

# Gender and diversity

**Julia Tagüeña**  
**Consejo Nacional de Ciencia y  
Tecnología**  
**México**

# Human kind as a two-level system

- A system with two possible quantum states (spin up and spin down)
- “*..an untouchable, or 'Harijan', as Gandhi termed members of this caste, epitomised the lowest of the low in India, being poor and socially at the bottom of the pyramid. No, said Gandhi, it was not this villager who epitomised the lowliest of the low in India but the villager's*

# New definition

- Based on a paper on gender/racial biases, by Anita Mehta, an Indian woman scientist
- *“Women” = women and people from developing countries = treated less seriously in academic forum = (treated tougher in sports forum)*
- *“Men” = men from developed countries*

# Cultural diversity

- *“There is a question of cultural diversity. There are ways of self-expression that are unique to “women”, that are distinct from “men” - for example a certain enthusiasm or impulsiveness of expression is rather more common, even in scientific talks, to people from tropical countries, or to women which carries no external value, and is no more or no less indicative of the content of the talk than the more stony-faced countenance typical of “men” where scientific objectivity is sometimes linked to a lack, of expression”.*

# “Honorary men”

- *“There is also another problem “women” or more generally minorities who have been able to climb the professional ladder to become “honorary men” are sometimes less than sympathetic to those of their kind who are starting the same process; partly in a desire to conform to the establishment and partly because of a sense of insecurity that the next incumbent might be more successful”.*

# Universality

- *It is universality which allows him to respect her intellect enough in order for him to accept that discussion or argument with, rather than dismissal of, a differing viewpoint.*
- *This universality of perception is based on a respect for cultural diversity: it needs the liberalism and tolerance to imagine that not all originators of good scientific thought come from from the same social, economic, sexual and cultural backgrounds.*

# Freedom from prejudice

- *This freedom from prejudice is characteristic of the true intellectual objectivity from which all good science originates, and it thus usually characterizes those whose scientific research is outstanding. This is often a consequence of their own security of personality, where they are confident of themselves to the point that they do not question the integrity of others without good reason.*

# Possible solution

- *Maximizing of exchange between the different communities “men” and “women” is what, in time, will contribute significantly to the lowering of barriers, to minimizing the strangeness of one community vis-a-vis the other, to make for a better understanding of the complementary roles that all of us can play together in the pursuit of science.*



# New society of knowledge

*• It is to be hoped that the new society of knowledge resulting from transborder collaborations between the “women” and the “men” of science will form the space where a revolution will happen naturally and peacefully, accompanied by grace, goodwill and intelligence on all sides.*

# Mexico

- October 17th, 1953 women can vote and can be voted
- 1887 the first Mexican woman doctor
- 1889 the first Mexican woman lawyer
- 1909 the first Mexican woman dentist
- 1931 the first Mexican woman biologist
- 1961 the first Mexican physicists...

# CONACyT

- **Affirmative actions:**

- **Academic program for ethnic minority groups**

Postgraduate scholarships for women and support for research. At the moment 99 women.

- **Academic program for single mothers.**

At the moment 873 women from different states.

11.7% in Veracruz, 9% Oaxaca, 8.5% Chihuahua and 6.9% Guerrero.

- **Freedom of circulation** is what leads to the links of the enlightened across nations, genders and generations.
- The ability for women to be trained in male-dominated scientific environments provides avenues for freer professional development, for the liberation from traditional roles.

# Scholarships

- There are **44,909** national **post-grade scholarships**, **46.8%** for women, it was the 35.6% in 1997. In 15 years, the proportion of women has increased a **32%**. In the international **4,013** scholarships **38,5%** are women and **61.5%** men (September 2013) .
- The highest proportions are in Guerrero (**58%**), Hidalgo (**56.4%**), Quintana Roo (**56.1%**), Oaxaca (**54%**) and Sonora (**53.6%**). Mexico city has **45%**. The lowest are Tabasco (**43.6%**), Campeche (**42.6%**), Zacatecas (**40.4%**), Michoacán (**40.3%**) y Guanajuato (**38.5%**).

# Research fields

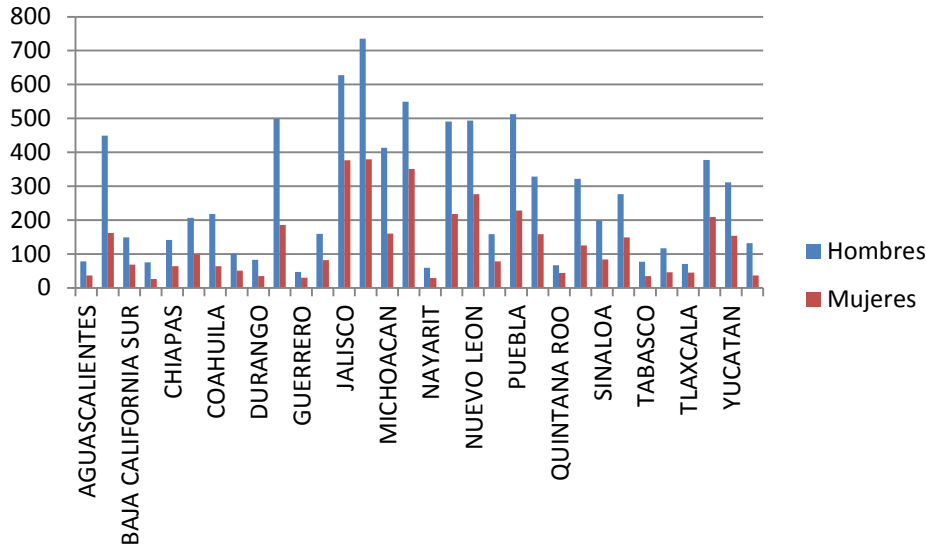
- There are five fields where there are more women than men. Medicine and health women are **62.9% of the scholarships**, in humanities and cognitive sciences they are the **56%**, and in biology and chemistry **52.5%**. The fields where there are fewer women are engineering with the **30.3%** and physics and mathematics with **33.8%**.

# National System of Researchers (SNI)

From 21% (1991) to 35% (2013)

Año	Hombres	Mujeres	Porcentaje mujeres	Total
1991	4863	1302	21	6165
1992	5105	1497	23	6602
1993	4706	1527	24	6233
1994	4372	1507	26	5879
1995	4303	1565	27	5868
1996	4329	1640	27	5969
1997	4518	1760	28	6278
1998	4837	1905	28	6742
1999	5175	2077	29	7252
2000	5335	2131	29	7466
2001	5707	2311	29	8018
2002	6457	2742	30	9199
2003	6457	2742	30	9199
2004	7104	3085	30	10189
2005	7565	3339	31	10904
2006	8342	3754	31	12096
2007	9184	4301	32	13485
2008	9857	4824	33	14681
2009	10347	5218	34	15565
2010	10969	5629	34	16598
2011	11630	6009	34	17639
2012	12224	6331	34	18555
2013	12880	6867	35	19747

SNI  
2013



Estado	Hombres	Mujeres	Total
AGUASCALIENTES	78	36	114
BAJA CALIFORNIA	449	162	611
BAJA CALIFORNIA SUR	149	69	218
CAMPECHE	75	26	101
CHIAPAS	141	64	205
CHIHUAHUA	206	99	305
COAHUILA	218	64	282
COLIMA	101	51	152
DISTRITO FEDERAL	4361	2783	7144
DURANGO	83	35	118
GUANAJUATO	498	186	684
GUERRERO	47	30	77
HIDALGO	159	82	241
JALISCO	628	376	1004
MEXICO, EDO. DE	735	379	1114
MICHOACAN	413	160	573
MORELOS	549	351	900
NAYARIT	59	29	88
NO DISPONIBLE	491	218	709
NUEVO LEON	494	276	770
OAXACA	158	78	236
PUEBLA	512	228	740
QUERETARO	328	158	486
QUINTANA ROO	67	44	111
SAN LUIS POTOSI	322	125	447
SINALOA	199	84	283
SONORA	276	149	425
TABASCO	77	35	112
TAMAULIPAS	117	46	163
TLAXCALA	70	45	115
VERACRUZ	377	209	586
YUCATAN	311	154	465
ZACATECAS	132	36	168
Total	12880	6867	19747



## Returning students (2013)

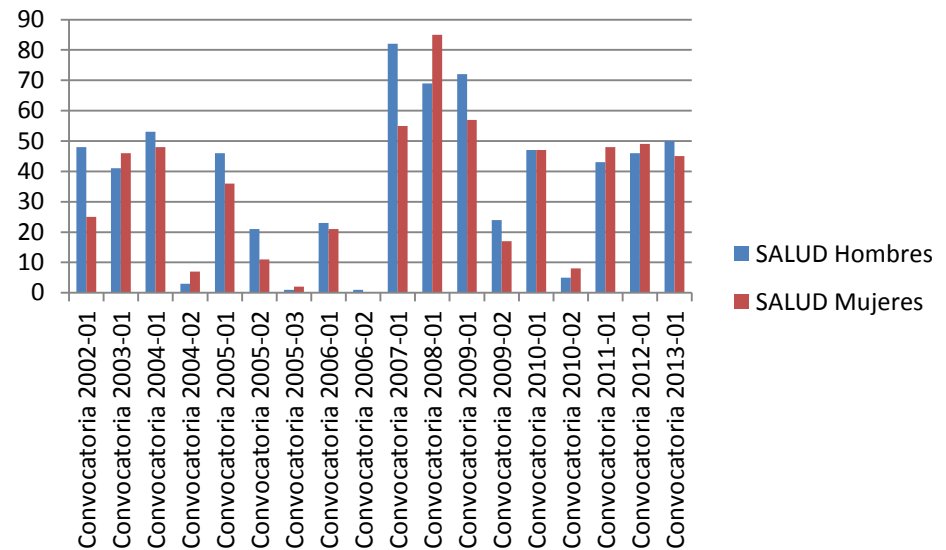
INSTITUCION RECEPTORA	GENERO		TOTAL
	H	M	
BENEMERITA UNIVERSIDAD AUTONOMA DE PUEBLA	2	1	3
CENTRO DE INVESTIGACION Y ASISTENCIA EN TECNOLOGIA Y DISEÑO DEL ESTADO DE JALISCO AC	1		1
COLEGIO DE POSTGRADUADOS		1	1
EL COLEGIO DE LA FRONTERA SUR		1	1
UNIVERSIDAD AUTONOMA DE CHAPINGO	1		1
UNIVERSIDAD AUTONOMA DE CHIAPAS	1		1
UNIVERSIDAD AUTONOMA DE CIUDAD JUAREZ		1	1
UNIVERSIDAD AUTONOMA DE NAYARIT	2		2
UNIVERSIDAD AUTONOMA DE NUEVO LEON	3	1	4
UNIVERSIDAD AUTONOMA DE SINALOA	1		1
UNIVERSIDAD AUTONOMA DE YUCATAN	1	1	2
UNIVERSIDAD AUTONOMA DE ZACATECAS	1	1	2
UNIVERSIDAD AUTONOMA DEL ESTADO DE MEXICO	3	2	5
UNIVERSIDAD AUTONOMA METROPOLITANA		1	1
UNIVERSIDAD DE SONORA	6	3	9
UNIVERSIDAD JUAREZ AUTONOMA DE TABASCO	1		1
UNIVERSIDAD MICHOACANA DE SAN NICOLAS DE HIDALGO		1	1
UNIVERSIDAD NACIONAL AUTONOMA DE MEXICO	1		1
UNIVERSIDAD VERACRUZANA	3	5	8
SUMA	27	19	46

## Basic Research projects

CONVOCATORIA	SEXO	Total
CB-2010-01	F	174
	M	419
<b>Total CB-2010-01</b>		594
CB-2011-01	F	203
	M	420
<b>Total CB-2011-01</b>		624
CB-2012-01	F	241
	M	413
<b>Total CB-2012-01</b>		655
<b>Total general</b>		1873

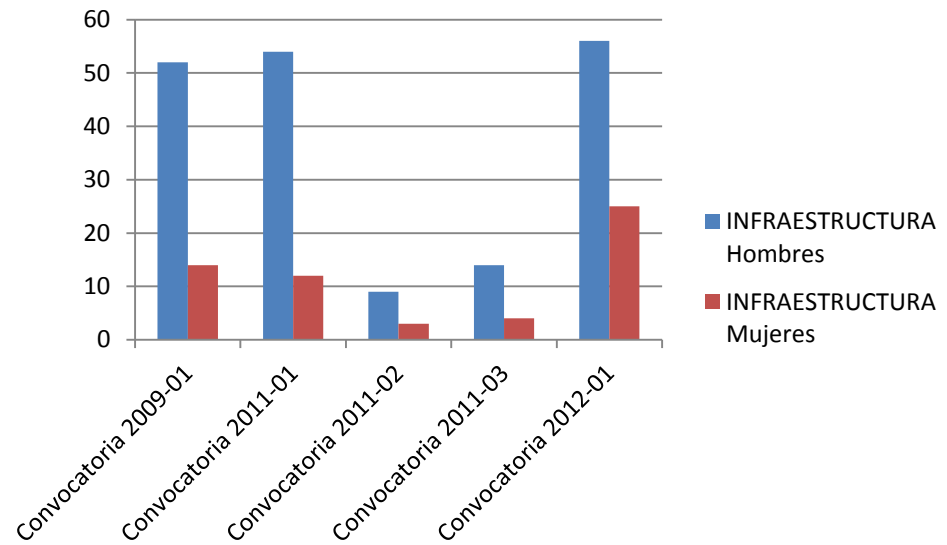
## Applied research projects (health)

SALUD		
	Hombres	Mujeres
Convocatoria 2002-01	48	25
Convocatoria 2003-01	41	46
Convocatoria 2004-01	53	48
Convocatoria 2004-02	3	7
Convocatoria 2005-01	46	36
Convocatoria 2005-02	21	11
Convocatoria 2005-03	1	2
Convocatoria 2006-01	23	21
Convocatoria 2006-02	1	0
Convocatoria 2007-01	82	55
Convocatoria 2008-01	69	85
Convocatoria 2009-01	72	57
Convocatoria 2009-02	24	17
Convocatoria 2010-01	47	47
Convocatoria 2010-02	5	8
Convocatoria 2011-01	43	48
Convocatoria 2012-01	46	49
Convocatoria 2013-01	50	45



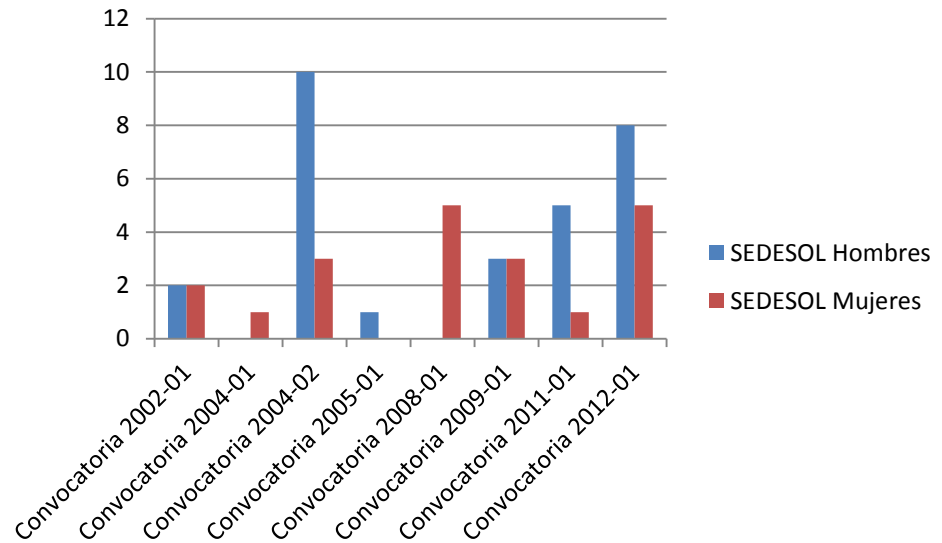
## Applied research (infraestructure)

INFRAESTRUCTURA		
	Hombres	Mujeres
Convocatoria 2009-01	52	14
Convocatoria 2011-01	54	12
Convocatoria 2011-02	9	3
Convocatoria 2011-03	14	4
Convocatoria 2012-01	56	25



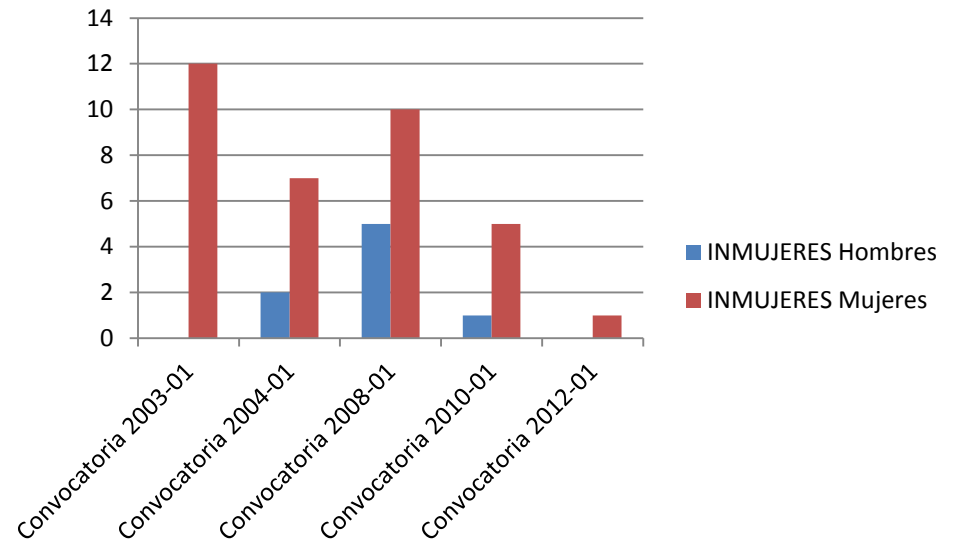
## Applied research projects (social studies)

SEDESOL		
	Hombres	Mujeres
Convocatoria 2002-01	2	2
Convocatoria 2004-01	0	1
Convocatoria 2004-02	10	3
Convocatoria 2005-01	1	0
Convocatoria 2008-01	0	5
Convocatoria 2009-01	3	3
Convocatoria 2011-01	5	1
Convocatoria 2012-01	8	5

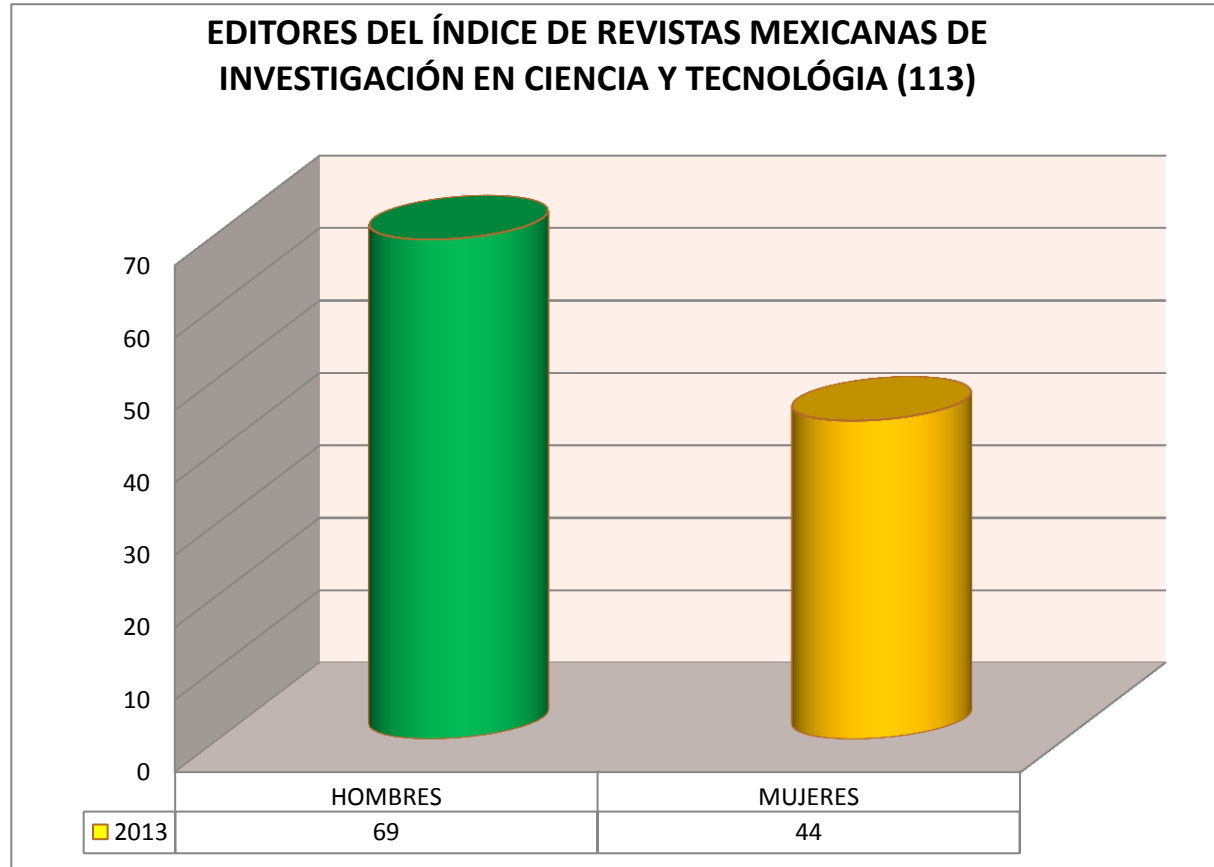


## Applied research (gender)

INMUJERES		
	Hombres	Mujeres
Convocatoria 2003-01	0	12
Convocatoria 2004-01	2	7
Convocatoria 2008-01	5	10
Convocatoria 2010-01	1	5
Convocatoria 2012-01	0	1



## CONRICyT (Mexican research journals)



# On gender equity...

- In case of pregnancy, women have one extra year in the National System of Researchers.
- Different age limits for applying to young researchers prizes (40 men, 43 women).
- This year gender equity has been included in the Mexican Science and Technology law (articles 2, 12 and 14). To promote gender perspective and to analyse data related to gender.