

# NMMU honours 'little fish' expert

## Prof Nadine Strydom wins Researcher of Year Award

Herald Correspondent

**T**HE winner of NMMU's Researcher of the Year Award is Africa's leading expert on "little fish", and a regular pioneer of new technologies in her field.

Professor Nadine Strydom's speciality – a scarce skill worldwide – is identifying fish larvae so tiny they can only be viewed under a microscope.

She tracks the early life stages of fish, monitoring their movement from the sea where fish spawn, to the surf zone where fish larvae are part of the plankton, to estuaries where they grow into juvenile fish, and even up-river where marine fish make use of unique nursery areas.

She also monitors the age and size at which fish start reproducing.

Why this research is so important is that an understanding of fish larvae can help with predictions about the size of future fish populations.

"It's a well-known scientific phenomenon that the success of any fish population is underpinned by the success of the larval phase," Strydom said.

She has a doctorate in ichthyology from Rhodes University, and a C2 research rating from the National Research Foundation.

Fisheries worldwide use eggs and larvae to predict the number of adult fish they are likely to catch two to three years down the line.

Her research on fish reproduction and early life history stages is necessary to help conservation authorities and policymakers make decisions regarding fish protection and management.

In South Africa, this is critical,



**PIONEERING RESEARCH:** Professor Nadine Strydom is Nelson Mandela Metropolitan University's top researcher for 2016

given that many coastal fish stocks – the kind targeted by shoreline and small boat anglers – are collapsing.

"We only have 3% of the entire population of Dusky Kob left," Strydom said.

"This is because of misaligned size restrictions related to the size at which reproduction starts [most are fished out before they have even reproduced once], unregulated fishing in estuary nursery areas, and poor angler education on [both] the biology of the species they are fishing and the poor state of many coastal fish stocks."

Strydom has strong research links with specialists in the US, Europe, Australia and Germany's GEOMAR Helmholtz Centre for Ocean Research in Kiel.

She has adapted a technique used at GEOMAR, which is typically used for fisheries research

in the northern hemisphere, for ecological purposes in estuaries in South Africa.

"This technique uses RNA:DNA ratios to determine whether the fish larvae are in good condition or not.

"I'm using the technique in new ways to figure out how good the different estuaries are, in terms of serving as feeding and nursery areas for the baby fish, and to test it as a pollution-monitoring tool."

Because estuaries in South Africa are typically used as nurseries by many linefish species, caught recreationally and commercially, issues like industrial and sewage pollution are critical.

A recently completed masters student project under Strydom showed how heavy metal and organic pollution in the Swartkops Estuary in Port Elizabeth, impacts young fish, many of which are destined for human consumption.