Principal Scientist Wants More Transparency to Minimize Research Bias

Business Wire

GREENSBORO, N.C. -- July 31, 2012 -- Syngenta Principal Scientist, Timothy Pastoor, Ph.D., DABT, joined industry experts and academics in a Toxicology Forum roundtable, "How Bias Evolves and Impacts Science." Pastoor stressed the need for transparency and verification as part of the solution to research bias during the organization's 38th Annual Summer Meeting held July 8 through 12 in Aspen, Colo.

"As members of the scientific research community, we all have an obligation to verify data through replication of research, share our data openly, and proactively discuss our findings with the public and the media in order to minimize bias and misinformation," said Pastoor. "We cannot ignore the fact that prejudice can slant science. That's why it is so critical that we identify ways to face the ongoing challenge of bias in research."

The investigation by the Department of Health and Human Services Office of Research Integrity into the work of researcher Mona Thiruchelvam, Ph.D., was one example panel members discussed.

The Office of Research Integrity recently found that Thiruchelvam committed research misconduct by fabricating data that suggested a connection between pesticides and Parkinson's disease. Before the fraud was uncovered, millions of dollars were spent on studies trying to replicate the falsified data. Because her research had been peer reviewed, it was generally accepted as valid and widely cited in subsequent research papers.

While her original papers have been retracted, nothing that can be done to withdraw the more than 70 studies and ongoing research they influenced.

"Bias may be completely unintentional, but everyone has it to one degree or another," continued Pastoor. "It is the responsibility of ethical scientists to acknowledge those biases so that research data can be viewed more accurately and science is not slanted."

In addition to Pastoor, the five-person panel included two university professors of toxicology, an editor-at-large for a nonprofit, nonpartisan research organization, and an expert in external technology, toxicology and environmental research with The Dow Chemical Company.

Panelists also discussed the need for scientists to do a better job of helping media, who may not have a scientific background, better understand research findings so results of their work are reported accurately.

The panel generally agreed that following Good Laboratory Practice (GLP) is a strong foundation to reduce bias, but the requirements may be so onerous that smaller academic institutions cannot be expected to follow them to the letter. The panel suggested all research should be conducted in the spirit of the GLP standards met by research teams working with major corporations.

Organizations that can't meet the strict standards of GLP, such as many academic institutions, can reduce bias, demonstrate transparency and achieve verification by publishing supplemental research data online.

As a principal scientist, Pastoor often serves as a scientific expert and lecturer on toxicology and risk assessment. He has also served as the company's head of Human Safety, managing a team of toxicologists and risk-assessment experts who use safety, health and environmental studies to establish product safety.

Pastoor has more than 30 years of international experience in fundamental toxicity testing, mode-of-action research and human-health risk assessment. He is a Toxicology Forum board member, a member of the Society of Toxicology Communications Committee and past president of the Society's Regulatory and Safety Evaluation Specialty Section, and a member of the board of the International Life Sciences Institute/Health and Environmental Sciences Institute (ILSI/HESI).

Pastoor earned his doctorate in toxicology from the University of Michigan and is certified by the American Board of Toxicology (DABT).

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