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# IUNS 21<sup>st</sup> ICN

## International Congress of Nutrition

### “From Sciences to Nutrition Security”



Sociedad Argentina de Nutrición



IUNS

INTERNATIONAL UNION OF  
NUTRITIONAL SCIENCES

## Buenos Aires, Argentina, 15-20 October 2017

Sheraton Buenos Aires Hotel & Convention Center

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EVENT



## **Conflict of Interest Disclosure**

I'm appearing in this event in my capacity as President of ALACCTA and Fellow of the International Academy of Food Science and Technology

I run a consulting firm on food safety that provides services to the food industry, government agencies, universities and food research centers in several Latin American countries



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# The Contribution of Food Science and Technology to the Safety of Processed Foods

By

JAIRO ROMERO, M. A.

President of ALACCTA, Latin American and the Caribbean Association of Food Science and Technology

Fellow of the International Academy of Food Science and Technology



## ALACCTA

# Latin America and the Caribbean Association of Food Science and Technology



- Founded in 1972
- 11 Association Members
- 10 Countries from Latin America and the Caribbean
- XIX LAC Seminar on Food Science and Technology
- XX Seminar will be in Panama City, March 2018



# Agenda

1. Basic concepts of food safety
2. The world of food regulations
3. Sensationalism and speculation

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## Food safety





## Food safety

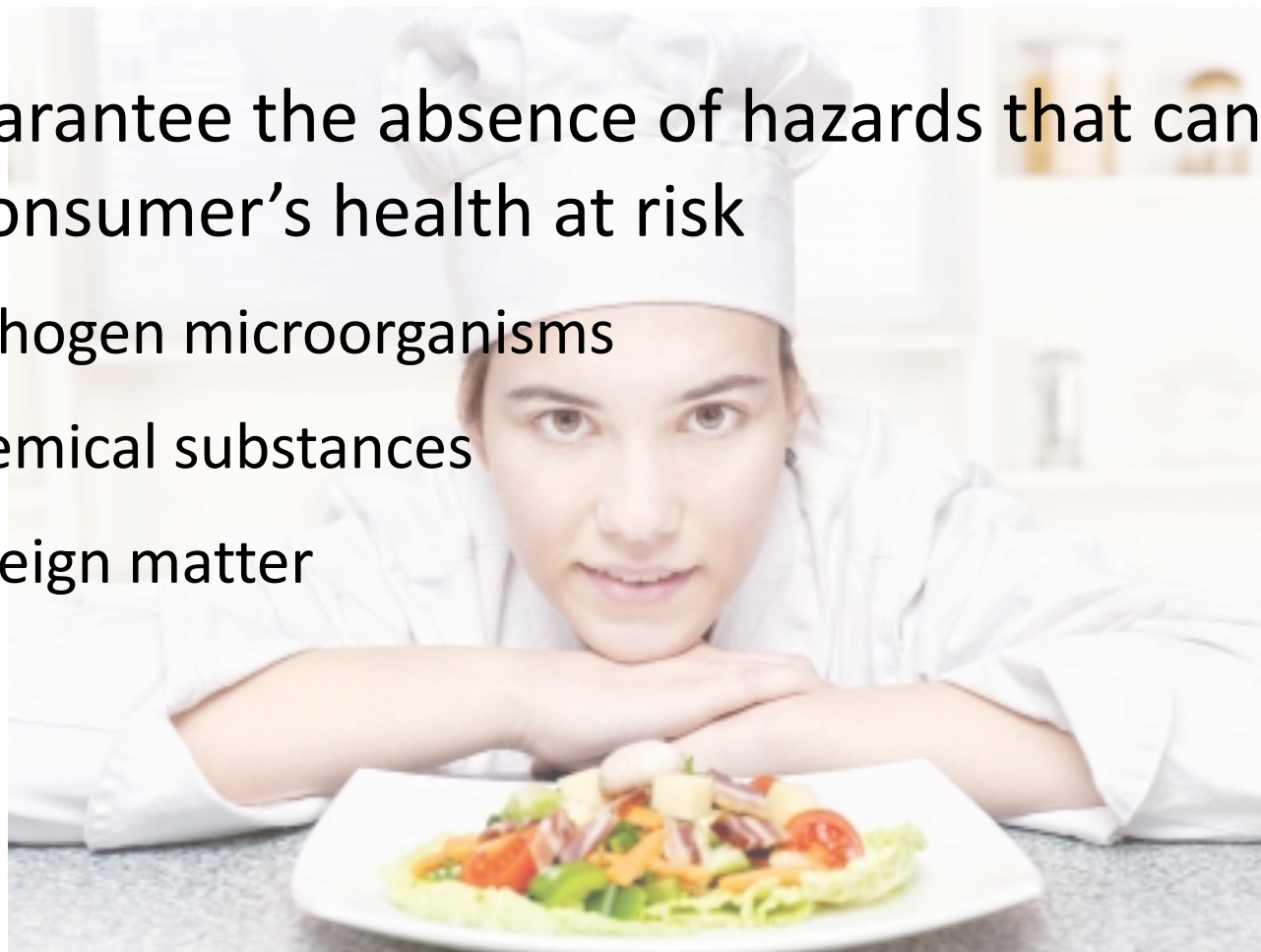
- Assurance that food will not cause harm to the consumer when it is prepared and/or eaten according to its intended use.

*Codex Alimentarius*



## Food safety

- To guarantee the absence of hazards that can put consumer's health at risk
  - Pathogen microorganisms
  - Chemical substances
  - Foreign matter





# Food safety hazards

## Abuse of additives

Ochratoxins *Salmonella*

Antibiotics in milk *S aureus*

Metallic fragments Decomposition

Norovirus Naturally occurring hazards

Heavy metals Filth Adulteration Aflatoxins  
*E coli* O157:H7 Slime

Pesticide residues Parasites *Clostridium botulinum*

Mercury in fish Viruses Drug residues Authenticity

Bioterrorism *Campilobacter* Radiological agents

Bad smell *E coli* Natural toxins *Listeria monocytogenes*

*Vibrio cholerae* Allergens Glass fragments Forbidden substances



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Some of the most important food safety  
crisis over the last 25 years



1993



**in the box**

- *E coli O157:H7* in hamburguers, USA
- 4 deaths
- 630+ affected



President Clinton's  
food safety initiative



2008



- Melamine in infant formula, China
- 300.000 kids affected
- 6 deaths



China exports  
seriously affected



2009



- *Salmonella* in peanut products, USA
- 900+ affected
- 9 deaths



**FDA FOOD SAFETY  
MODERNIZATION ACT**



## 2011



- *E coli* O104:H4 in sprouts, Germany
- 3800+ affected
- 44 deaths



Millions in loses  
from Spanish  
cucumbers

2013



- Horse meat scandal in Europe



Lost of trust



## 2011 – 2017



- Dramatic increase of *Listeria* and *E coli* outbreaks and recalls around the world



# Some key food safety drivers

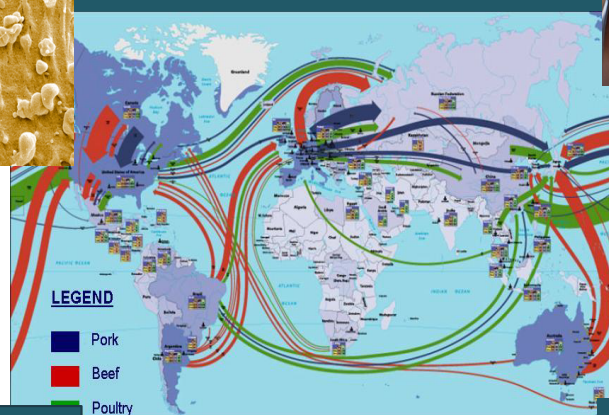
## CLIMATE CHANGE



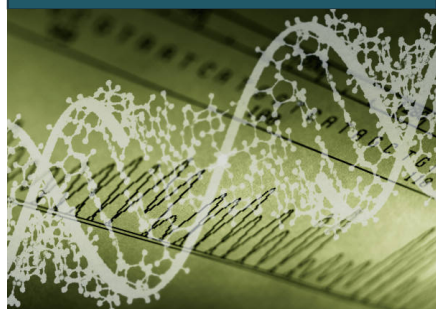
## CHANGES IN DIET



## GLOBAL TRADE



## SCIENCE AND TECHNOLOGY



## SOCIAL MEDIA



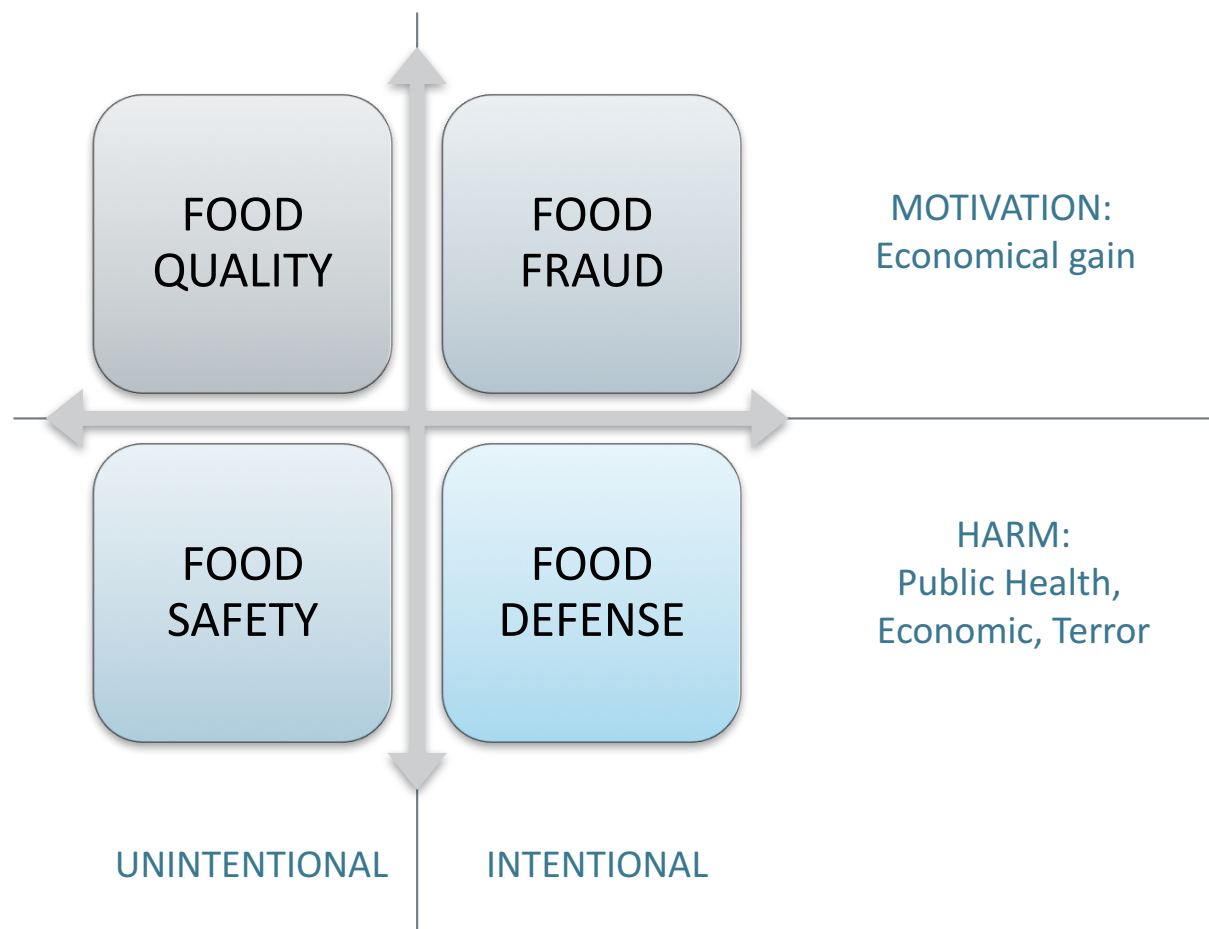
# At international food trade level



- Food safety is of great importance
- And has been linked to fraud prevention and food defense



# The food protection risk matrix



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# In Latin America



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# World of food regulations



# World of food regulations

Composition  
Nutritional claims  
Sweeteners  
Food additives  
GMP  
Country of origin labeling  
Consumer information  
GMO  
Natural occurring hazards  
Novel food processing technologies  
Foods for Special Medical Purposes  
Defect action levels  
**A HIGHLY**  
**REGULATED WORLD**  
MRL of contaminants  
Dietary supplements  
Health claims  
MRL of residues  
Foreign matter  
GRAS Status  
Food colors  
Infant formula  
Nutritional labelling  
Standards of identity  
Microbiological criteria  
Labelling  
Authenticity  
Food contact materials  
Preservatives



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## Basic principles of the regulatory process

Science based

Risk-based

Prevention

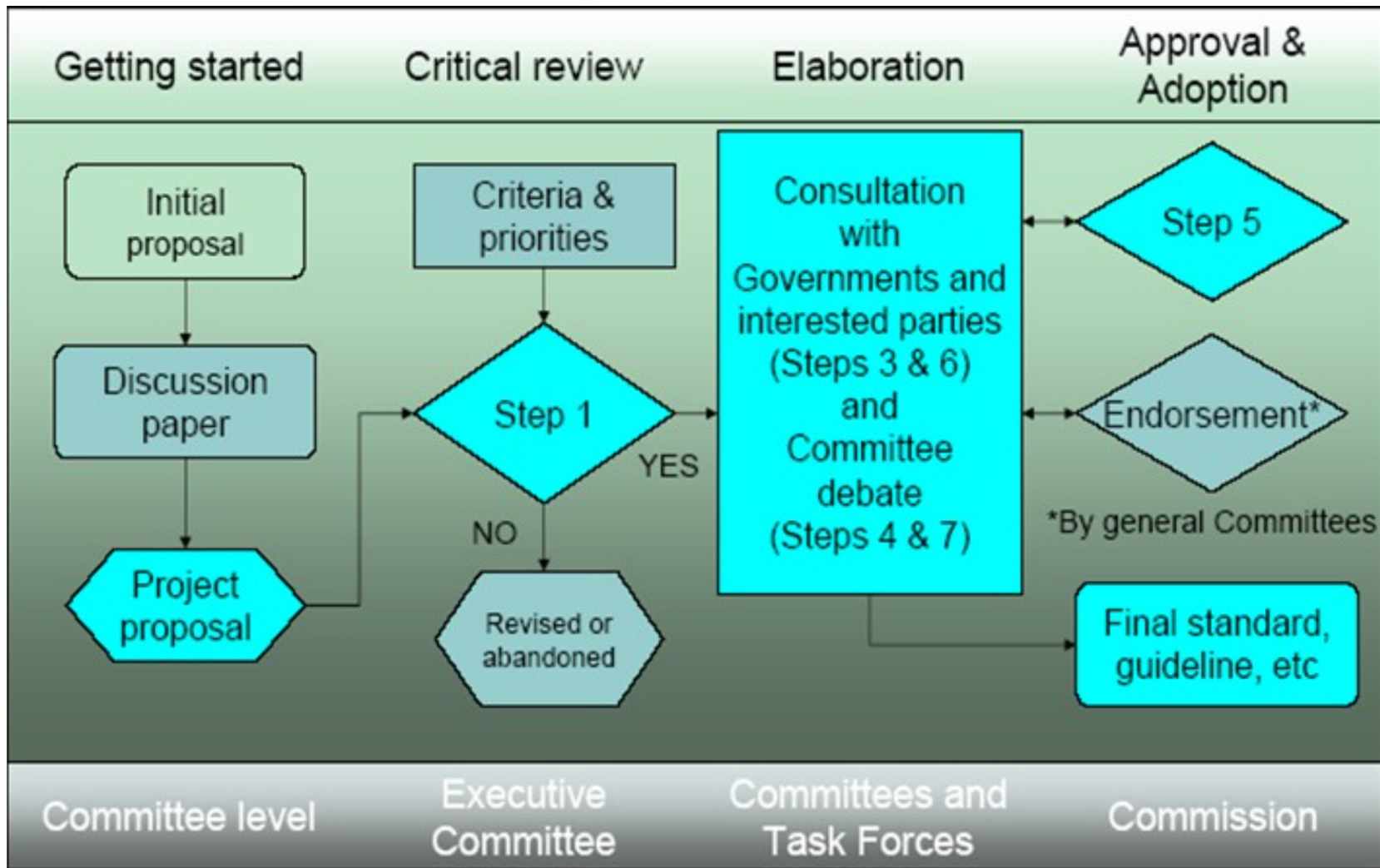
Transparency  
and  
Collaboration

Precautionary  
approach

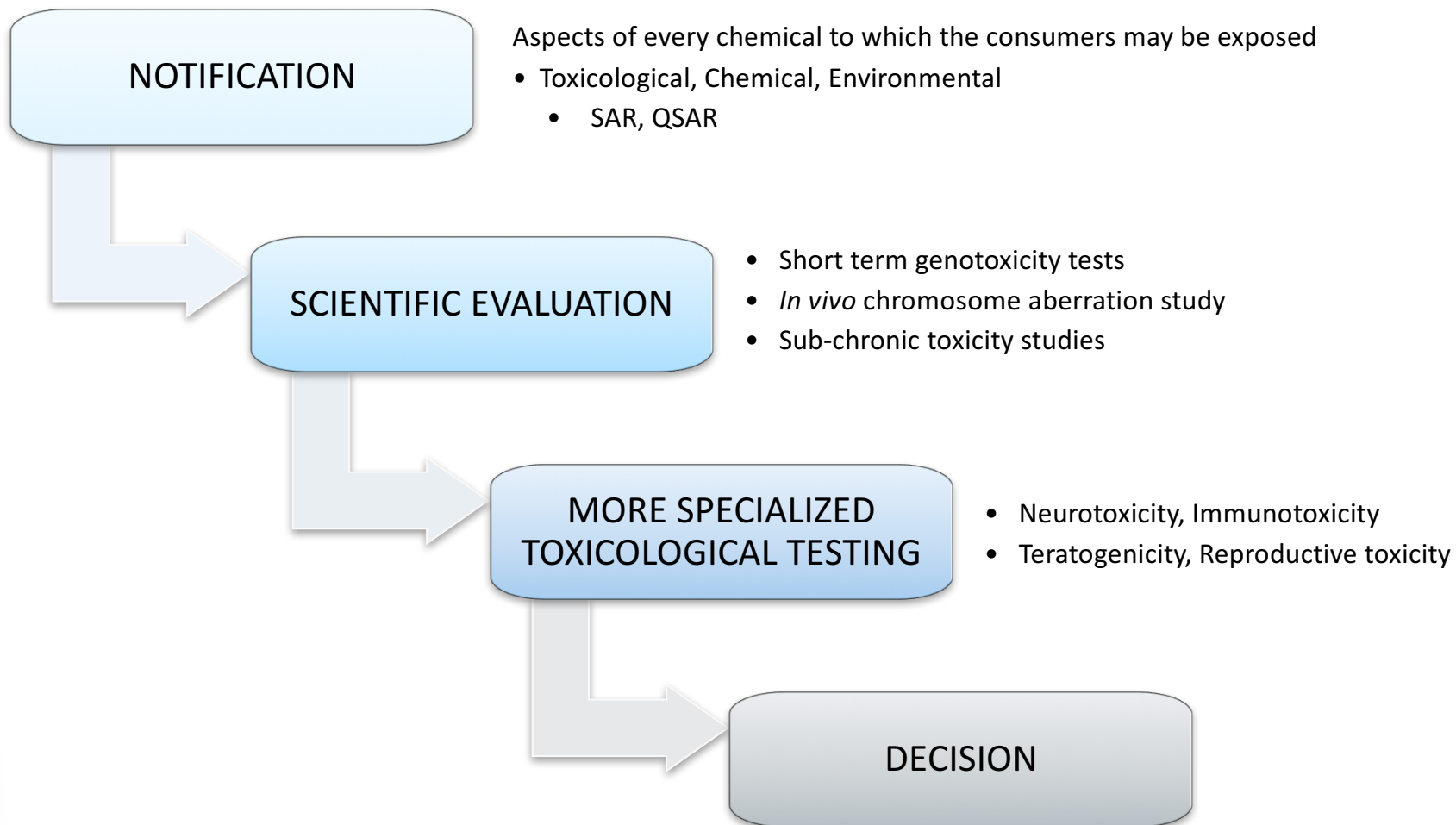




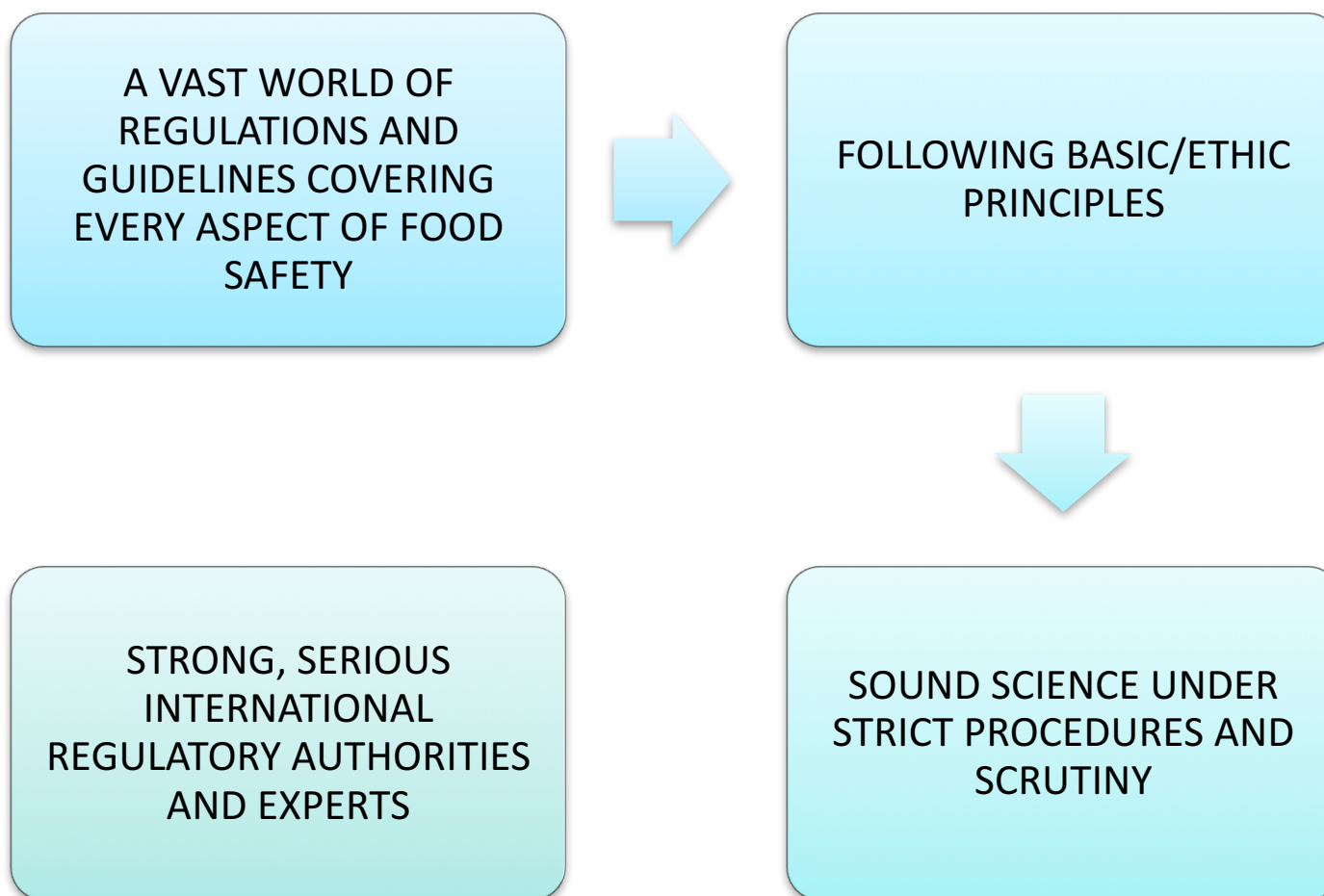
# The Codex Standards Process



# FDA's safety evaluation of food contact substances



# World of food regulations



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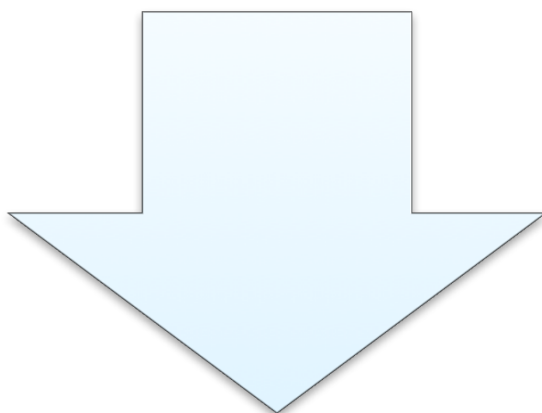


3

# Sensationalism and speculation



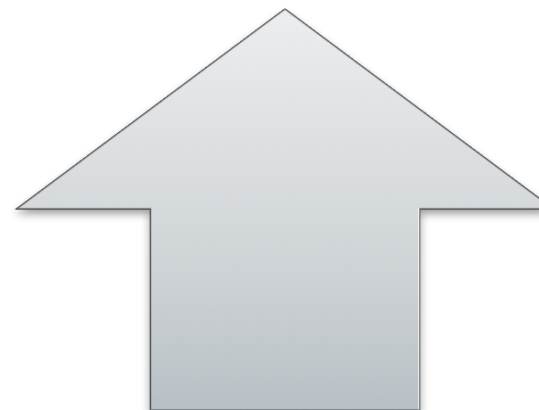
# World of food regulations



Confidence has been  
lately undermined by  
misconceptions,  
sensationalism and  
speculations



Is not perfect, and yet  
is quite strong



# Pesticide MRLs

Pesticide MRLs are initially established as Good Agricultural Practices indicators

Then they are evaluated for safety by CCPR



# Pesticide MRLs

The safety margin is so high, that MRLs are far away of being food safety limits

One should require to eat like 60 kg a day of a produce containing the pesticide during several years to be in risk of reaching hazardous levels in the organism



# Confusion about the term *Natural*

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**Use of the Term "Natural" in the Labeling of Human Food Products**

Docket Folder Summary [View all documents and comments in this Docket](#)

Docket ID: FDA-2014-N-1207 Agency: Food and Drug Administration (FDA)  
 Parent Agency: Department of Health and Human Services (HHS)

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**Primary Documents** [View All \(4\)](#)

	<a href="#">Use of the Term "Natural" in the Labeling of Human Food Products; Request for Information and...</a>	Comment Period Closed May 10, 2016 11:59 PM ET
<b>Proposed Rule</b>	<b>Posted:</b> 12/28/2015 <b>ID:</b> FDA-2014-N-1207-1827	
	<a href="#">Use of the Term "Natural" in the Labeling of Human Food Products; Request for Information and...</a>	Comment Period Closed Feb 10, 2016 11:59 PM ET
<b>Proposed Rule</b>	<b>Posted:</b> 11/12/2015 <b>ID:</b> FDA-2014-N-1207-0001	
	<a href="#">Request for Extension from International Dairy Foods Association (IDFA)</a>	Comment Period Closed
<b>Other</b>	<b>Posted:</b> 01/06/2016 <b>ID:</b> FDA-2014-N-1207-2388	
	<a href="#">Request for Extension from Institute of Food Technologists (IFT)</a>	Comment Period Closed
<b>Other</b>	<b>Posted:</b> 12/31/2015 <b>ID:</b> FDA-2014-N-1207-2060	

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**7,690**

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# Food regulations and the Regulatory process

- Are not perfect
  - Resources
  - Criteria
  - Competences of regulators
  - Pressure of groups of interests
- It is our obligation to make them better and more trustable





Based on Codex Alimentarius, the international reference in food safety and trade worldwide

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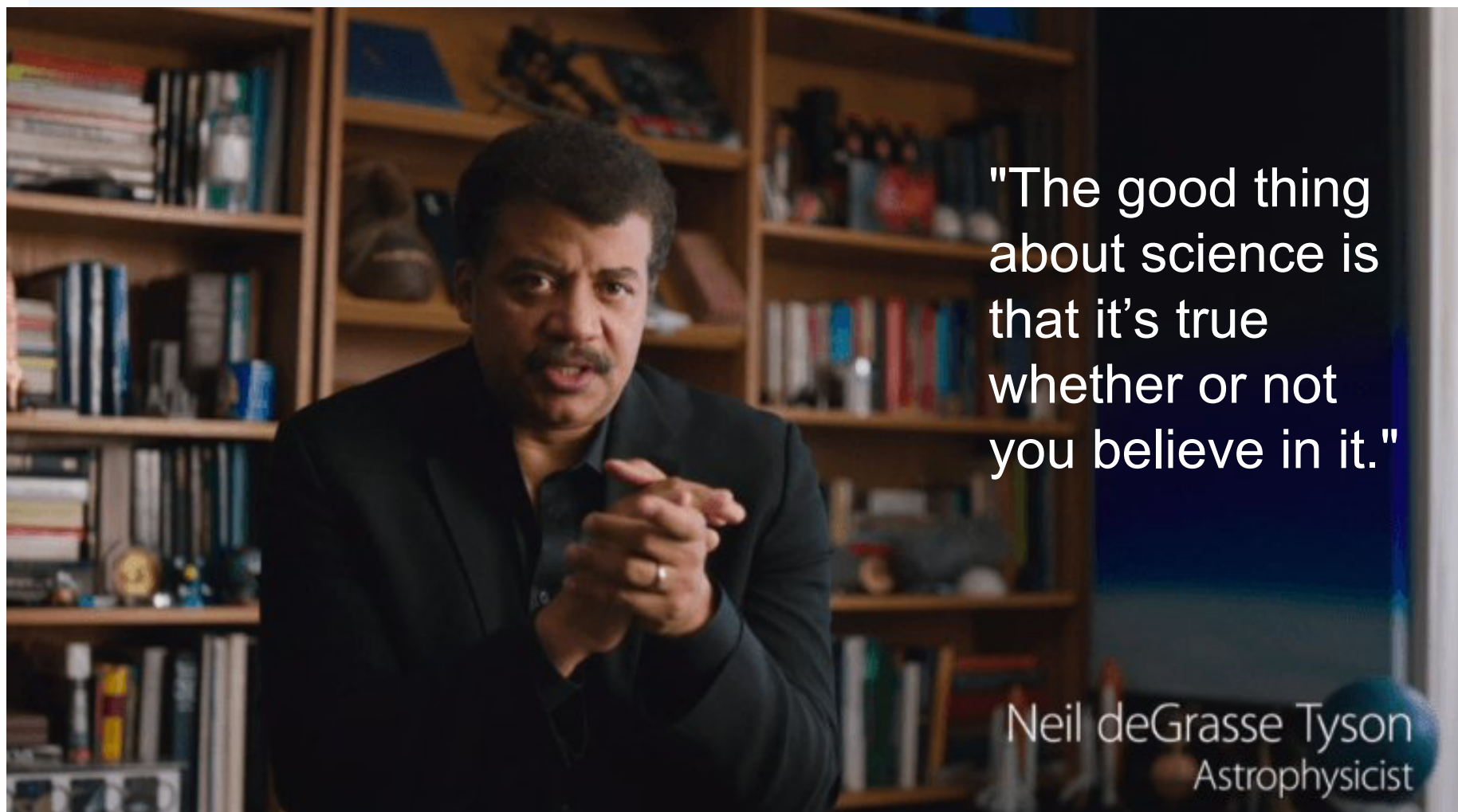
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"The good thing  
about science is  
that it's true  
whether or not  
you believe in it."

Neil deGrasse Tyson  
Astrophysicist



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# ALACCTA's Montevideo Declaration On misconceptions about processed foods

XIX Latin American and the Caribbean Seminar on Food Science and Technology

Montevideo, Uruguay, August 8<sup>th</sup>, 2016

[www.alaccta.org](http://www.alaccta.org)



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**Thank you for  
your attention**

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