



**MENOS  
MEDICINA** | **MAS  
SALUD**

Organización Civil Internacional por la  
transparencia, la integridad, la participación  
y la equidad en las políticas de salud,  
la asistencia sanitaria y la investigación biomédica.

## **Epidemic of chronic kidney disease among the most disadvantaged of tropical countries and scientific censorship.**

**The long arm of Monsanto: chronicle of  
an unprecedented ignominy**

**By Luis Carlos Silva Aycaguer, PhD**

por [nmurcia](#) | Abr 28, 2019 | [Profesionalismo y conflictos de Interés](#), [Saber Crítico](#),  
[Salud y medio ambiente](#), [Salud, Ciencia y Políticas](#)



### **(1) The epidemic of chronic kidney disease.**

The criminal record of Monsanto, a transnational company devoted to the production and commercialization of agrochemicals, is extensive and fairly well known.

# Nueva condena a Monsanto por no advertir de que su herbicida puede producir cáncer

El fabricante deberá pagar 70 millones a un jubilado tras considerar que el uso del Roundup fue determinante en su linfoma

[https://elpais.com/sociedad/2019/03/28/actualidad/1553773460\\_982217.html](https://elpais.com/sociedad/2019/03/28/actualidad/1553773460_982217.html)

Actions such as [systematic concealment of inconvenient evidence](#), [handling of influences](#) or [maneuvers to disqualify agencies and researchers that point out any harmful effect of their productions](#), have prompted numerous denouncements and sanctions.

The facts we address, nevertheless, have their root in a tragic sanitary reality that, in principle, would seem not to involve this company. Our subject is an epidemic of Chronic Kidney Disease that emerged with force at the beginning of the present century in some specific locations of the planet. El Salvador and Nicaragua in Central America, as well as Sri Lanka and southern India are, by far, the most affected territories. This phenomenon and its unique features have been gradually coming to light in recent years.

<p><b>The name</b> <b>Chronic Interstitial Nephritis in Agricultural Communities (CINAC)</b> <b>has been used to describe this epidemic called CKDu or CKDnt in Sri Lanka and Central America respectively</b></p>	<p>Nephrol Dial Transplant (2017) 32:224–241 doi: 10.1093/ndt/gfw345 Advance Access publication 13 October 2016</p> <p><b>Full Reviews</b></p> <p><b>Chronic interstitial nephritis in agricultural communities: a worldwide epidemic with social, occupational and environmental determinants</b></p> <p>Channa Jayasumana<sup>1</sup>, Carlos Orantes<sup>2</sup>, Raul Herrera<sup>3</sup>, Miguel Almaguer<sup>3</sup>, Laura Lopez<sup>3</sup>, Luis Carlos Silva<sup>4</sup>, Pedro Ordunez<sup>5</sup>, Sisira Siribaddana<sup>1</sup>, Sarath Gunatilake<sup>6</sup> and Marc E. De Broe<sup>7</sup></p> <p><sup>1</sup>Faculty of Medicine &amp; Allied Sciences, Rajarata University of Sri Lanka, Saliyapura, Sri Lanka, <sup>2</sup>National Health Institute, Ministry of Health (MINSAL), San Salvador, El Salvador, <sup>3</sup>Institute of Nephrology, Ministry of Public Health, La Habana, Cuba, <sup>4</sup>National Medical Sciences Information Center, Havana, Cuba, <sup>5</sup>Pan American Health Organization, Washington, DC, USA, <sup>6</sup>Department of Health Science, California State University, Long Beach, CA, USA and <sup>7</sup>Laboratory of Pathophysiology, University of Antwerp, Wilrijk, Belgium</p> <p>Correspondence and offprint requests to: Marc E. De Broe; E-mail: marc.debroe@uantwerpen.be</p>
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Nephrol Dial Transplant (2016) 0: 1–8

<https://academic.oup.com/ndt/article/32/2/234/2194445>

The epidemics that have emerged in the aforementioned Central American and Asian countries are strikingly similar, as shown by the following table taken from a [study carried out by a team of researchers from Sri Lanka, Cuba, El Salvador and Belgium](#).

Comparison of Chronic Interstitial Nephritis in Agricultural Communities (CINAC) in Sri Lanka and Central America		
	Sri Lanka	Central America
Primarily among	male paddy farmers, hot climate	male sugarcane farmers, hot climate
Diabetes	no	no
Hypertension	no	no
Glomerulonephritis	no	no
Risk factors	farmer, male sex, agrochemical exposure, drinking well water, from abandoned wells, a family history of renal dysfunction, history of snake bite, spray glyphosate based herbicides	farmer male sex, agrochemical exposure, agricultural work, profuse sweating during work, malaria, NSAID use
Clinical features		
· Asymptomatic (early stages)	+	+
· Loss of appetite	+	+
· Lethargy	+	+
· Backache	+	+
· Insomnia	+	+
· Arthralgia	+	+
· Muscle ache	+	+
· Cramps	+	+
· Dysuria	+	+
· Foamy urine	+	+
· Neurological abnormalities	+	+
· Liver enzyme level	normal	normal
Urinary findings		
· Hyponatriuria	+	+
· Hypermagnesuria	+	+
· Hyperphosphaturia	+	+
· Hypercalciuria	+	+
· Proteinuria	neg/minimal not active sediment	neg/minimal not active sediment
· Beta2 microglobulin, NAG, NGAL	+	+

Blood		
· Hyponatremia	+	+
· Hypokalemia	+	+
Imaging	bilateral small echogenic kidneys, decreased cortico-medullary ratio, irregular margins.	bilateral small echogenic, kidneys decreased cortico-medullary ratio, irregular margins, doppler ultrasound reports normal blood flow in renal arteries, segmental arteries and renal parenchyma.
Histopathology		
· Tubulointerstitial nephritis	+	+
· Interstitial fibrosis	+	+
· Tubular atrophy	+	+
· Interstitial mononuclear cell infiltration	+	+
· Glomerular collapse	+	+
· Fibrous intimal thickening and arteriolar hyalinosis	+	+
· Immunofluorescence tests	negative	negative
Other features		
Heat stress and dehydration as the primary causal factor	possible however, can't explain the occurrence of disease in mid 1990s. Geographical distribution is not coherently explained. No disease in the northern province (same climate) where agrochemical has not been used.	possible however, can't explain the occurrence of disease in 1990s. Similar epidemic or even isolated outbreak was not reported from Cuba, another sugarcane cultivating country in the region.
Natural contaminants in ground water	fluoride, high hardness	arsenic
Major occupational toxicants in the endemic regions	glyphosate based herbicides, heavy metals	paraquat, organophosphates, and glyphosate based herbicides

In each of these four countries, hundreds of thousands of people (mainly men dedicated to agricultural activities, but also women) suffer from this disease, and tens of thousands have died for that cause. To a large extent, they are relatively young people (under 60 years old, including children), free from the ailments that typically precede and cause the appearance of CKD: mainly hypertension and diabetes. This type of CKD has been called “Chronic Kidney Disease of Non-Traditional Causes” (ERCnT). The absence of traditional causes in the clinical pattern has prompted some to invoke an enigma or mystery as possible causes of the epidemic.



## Mesoamerica's Mystery Killer

Scientists have come up with a gallery of rogues to explain an epidemic of kidney disease in Central America. But the culprit has stayed one step ahead

<https://science.sciencemag.org/content/344/6180/143>





<https://science.sciencemag.org/content/344/6180/143>

## **(2) A long-standing epistemological debate**

In this context, two fundamental causal hypotheses have been suggested. On the one hand, the prolonged exposure to agrochemicals, especially of agricultural workers.

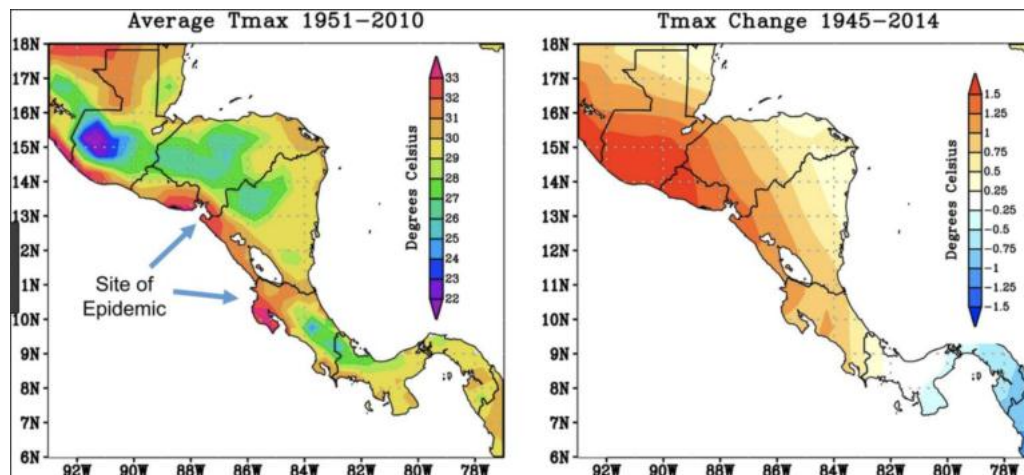
Chronic kidney disease

Chronic kidney disease mortality trends in selected Central America countries, 1997–2013: clues to an epidemic of chronic interstitial nephritis of agricultural communities

Pedro Ordunez<sup>1</sup>, F Javier Nieto<sup>2</sup>, Ramon Martinez<sup>1</sup>, Patricia Soliz<sup>1</sup>, Gloria P Giraldo<sup>1</sup>, Susan Anne Mott<sup>3</sup>, Wendy E Hoy<sup>3</sup>

<https://jech.bmj.com/content/72/4/280.long>

In addition to exposure by direct contact with such products, some of them well known as nephrotoxic, subjects may have suffered from air, water or food contamination. The presence of the disease (even in its ERCnT variant) not only among workers, but also among women and children, as well as non-agricultural adults and adolescents, adds plausibility to this conjecture.



On the other hand, the hypothesis that attributes etiological prominence to prolonged exposure to high temperatures, in a strenuous work environment, has been proposed, to which i dehydration due to inadequate fluid intake is also added. According to this conjecture, dehydration (which by itself compromises kidney function through accumulation of nephrotoxins) would lead to successive subclinical episodes of acute kidney damage. This course of action could end up in chronic dysfunction of this organ.

A more comprehensive model, supported by several researchers who have concentrated their research efforts in El Salvador and in Sri Lanka, is not committed to any specific conjecture, but admits that both explanations are plausible and could act synergistically.

However, over the years there has been a process of systematic underestimation or even direct concealment, of the first of the aforementioned hypotheses. Several papers published in reputable journals, do not grant potential prominence to pesticides and attach almost exclusive causal role to strenuous work under high temperatures.

## EDITORIAL

## The Epidemic of Chronic Kidney Disease of Unknown Etiology in Mesoamerica: A Call for Interdisciplinary Research and Action

During the last 20 years, several regions in Central America and Mexico have seen a dramatic increase of a rapidly progressive chronic kidney disease, unexplained by diabetes and hypertension.<sup>1-3</sup> This regional epidemic of chronic kidney disease of unknown origin (CKDu) is also being referred to as the Mesoamerican nephropathy or MeN.<sup>4</sup> It has been estimated that this largely unknown epidemic has caused the premature death of at least 20 000 men.<sup>5</sup> In MeN-affected areas in Nicaragua<sup>6</sup> and Costa Rica (C.W., unpublished data), chronic kidney disease mortality is up to five-fold the national rates. In El Salvador, kidney disease was the second most common cause of death among males in 2009.<sup>5</sup> MeN primarily, but not only, affects young and middle-aged male laborers in the

Collaborative research efforts are thus a high priority to identify the etiology of MeN and develop prevention measures. With this objective, the university-based research and development Program on Work, Environment and Health in Central America

(SALTRA: Programa Salud, Trabajo y Ambiente en América Central) organized an interdisciplinary workshop in Costa Rica,

November 28–30, 2012. The goal was to identify present knowledge and gaps, and to elaborate methodological recommendations for future research. More than 50 researchers from 15 countries participated, with expertise in epidemiology, occupational health, public health, clinical and experimental nephrology, nephropathology, ecosystem health approaches, environmental sciences, social sciences, and law. The workshop benefited from

by scientific reports in the rest of Mesoamerica. Increased rates of CKDu among agricultural workers are also reported in Sri Lanka<sup>7</sup> and India.<sup>8</sup> CKDu is probably a hitherto unrecognized global problem, although it is not clear if the CKDu epidemics observed in other parts of the world are the same disease or are caused by the same factors as in Mesoamerica.

### LEADING HYPOTHESIS

Probably, there is more than one causal factor for CKDu in Mesoamerica, but important evidence exists to narrow hypotheses and focus future research and intervention efforts. **Currently, the strongest hypothesis for MeN is that repeated heat exposure and dehydration resulting from strenuous work in tropical climates may be the key risk factor or an essential cofactor. These episodes**

<https://ajph.aphapublications.org/doi/10.2105/AJPH.2013.301594>

As can be seen, under the heading “Leading hypotheses”, is the paper stated that:

*“Currently, the strongest hypothesis for MeN is that repeated heat exposure and dehydration resulting from strenuous work in tropical climates may be the key risk factor or an essential cofactor. These episodes are believed to lead to subclinical acute kidney injuries that develop into chronic damage over time”.*

Narrative Review

Marzo 2014

### CKD of Unknown Origin in Central America: The Case for a Mesoamerican Nephropathy

Ricardo Correa-Rotter, MD,<sup>1</sup> Catharina Wesseling, MD, PhD,<sup>2</sup> and Richard J. Johnson, MD<sup>3</sup>

An epidemic of chronic kidney disease of unknown origin has emerged in the last decade in Central America and has been named Mesoamerican nephropathy. This form of chronic kidney disease is present primarily in young male agricultural workers from communities along the Pacific coast, especially workers in the sugarcane fields. In general, these men have a history of manual labor under very hot conditions in agricultural fields. Clinically, they usually present with normal or mildly elevated systemic blood pressure, asymptomatic yet progressive reduction in estimated glomerular filtration rate, low-grade non-nephrotic proteinuria, and often hyperuricemia and or hypokalemia. Diabetes is absent in this population. Kidney biopsies that have been performed show a chronic tubulointerstitial disease with associated secondary glomerulosclerosis and some signs of glomerular ischemia. **The cause of the disease is unknown; this article discusses and analyzes some of the etiologic possibilities currently under consideration. It is relevant to highlight that recurrent dehydration is suggested in multiple studies, a condition that possibly could be exacerbated in some cases by other conditions, including the use of nonsteroidal anti-inflammatory agents.** At present, Mesoamerican nephropathy is a medical enigma yet to be solved.

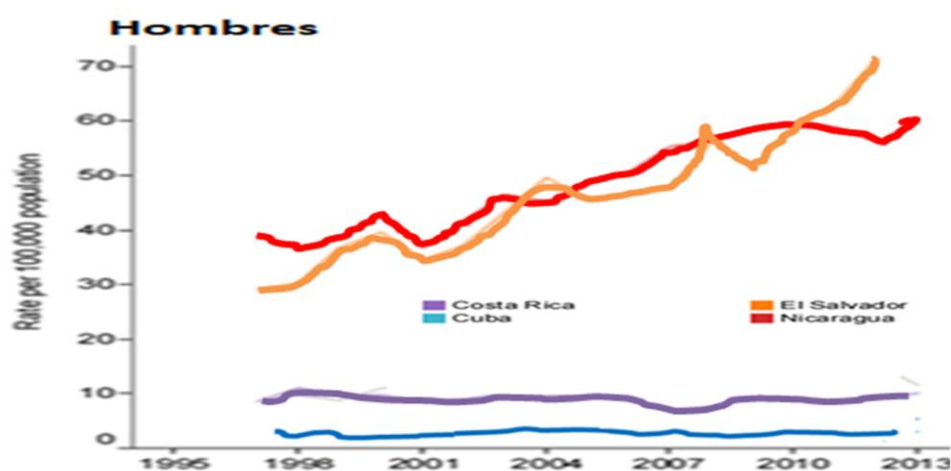
*Am J Kidney Dis.* ■(■):■-■. © 2014 by the National Kidney Foundation, Inc.

**INDEX WORDS:** Chronic kidney disease; Mesoamerica.

[Another paper](#) contends that, although the cause of the disease is unknown, when analyzing and discussing some of the etiological possibilities currently under consideration, the sole statement is:

*“that recurrent dehydration is suggested in multiple studies, a condition that possibly could be exacerbated in some cases by other conditions, including the use of nonsteroidal anti-inflammatory agents”*

Those papers completely ignore the possible role of agrochemicals and overlook that the phenomenon also occurs in children and women who do not work in agriculture, while it does not appear in territories with similar working environments and analogous climate conditions (for example, Cuba, a country that, together with Canada, exhibits the lowest CKD mortality rate in the Americas, 20 times less than in El Salvador), nor among operators of non-agricultural communities, who work in conditions of extreme temperatures: hot rooms, foundries, brick factories, bakeries, chemical plants, road construction or steam tunnels.



J.Epidemiol Comm Health 2018;72:280-286

### **(3) Global warming emerges as villain**

More recently, [some authors have begun to consider “global warming” as “the cause of the cause”](#). This would be the real propitiatory cause behind direct agents. It appeared for the first time in press releases like the following one:



# CAMBIO CLIMÁTICO NOS HACE MÁS VULNERABLES A ENFERMEDADES RENALES

- El nefrólogo Ramón García-Trabanino ha estudiado las posibles causas de la epidemia
- Un extenso estudio realizado con trabajadores de caña detectó posibles factores
- Las duras condiciones laborales, junto con las altas temperaturas, provocarían daño renal

Xenia González Oliva  
xenia.gonzalez@elcomercio.com

Las temperaturas cada vez más altas de la zona costera, combinadas con terribles condiciones laborales, podrían ser la causa detrás de la misteriosa epidemia de la enfermedad renal que cada año afecta a miles de salvadoreños.

El nefrólogo salvadoreño Ramón García-Trabanino llevó a cabo en una investigación que se centró en los cortadores de caña de la zona costera y relacionó el daño renal con el aumento de las temperaturas.

El estudio fue premiado como el mejor de los presentados durante el XIII Congreso Centroamericano y del Caribe de Nefrología e Hipertensión Arterial, así como el V Congreso Nacional de Nefrología, este año en Nicaragua.

"Fuimos documentando que eso es una realidad. Todavía hay muchos escépticos del cambio climático. Logramos demostrar que las condiciones en las que trabaja nuestra gente en el campo y la costa están fuera de todos los límites permitidos", expuso García-Trabanino.

El nefrólogo, que participó en una observación diaria de las jornadas de los trabajadores, explicó que no importa cuánta agua bebiere durante su jornada, el estrés térmico al que se exponían siempre les provocaba deshidratación.

"Y cada año es más caliente, ya no importa cuánta agua tomen. Podrían ser 12 litros de agua al día y aun así estarían deshidratados", sostuvo el especialista.

De hecho, la Organización Meteorológica Mundial (OMM) ha pronosticado que este podría ser un año más caluroso para los salvadoreños, debido a los efectos del fenómeno de El Niño.

Durante 2015 se rompieron récords históricos de temperatura en diversas zonas del país, indicó el Ministerio de Medio Ambiente y Recursos Naturales (MARN).

San Vicente llegó a registrar una temperatura de 42 grados, algo inusual en la zona. El haber logrado encaminar la hipótesis del estrés térmico, por la temperatura, junto con las condiciones laborales como factores que provocan el grave daño renal es un paso muy importante para atender la epidemia.

Pero a la vez es preocupante, manifestó García-Trabanino.

"Si se confirma la hipótesis, va a ser una epidemia global", expresó el médico, quien señaló que la situación implica que según aumenten las temperaturas, la epidemia podría ir afectando más y más a la población que vive en zonas altas, por encima de la costa.

"Significa que, de aquí a finales de siglo, la principal causa ya no va a ser la diabetes y la hipertensión, va a ser el calor. Cada año llueve menos, hay más sequía, menos fuentes de agua disponibles", añadió.

Las más afectadas serían las personas que llevan a cabo duras jornadas laborales.

## Las secuelas

"En los cañales quemados ya no importa cuánta agua tomen, se van a deshidratar", sentenció García-Trabanino,

## La exposición que impacta a los riñones

Las arduas jornadas laborales de los cortadores de caña se unen al aumento de las temperaturas en la zona costera provocando un grave daño renal en los trabajadores.



sobre una de las labores que está más relacionada con la enfermedad renal: la corta de la caña.

La investigación que presentó el médico, llamada "Estrés térmico, deshidratación y función renal en cortadores de caña de azúcar: Estudio por y por jornada de trabajadores en riesgo de nefropatía mesoamericana", detectó cómo las extenuantes condiciones laborales podrían estar relacionadas con la nefropatía mesoamericana.

"Logramos encontrar las predicciones que se habían hecho. Estrés térmico extremo, deshidratación, daño en los riñones por fructosa y ácido úrico", dijo.

García-Trabanino, junto con 11 investigadores de diversas procedencias, trabajó en el estudio que involucró a 189 cortadores de caña.

Los trabajadores eran de tres zonas del país: de Suchitico, El Palenque y San Luis Talpa, este último en la costa.

García-Trabanino explicó que cada día tomaban muestras de los cortadores de caña antes de que ingresaran a trabajar y al final de la jornada.

También calculaban la temperatura al inicio de la jornada, que solía ser entre 34 a

36°C antes del mediodía, y de 39 a 42°C al mediodía.

Los trabajadores no tomaban descansos en toda su jornada y el mediodía tendía a ser uno de los momentos más duros de su trabajo.

En las muestras encontraron cristales de ácido úrico en la orina de la gente y daño renal agudo tan solo después de una jornada de trabajo.

"Entraban a las 5:00 y salían a las 3:00 con el ácido úrico y creatinina para arriba", dijo García-Trabanino.

Entre los grupos estudiados, el daño era más evidente para los trabajadores de la zona costera, donde la temperatura era más alta.

El médico indicó que el ácido úrico normalmente es una enfermedad de personas acomodadas, relacionada con una alimentación abundante en carnes, langostas e incluso cervezas.

En cambio, los afectados de la zona costera a veces solo comen tortillas.

Esto ocurre porque piden la uricemia, la enzima que deshace el ácido úrico. Esto ocurre porque, cuando las personas se deshidratan, la orina se pone espesa y ácida. Además, las personas siguen trabajando.

**Cargo** director médico del Centro de Hemodiálisis.  
**Profesión** Nefrólogo con maestría en trasplantes de órganos y tejidos.  
**Premios** Múltiples reconocimientos, entre ellos el premio Nacional de Medicina a la investigación.



**"AL FINAL SON LAS CONDICIONES LABORALES Y EL CALENTAMIENTO GLOBAL LO QUE ESTÁ MATANDO A ESTAS POBRES PERSONAS".**

Ramón García-Trabanino, nefrólogo internista.

Ramón García Trabanino, then president of the Association of Nephrology and Hypertension of El Salvador, stated that, after all, working conditions and global warming were the actual killers of those affected.

Then, the idea of blaming global warming began to appear in scientific journals.

# Climate Change and the Emergent Epidemic of CKD from Heat Stress in Rural Communities: The Case for Heat Stress Nephropathy

Jason Glaser, Jay Lemery, Balaji Rajagopalan, Henry F. Díaz, Ramón García-Trabanino, Gangadhar Taduri, Magdalena Madero, Mala Amarasinghe, Georgi Abraham, Sirirat Anutrakulchai, Vivekanand Jha, Peter Stenvinkel, Carlos Roncal-Jimenez, Miguel A. Lanaspa, Ricardo Correa-Rotter, David Sheikh-Hamad, Emmanuel A. Burdmann, Ana Andres-Hernando, Tamara Milagres, Ilana Weiss, Mehmet Kanbay, Catharina Wesseling, Laura Gabriela Sánchez-Lozada, and Richard J. Johnson

## Abstract

Climate change has led to significant rise of 0.8°C–0.9°C in global mean temperature over the last century and has been linked with significant increases in the frequency and severity of heat waves (extreme heat events). Climate change has also been increasingly connected to detrimental human health. One of the consequences of climate-related extreme heat exposure is dehydration and volume loss, leading to acute mortality from exacerbations of pre-existing chronic disease, as well as from outright heat exhaustion and heat stroke. Recent studies have also shown that recurrent heat exposure with physical exertion and inadequate hydration can lead to CKD that is distinct from that caused by diabetes, hypertension, or GN. Epidemics of CKD consistent with heat stress nephropathy are now occurring across the world. Here, we describe this disease, discuss the locations where it appears to be manifesting, link it with increasing temperatures, and discuss ongoing attempts to prevent the disease. Heat stress nephropathy may represent one of the first epidemics due to global warming. Government, industry, and health policy makers in the impacted regions should place greater emphasis on occupational and community interventions.

*Clin J Am Soc Nephrol* ■■■■■, 2016. doi: 10.2215/CJN.13841215

## Review – Advances in CKD 2016



Blood Purif 2016;41:135–138  
DOI: 10.1159/000441265

Published online: January 15, 2016

## Mesoamerican Nephropathy or Global Warming Nephropathy?

Carlos A. Roncal-Jimenez<sup>a</sup> Ramon García-Trabanino<sup>b</sup> Catharina Wesseling<sup>c</sup>  
Richard J. Johnson<sup>a</sup>

<sup>a</sup>Division of Renal Diseases and Hypertension, University of Colorado Denver, Anschutz Medical Campus, Aurora, CO, USA; <sup>b</sup>Scientific Board, Department of Investigation, Hospital Nacional Rosales, San Salvador, El Salvador; <sup>c</sup>Unit of Occupational Medicine, Institute of Environmental Medicine, Karolinska Institutet, Stockholm, Sweden

In other words: according to these researchers, the fundamental cause would be the high temperatures under which affected people work and the insufficient hydration; but the cause of such a cause would be the global warming. The most notable and obvious weakness of this argument is that, if global warming explains the irruption of the epidemic, it would be global as well, instead of concentrating on half a dozen points of the world, especially in areas of only four countries.

HOME | AWARDS

## AAAS Award for Scientific Freedom and Responsibility

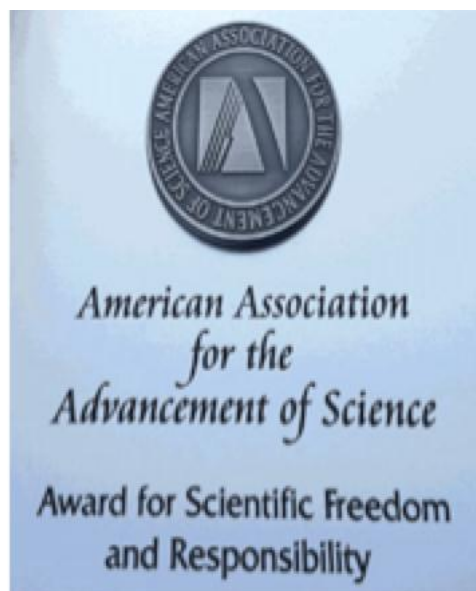
<https://www.aaas.org/awards/scientific-freedom-and-responsibility>

#### **(4) The American Association for the Advancement of Science (AAAS) and its annual Award for Scientific Freedom and Responsibility**

The American Association for the Advancement of Science is the largest scientific society in the world, with more than 120 thousand members. Founded on September 20, 1848 (170 years ago) as a non-profit organization, its stated goals, [according to Wikipedia](#), are:

*“promoting cooperation among scientists, defending scientific freedom, encouraging scientific responsibility, and supporting scientific education and science outreach for the betterment of all humanity”*

The prestige of the AAAS partially comes from the fact that it is the institution that publishes Science, one of the most renowned scientific journals in the world. Since 1980, the AAAS has instituted the conferring of an Award for Scientific Freedom and Responsibility to *“scientists, engineers or their organizations, whose exemplary actions have demonstrated scientific freedom and responsibility in challenging circumstances.”*



The [AAAS website states verbatim](#):

*“The types of actions worthy of this award include acting to protect the public’s health, safety or welfare; focusing public attention on important potential impacts of science and technology on society by their responsible participation in*

*public policy debates; or providing an exemplary model in carrying out the social responsibilities of scientists, engineers or in defending the professional freedom of scientists and engineers.”*

The very denomination of the prize makes clear that it is not intended to reward relevant findings, research outcomes or conquests in knowledge, but researchers with ethical, courageous and responsible behavior based on social interest. The prize entails extraordinary social recognition; it has an associated amount in cash and a commemorative plaque which is delivered in a solemn ceremony that takes place in Washington DC at the beginning of each year.

## **Global fight against lethal herbicides earns 2019 AAAS Scientific Freedom and Responsibility Award**

Adam D. Cohen, Office of Public Programs 2019 AAAS Annual Meeting Newsroom

AAAS, 4 February 2019

<https://www.aaas.org/news/global-fight-against-lethal-herbicides-earns-2019-aaas-scientific-freedom-and-responsibility>

[as of 6 Feb 2019 this press release has been removed from the AAAS section of the Eurekalert site]

### **(5) The prize corresponding to 2019**

On February 4, 2019, the AAAS issued a press release announcing that the award Scientific Freedom and Responsibility was granted to two Sri Lankan scientists: Drs. [Sarath Gunatilake](#) (professor of health science at the University of California) and [Channa Jayasumana](#) (faculty member of Medicine and Allied Sciences at the Rajarata University of Sri Lanka), whose research on the dangers of glyphosate led to the banning of the herbicide in Sri Lanka and other countries.





*Sarath Gunatilake and Channa Jayasumana in the field*

The [reasons for the AAAS](#) award were clear and overwhelming:

*“Drs. Sarath Gunatilake and Channa Jayasumana “faced death threats and claims of research misconduct while working to determine the cause of a kidney disease epidemic that has claimed tens of thousands of lives in their home country of Sri Lanka and around the world. Ultimately, their advocacy led to the culprit, an herbicide called glyphosate, being banned in several affected countries.”*

Jessica Wyndham, director of the AAAS Scientific Responsibility, Human Rights and Law Program added in the press release:

*“To right a wrong when significant financial interests are at stake and the power imbalance between industry and individual is at play takes the unique combination of scientific rigor, professional persistence and acceptance of personal risk demonstrated by the two scientists recognized by this year’s award.”*

Indeed, according to the researchers, the consumption of water contaminated with glyphosate can contribute to chronic kidney disease by facilitating the transport of heavy metals such as arsenic and cadmium to the kidneys.

## Glyphosate, Hard Water and Nephrotoxic Metals: Are They the Culprits Behind the Epidemic of Chronic Kidney Disease of Unknown Etiology in Sri Lanka?

[Channa Jayasumana](#),<sup>1,2,\*</sup> [Sarath Gunatilake](#),<sup>2,†</sup> and [Priyantha Senanayake](#)<sup>3,†</sup>

<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3945589/>

Their paper “[Glyphosate, Hard Water and Nephrotoxic Metals: Are They the Culprits Behind the Epidemic of Chronic Kidney Disease of Unknown Etiology in Sri Lanka?](#)” had been published in 2014 and earned worldwide consideration. To date, it has had 25,000 downloads and has received dozens of citations

Jayasumana et al. *BMC Nephrology* (2015) 16:103  
DOI 10.1186/s12882-015-0109-2



### RESEARCH ARTICLE

### Open Access

## Simultaneous exposure to multiple heavy metals and glyphosate may contribute to Sri Lankan agricultural nephropathy



Channa Jayasumana<sup>1\*</sup>, Sarath Gunatilake<sup>2</sup> and Sisira Siribaddana<sup>3</sup>

Two other papers were published in 2015: “[Simultaneous Exposure to Multiple Heavy Metals and Glyphosate May Contribute to Sri Lankan Agricultural Nephropathy](#)” and “[Drinking Well Water and Occupational Exposure to Herbicides Is Associated With Chronic Kidney Disease in Padavi-Sri Pura, Sri Lanka](#)”

## With Monsanto and Glyphosate on the Run AAAS Revokes Award to Scientists Whose Studies Led to Ban on Weedkiller in Sri Lanka and Other Countries

<https://www.corporatecrimereporter.com/news/200/monsanto-glyphosate-run-aaas-revokes-award-scientists-whose-studies-led-ban-weedkiller-sri-lanka-countries/>

### **(6) An astonishing retraction**

Only 48 hours later, on February 6, the AAAS issued another statement retracting the previous decision of honoring scientists Gunatilake and Jayasumana. They argued that they had changed the decision “*after concerns were voiced by scientists and members*”



**AAAS**  @aaas · 4 feb.

This year's recipients of the AAAS Award for Scientific Freedom & Responsibility: Drs. Sarath Gunatilake & Channa Jayasumana who battled corporate interests while determining the cause of a kidney disease epidemic that claimed tens of thousands of lives. [fclid.ly/hfs19n1](https://fclid.ly/hfs19n1)



💬 10

↻ 8

❤️ 20



**AAAS**  @aaas

We are taking steps to reassess the 2019 Award for Scientific Freedom and Responsibility, after concerns were voiced by scientists and members. This award will not be presented next week as originally planned while we further evaluate the award selection.

[Traducir Tweet](#)

2:52 p. m. · 6 feb. 2019 · [Twitter Web Client](#)

**63** Retweets **184** Me gusta

<https://twitter.com/aaas/status/1093145382677286912?s=20>

The screenshot of the [two tweets in the AAAS account](#) the first one on February 4th with the announcement of the award and the second one on February 6<sup>th</sup> with its withdrawal.



No information was provided about those “scientists and members” who had objected, nor why such objections were more trustworthy than the opinions of many other “scientists and members” who thought differently. Much less did they explain how the dissensions invalidated a presumably careful process that over a year the AAAS developed to highlight the distinguished work of these two researchers from Sri Lanka.

The next day, Jayasumana received an [email from Jessica Wyndham](#) informing him of the revocation, and removal of the original press release. The director of the Program wrote:

*“As discussed over the phone earlier today, following the announcement of the Scientific Freedom and Responsibility Award yesterday, AAAS has received concerns from scientists and members of the organization that we consider need assessment. That means that we will not be able to present to you and Dr. Jayasumana the Award next week as originally planned.”*

Wyndham did not respond to calls requesting further comments about the decision.

Wyndham did not respond to calls requesting further comments about the decision.

However the most striking feature of the revocation of the award is that the validity of the hypotheses supported by the findings of the research that underlie this award, simply, is irrelevant for this specific prize.



**Jack Heinemann**  
@Jack\_Heinemann

En respuesta a [@mbalter](#) [@thackerpd](#) y 8 más

Whether or not the link between [#glyphosate](#) (or formulation) & kidney disease is right misses the point. A scientific freedom award is given for persecution. If you only give it for proven science, it would be delayed decades & it would only benefit those who persecute.

[https://twitter.com/Jack\\_Heinemann/status/1093929931413819392?s=20](https://twitter.com/Jack_Heinemann/status/1093929931413819392?s=20)

Jack Heinemann, a geneticist and professor at the University of Canterbury in New Zealand, an expert in dealing with conflicts of interest in research and sustainable agriculture wrote:

*“Whether or not the link between glyphosate and kidney disease is right misses the point. A scientific freedom award is given for persecution. If you only give it for proven science, it would be delayed decades and it would only benefit those who persecute”*

It is also worth bearing in mind that Gunatilake and Jayasumana, according to the best scientific tradition, had been adequately cautious in offering their own conclusions. In fact, they [characterize the link between glyphosate and ERCnT in the following terms](#):

*“A strong association between the consumption of hard water and the occurrence of this special kidney disease has been observed, but the relationship has not been explained consistently. Here, we have hypothesized the association of using glyphosate, the most widely used herbicide in the disease endemic area”*

Speaking to *Corporate Crime Reporter*, [Jayasumana said](#):

*“I feel this is an insult, discrimination, humiliation to a scientist live in poor third world country. All my friends and colleagues ask why award is pulled after the announcement. I have no answer. I feel industry is behind this shameless process.”*

Weeks after this shameful and unprecedented evolution, the media show lashed out.

# The disturbing hypothesis for the sudden uptick in chronic kidney disease

Our kidneys might be vulnerable to the more frequent extreme heat brought on by global warming.

By [Julia Belluz@juliaoftorontojulia.belluz@voxmedia.com](mailto:juliaoftorontojulia.belluz@voxmedia.com)

Feb 15, 2019

*Finding the best ways to do good. Made possible by The Rockefeller Foundation.*

In its early stages, chronic kidney disease can lurk silently in the body, causing no symptoms at all. Eventually, as these vital organs fail, the hands and feet start to puff up, and sufferers feel nauseated, achy, and itchy. When the disease reaches its last stage, the kidneys fail and you can die.

Around 2000, health officials noticed that chronic kidney disease was on the rise in Central America. An epidemic seemed to be raging among farmworkers who toiled in sugarcane fields on the Pacific Coast in El Salvador and Costa Rica — one of the hottest areas in the region. To date, more than 20,000 people have died in the epidemic, and thousands of others have had to go on kidney dialysis to survive.

**Researchers are now coming together around a hypothesis about what's driving a little-appreciated epidemic, known as "Mesoamerican nephropathy."**

**The main suspect: global warming. It has become a leading hypothesis to explain not just Mesoamerican nephropathy but a similar uptick in chronic kidney disease in India and Southeast Asia. The victims could be called "climate canaries."**

<https://www.vox.com/future-perfect/2019/2/15/18213988/chronic-kidney-disease-climate-change>

Without the slightest support to sustain it, and openly contradicting reality, the author said that all of us coincide now in that de main cause should be the global warming!

## (7) Monsanto's arm

Monsanto's ties with the AAAS are neither structural nor lacking in fissures, as the prize award itself reveals, but a large group of personalities unequivocally connects both entities. Some of them are mentioned below.



The former president of AAAS, Nina Fedoroff, has become since she left that position an active supporter of the biotechnology industry. After being a collaborator and advisor to the Bush administration, since 2015, [she joined the OFW law firm](#), which backs up the interests of the agrochemical industry.

**Genetic Literacy Project**  
SCIENCE NOT IDEOLOGY

**AAAS fumble? Prestigious scientists' organization endorses 'data-less' study suggesting links between glyphosate and kidney disease in Sri Lanka**

Kevin Folta | Genetic Literacy Project | February 5, 2019

<https://geneticliteracyproject.org/2019/02/05/aaas-fumble-prestigious-scientists-organization-endorses-data-less-study-suggesting-links-between-glyphosate-and-kidney-disease-in-sri-lanka/>

Another open critic of the findings of the award-winning researchers was Kevin Folta, a professor at the University of Florida known for his advocacy for genetically modified foods, who [intentionally concealed](#)



[funds received from Monsanto](#). In 2014, he hurried to characterize Gunatilake and Jayasumana's work as follows: "*A hypothesis was presented, there were no data, there were no experiments.*"

25,553 views | Sep 10, 2015, 10:37am

## What The New York Times Missed On Kevin Folta And Monsanto's Cultivation Of Academic Scientists



David Kroll Contributor ⓘ  
Pharma & Healthcare

<https://www.forbes.com/sites/davidkroll/2015/09/10/what-the-new-york-times-missed-on-kevin-folta-and-monsantos-cultivation-of-academic-scientists/#69a400a8619a>


Folta mischievously distorts reality. His claim that "*there is no data*" in the papers is, quite simply, a brazen lie: there is an enormous amount of data in these articles, which include case-control and geographic studies.

"I've never received personal compensation from any company"

# KEVIN FOLTA CAUGHT AGAIN

Chair of UF Horticultural Sciences Department **accused of**  
Accepting \$25,000 unrestricted grant from **Monsanto**  
Being paid consulting fees by **Bayer**  
Accepting shares of stock in lieu of cash from Canadian firm, **LEC**  
**Abusive behavior toward women** on blogs, social media and emails

UNIVERSITY OF FLORIDA



GMO FREE USA FREE CANADA

The connection of Folta with Monsanto and his lies of not having received money from that transnational company are well known and have been [repeatedly denounced](#)



## Monsanto backs \$150m plant science centre

- [Colin Macilwain](#)

*Nature* **Volume 394**, page211 (1998) | [Download Citación](#)

The US life sciences company **Monsanto** is linking up with a charitable trust to create an independent **\$150 million** plant science institute in St Louis, Missouri, that is intended to become an international centre of excellence for interdisciplinary plant research.

Plans for the new centre, strategically placed at the heart of America's agricultural mid-west, are due to be announced on 31 July by former president Jimmy Carter. It will operate as a joint venture between the **Missouri Botanical Garden**, Washington University in St Louis, the University of Missouri at Columbia, and Monsanto.

Although Monsanto will contribute cash, land and tax credits worth over \$80 million, it says that it will not lay any claim to intellectual property generated at the institute, which is expected to attract research support from government, industry and private foundations.

A search committee to find a director for the institute by the end of the summer is being chaired by **Peter Raven**, director of the Missouri Botanical Garden. "We're talking to some of the best plant scientists in the world," says Sam Fiorello, an assistant to the president of Monsanto.

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<https://www.nature.com/articles/28235>

Another former AAAS president, Peter Raven, has very close ties to Monsanto. Raven is Emeritus Director of the Missouri Botanical Garden, an institution intimately linked to Monsanto to the point that it lodges both the "Monsanto Hall", and the "Monsanto Center" on whose fourth floor is located the library bearing precisely the name "Peter H. Raven Library".

Monsanto has been among the most generous benefactors of the *Missouri Botanical Garden* for 40 years. An example of the millions dollars

presents given to Raven's institution is recognized in the very Monsanto site (<https://monsanto.com/news-releases/missouri-botanical-garden-receives-3-million-gift-from-monsanto-company-toward-development-of-a-world-flora-online/>)

**Michele Simon, Contributor**  
Public health lawyer

# Is AAAS Serving Science or Monsanto?

11/05/2012 05:28 pm ET | Updated Jan 05, 2013

[https://www.huffpost.com/entry/is-aaas-serving-science\\_b\\_2047591](https://www.huffpost.com/entry/is-aaas-serving-science_b_2047591)

Not in vain Greenpeace has even said that “*The American Association for the Advancement of Science acts as The American Association for the Advancement of Monsanto*”

Alison L. Van Eenennaam is another character increasing the payroll of individuals that link AAAS with Monsanto. She is a spokesperson and lobbyist for the agrochemical industry, who worked for Monsanto as a leader in some of its projects, and is now nothing less than the incoming chair of the AAAS Agriculture, Food and Renewable Resources Steering Group.

**Michele Simon, Contributor**  
Public health lawyer

# Is AAAS Serving Science or Monsanto?

11/05/2012 05:28 pm ET | Updated Jan 05, 2013

<https://usrtk.org/gmo/alison-van-eenennaam-key-outside-spokesperson-and-lobbyist-for-the-agrichemical-and-gmo-industries/>

## (8) An inevitable conclusion

In the era of post-truth and “fake news”, the reported events are not surprising. However what happened with the annual award of the AAAS to freedom and scientific responsibility in 2019 goes a little further: not only is it a case of hiding, transfiguring or distorting reality, but an act of

unbridled injustice that sacrifices the honor of a prestigious organization at the altar of unveiled corporate interests.

**Luis Carlos Silva Aycaguer is a professor at the National School of Public Health of La Habana and has been linked during some years to research related with the Chronic Kidney Disease Epidemic in El Salvador**