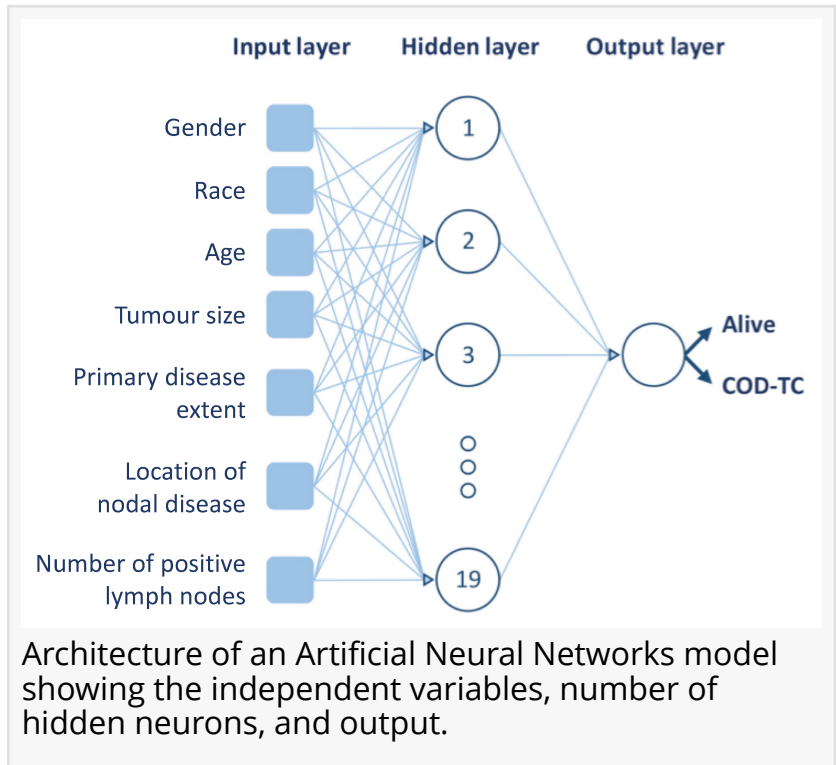


# Scintillon Researchers Publish New Methods for Thyroid Cancer Prognosis

*Powerful machine learning models identified prognostic indicators from large thyroid cancer databases to reach up to 94% accuracy, helping treatment choices.*

SAN DIEGO, CA, USA, March 20, 2020 /EINPresswire.com/ -- The journal Scientific Reports of Nature Publishing today published [Scintillon's](#) research on novel methods for [prognosis of thyroid cancer using machine learning](#). This approach provides both patients and doctors better tools to chart a course of action in fighting against this cancer. By applying powerful machine learning algorithms to a large NIH dataset that compiles information from over 60,000 U.S. thyroid cancer patients, Dr. Jiwu Wang's group developed new models to classify patients according to their most likely disease prognosis or outcome with much improved performance over commonly used mathematical and clinical approaches.



Currently, thyroid cancer prognosis is typically assessed through the so-called “TNM” system, based on qualitative variables including tumor size (T), nodal status (N), and existence of metastasis (M). It is known that this approach is not fully equipped to handle and predict disease recurrence or prognosis, the very reason behind the current Scintillon study involving leading thyroid cancer surgeons such as Dr. Moustafa Mourad, Chief of Division Otolaryngology - Head & Neck Surgery, Jamaica Hospital Medical Center in New York, physicians, biologists, and mathematic modeling experts from additional hospitals and research organizations.

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Scintillon Institute envisions a data-centered paradigm shift based on intelligent work with data, ultimately realizing the invaluable benefits that still remain mostly hidden in clinical databases.”

*Dr. Jiwu Wang, Professor and Director, Scintillon Institute*

Several combinations of variables present in the NIH database were fed to unique artificial neural network classifiers, which led to distinct performances depending on the datasets employed to train them. “While the

variables employed by the standard TNM system yielded around 81% accuracy, even using powerful machine learning models, stronger prognostic indicators were identified from databases to reach up to 94% accuracy, therefore revealing higher predictive power and helping to optimize future treatment choices”. Dr. John Cancilla, who conducted the mathematical modeling for the paper, explains.

This publication also suggests that general disease prognosis could improve with machine learning to effectively determine the likely development of patients, who should then benefit from a more optimized and personalized medical treatment while physicians make informed and case-specific decisions. Scintillon Institute envisions a data-centered paradigm shift in the medical field based on intelligent work with data, ultimately realizing the invaluable benefits that to date remain mostly hidden in clinical databases. Scintillon has recently recruited professors into its Center for Anti-Aging to focus on gathering and analyzing personalized health and multiomics data for discovering the best actions for treating diseases and enhancing health span.

Scintillon is a 501 C (3) non-profit organization established in 2012, in San Diego, California, USA.

Rhianna Basore  
Scintillon Institute  
858-657-9145

[email us here](#)

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