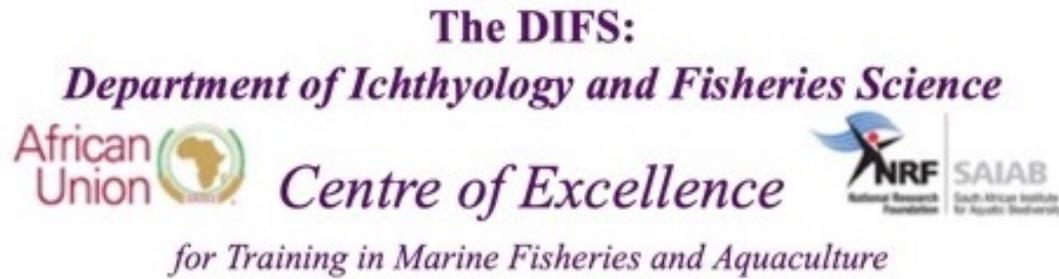
**transform Africa...**

(1) “Chair” in African student research

(2) **Postdoctoral** fellowship bursaries

(3) MSc and PhD **student bursaries** and **promote mobility**





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