



**ACTIVE  
INCLUSIVITY  
IN TOXICOLOGY:**

**Obstacles Faced by Underrepresented  
Groups and Solutions to Ameliorate Them**

**12/06/19**

Society of Toxicology's (SOT) Graduate Student Leadership Committee Presents:

# Diversity and Inclusiveness Webinar Series: Active Inclusivity in Toxicology

## Webinar II: Obstacles Faced by Underrepresented Groups and Solutions to Ameliorate Them

*Hosted by:*



**Dr. Krystin Carlson**

Certificate in Diversity Leadership  
Former GSLC Secretary  
krystin@umich.edu



**Giovanna Pozuelos**

PhD Candidate  
Former GSLC Chair  
gpozu001@ucr.edu

# FORMAT OF OUR WEBINAR TODAY:

- Invitation to part 3 of this series
- Introduction to speakers
  - Dr. Nicole Sparks, PhD
    - SOT Postdoctoral Assembly
  - Dr. Pedro Del Valle, PhD
    - SOT Hispanic Organization of Toxicologists
  - Dr. Irene Abraham, PhD
    - SOT Women in Toxicology
- Introduction to diversity terms
- Presentations from our speakers
- Audience Question and Conversation an open discussion

Society of Toxicology's (SOT) Graduate Student Leadership Committee Presents:

# Diversity and Inclusiveness Webinar Series: Active Inclusivity in Toxicology

*Let's come together and join the discussion!*

**TODAY! December 6, 2019, 2 pm ET**

**Webinar II:** What are the obstacles faced by minorities and what is being done to ameliorate such issues?

**December 12, 2019, 2 pm ET**

SAVE THE DATE!

**Webinar III:** What are SOT resources to current graduate students?



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*Let's come together and join the discussion!*

Previous Webinar

**November 21, 2019 Webinar I: Why is diversity important in science?**

Available on the SOT Website  
<https://www.toxicology.org/education/pw/webinars.asp>

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## Active Inclusivity in Toxicology

### Webinar II: Obstacles Faced by Underrepresented Groups and Solutions to Ameliorate Them

*A conversation with:*



**Dr. Nicole Sparks, PhD**  
**SOT Postdoctoral Assembly**



**Dr. Pedro Del Valle, PhD**  
**SOT Hispanic Organization of  
Toxicologists**



**Dr. Irene Abraham, PhD**  
**SOT Women in Toxicology**

# START WITH A SHARED LANGUAGE

1. BIAS
2. DISCRIMINATION
3. SCIENTIFIC BIAS
4. UNCONSCIOUS BIAS
5. RESISTANCE TO DIVERSITY

# BIAS



THE INABILITY TO EVALUATE INDIVIDUALS EQUALLY

# DISCRIMINATION



DELIBERATE UNJUST TREATMENT

# SCIENTIFIC (COGNITIVE) BIASES

## HOW SCIENTISTS FOOL THEMSELVES — AND HOW THEY CAN STOP

*Humans are remarkably good at self-deception. But growing concern about reproducibility is driving many researchers to seek ways to fight their own worst instincts.*

### COGNITIVE FALLACIES IN RESEARCH



#### HYPOTHESIS MYOPIA

Collecting evidence to support a hypothesis, not looking for evidence against it, and ignoring other explanations.



#### TEXAS SHARPSHOOTER

Seizing on random patterns in the data and mistaking them for interesting findings.



#### ASYMMETRIC ATTENTION

Rigorously checking unexpected results, but giving expected ones a free pass.



#### JUST-SO STORYTELLING

Finding stories after the fact to rationalize whatever the results turn out to be.

# UNCONSCIOUS BIAS



PAST PATTERNS BENEFIT SOME AND PENALIZE OTHERS

image: [now.tufts.edu](http://now.tufts.edu)

# RESISTANCE TO DIVERSITY



All Change Will Be Resisted

*LET'S COME TOGETHER AND JOIN  
THE DISCUSSION!*

DON'T FORGET TO STAY FOR THE FINAL CONVERSATION:

**AUDIENCE QUESTION AND CONVERSATION AN OPEN DISCUSSION**

# Nicole Sparks, PhD

Postdoctoral Fellow

GSLC Diversity Webinar Series- Active Inclusivity in Toxicology

December 6, 2019

# Barriers in Academia



- Lack of representation
  - PhD Programs
  - Faculty
  - Exclusion
  - Uncomfortable being one of few minorities
- Deficit in language breadth
- Minorities not pursuing or unable to pursue higher education or research related work in Toxicology
  - Outside obligations
- Scientific norms shape the perceptions of students/faculty

# Potential Solutions



- ▶ Program initiatives promoting diversity
  - ▶ Funding opportunities (NIH K99)
  - ▶ UC President's Postdoctoral Fellowship
- ▶ Being aware of individuals showing interest
- ▶ Understanding that traditional definitions of what makes a “good scientist” does not define all individuals.

# Potential Solutions

- ▶ Universities to not hire faculty in non-STEM fields to increase overall diverse faculty.
  - ▶ These hiring lines are often less expensive in these fields owing to lower salaries and overhead costs
- ▶ Broad mentoring and opportunities to work closely with faculty
  - ▶ Forming new relationships and collaborations
- ▶ Not letting marginalized groups bear the primary responsibility for creating a more diverse and inclusive culture



# Active Inclusivity in Toxicology: Part 2 Obstacles Faced by Underrepresented Groups & Solutions to Ameliorate Them Government Sector

*Pedro L. Del Valle, PhD, ATS*

**Hispanic Organization of Toxicologists (HOT)**

SOT GSLC Webinar

Active Inclusivity in Toxicology: Part 2

December 6, 2019



# DIVERSITY AND INCLUSION

## — *defined* —

FDA has adopted the OPM definition of “diversity” and “inclusion.”

**Diversity** is defined as

“a collection of individual attributes that together help agencies pursue organizational objectives efficiently and effectively.”

**Inclusion** is defined as

“a set of behaviors (culture) that encourages employees to feel valued for their unique qualities and experience a sense of belonging.”



# FDA DIVERSITY AND INCLUSION **STRATEGIC PLAN**

2018 – 2021

The Diversity and Inclusion  
Steering Council (DISC) →  
new goals

The Diversity and Inclusion  
Advisory Committee (DIAC)  
→ establishes priorities,  
implementation strategies and  
actions to accomplish goals

<https://www.fda.gov/media/107939/download>

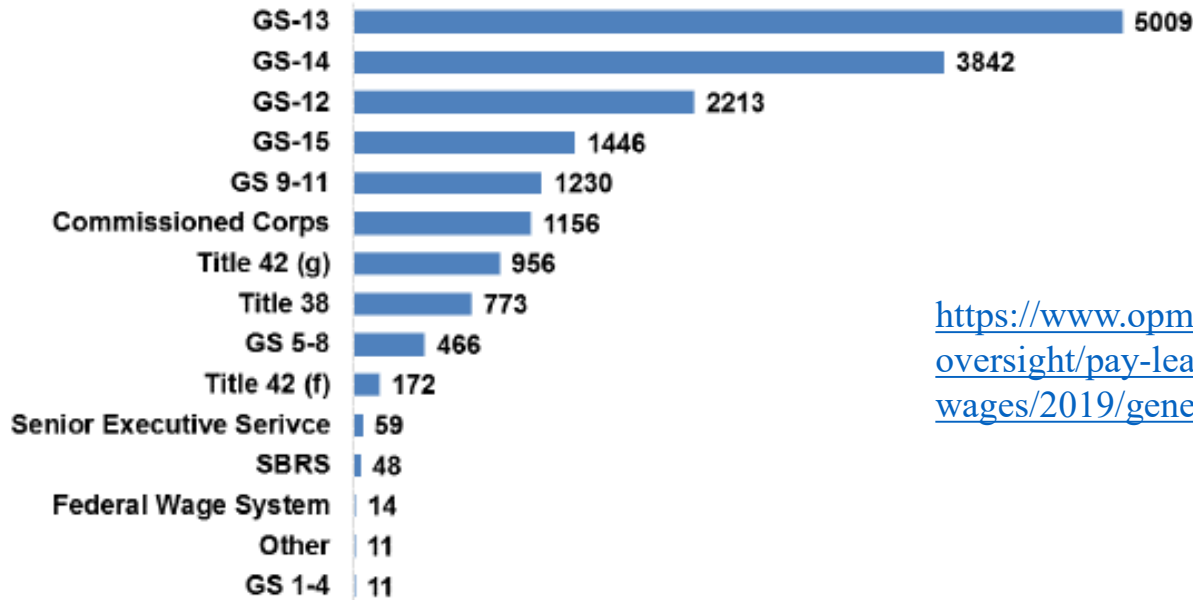
# FDA Diversity & Inclusion Goals



## Implementation Strategies for Goal 1:

- FDA senior leadership conveys the critical importance of diversity and inclusion in messaging and behaviors reflective of diversity and inclusion.
- Include commitments to FDA's diversity and inclusion goals and objectives in FDA's performance plans.
- Ensure new supervisors have timely access to diversity and inclusion learning material and continuously collect input from employees D&I.
- Educate staff on the use of social media for recruitment/outreach

# FDA FY18 Workforce Count by Pay Plan



<https://www.opm.gov/policy-data-oversight/pay-leave/salaries-wages/2019/general-schedule/>

Grade	Step 1	Step 2	Step 3	Step 4	Step 5	Step 6	Step 7	Step 8	Step 9	Step 10
1	\$ 24,633	\$ 25,458	\$ 26,278	\$ 27,091	\$ 27,911	\$ 28,390	\$ 29,199	\$ 30,016	\$ 30,049	\$ 30,813
2	27,696	28,356	29,273	30,049	30,386	31,280	32,174	33,067	33,961	34,854
3	30,219	31,227	32,234	33,242	34,249	35,257	36,264	37,271	38,279	39,286
4	33,925	35,055	36,185	37,315	38,446	39,576	40,706	41,836	42,967	44,097
5	37,955	39,220	40,485	41,750	43,014	44,279	45,544	46,809	48,073	49,338
6	42,308	43,719	45,130	46,541	47,952	49,363	50,774	52,184	53,595	55,006
7	47,016	48,583	50,150	51,718	53,285	54,852	56,420	57,987	59,554	61,122
8	52,068	53,804	55,539	57,275	59,010	60,745	62,481	64,216	65,952	67,687
9	57,510	59,426	61,343	63,259	65,176	67,093	69,009	70,926	72,842	74,759
10	63,332	65,442	67,553	69,663	71,774	73,884	75,995	78,105	80,216	82,326
11	69,581	71,901	74,221	76,541	78,861	81,181	83,501	85,821	88,141	90,461
12	83,398	86,179	88,959	91,740	94,520	97,300	100,081	102,861	105,642	108,422
13	99,172	102,477	105,782	109,088	112,393	115,699	119,004	122,310	125,615	128,920
14	117,191	121,098	125,005	128,911	132,818	136,725	140,632	144,538	148,445	152,352
15	137,849	142,443	147,038	151,633	156,228	160,822	165,417	166,500 *	166,500 *	166,500 *

# FDA Workforce by Race/Ethnicity



**Table 10: FDA Workforce by Race/Ethnicity and Gender (FY16 - FY18)**

	FY16	FY17	FY18	3 Year Average	3 Year Change
Asian or Pacific Islander Female	11.28%	11.75%	12.21%	11.75%	+0.94%
Asian or Pacific Islander Male	8.98%	9.11%	9.36%	9.15%	+0.38%
Black or African-American Female	15.68%	15.89%	15.96%	15.84%	+0.29%
Black or African-American Male	5.49%	5.57%	5.51%	5.52%	+0.02%
Hispanic or Latino Female	2.35%	2.33%	2.26%	2.31%	-0.09%
Hispanic or Latino Male	1.73%	1.71%	1.72%	1.72%	-0.01%
White Female	30.26%	29.96%	29.70%	29.97%	-0.56%
White Male	24.25%	23.68%	23.28%	23.74%	-0.97%

**Table 11: FDA Managers/Supervisors by Race/Ethnicity and Gender (FY16 - FY18)**

	FY16	FY17	FY18	3 Year Average	3 Year Change
Asian or Pacific Islander Female	6.51%	6.72%	7.92%	7.05%	+1.40%
Asian or Pacific Islander Male	6.25%	6.16%	6.35%	6.25%	+0.11%
Black or African-American Female	10.52%	11.54%	11.76%	11.27%	+1.24%
Black or African-American Male	5.02%	4.98%	4.69%	4.90%	-0.32%
Hispanic or Latino Female	2.30%	2.46%	1.99%	2.25%	-0.30%
Hispanic or Latino Male	2.24%	2.15%	2.37%	2.26%	+0.13%
White Female	33.21%	32.99%	33.19%	33.13%	-0.02%
White Male	33.96%	32.99%	31.72%	32.89%	-2.24%

# FDA Mission Critical Occupations (MCO)



Table 2: FDA Workforce Count by MCO (FY14 - FY18)	FY14	FY15	FY16	FY17	FY18	5 Year % Change
1320 Chemist	1246	1346	1406	1432	1467	+17.7%
1515 Operations Research Analyst	92	92	81	85	105	+14.1%
1529 Mathematical Statistician	309	338	344	356	375	+21.4%
1811 Criminal Investigator	223	232	216	234	234	+4.9%
2210 Information Technology Specialist	475	481	468	489	476	+0.2%
401 Biologist	693	737	781	799	823	+18.8%
403 Microbiologist	646	675	687	709	719	+11.3%
<b>405 Pharmacologist</b>	481	533	567	596	617	<b>+28.3%</b>
<b>415 Toxicologist</b>	102	116	126	133	143	<b>+40.2%</b>
602 Medical Officer	728	749	803	844	851	+16.9%
660 Pharmacist	202	275	272	274	268	+32.7%
696 Consumer Safety Officer	3109	3241	3434	3544	3462	+11.4%
701 Veterinary Medical Officer	127	129	138	138	144	+13.4%
858 Biomedical Engineer	277	309	317	318	328	+18.4%
<b>Total</b>	<b>8710</b>	<b>9253</b>	<b>9640</b>	<b>9951</b>	<b>10012</b>	<b>+14.9%</b>



# Workforce by Age

	FY16	FY17	FY18	3 Year Average	3 Year Change
Age 18-29	5.4%	4.5%	3.8%	4.6%	-1.6%
Age 30-39	26.6%	26.8%	26.4%	26.6%	-0.2%
Age 40-49	29.4%	29.6%	30.2%	29.8%	+0.8%
Age 50-59	25.6%	25.7%	25.9%	25.7%	+0.3%
Age 60-69	11.6%	11.9%	12.0%	11.8%	+0.4%
Age 70+	1.4%	1.5%	1.6%	1.5%	+0.2%

# Federal Employee View Point Survey Indicates there is Room for Improvement



2018 FEVS Index Measures	Gov't Wide	FDA
<b>Employee Engagement Index (EEI)</b>	<b>67.7%</b>	<b>74.9%</b>
Leaders Lead	56.1%	66.4%
Supervisors	75.3%	81.1%
Intrinsic Work Experience	71.6%	77.1%
<b>Global Satisfaction Index (GSI)</b>	<b>64.4%</b>	<b>73.6%</b>
<b>Effective Communication Index (ECI)</b>	<b>65.8%</b>	<b>72.9%</b>
Employee and Supervisor	75.5%	79.6%
Leader / Manager / Organizational	56.2%	66.2%
<b>New Inclusion Quotient (New IQ)</b>	<b>61.0%</b>	<b>68.2%</b>
Fair	48.3%	54.5%
Open	60.3%	68.0%
Cooperative	58.0%	68.4%
Supportive	78.2%	83.2%
Empowering	60.3%	67.0%

Challenges >>>>>>>> Opportunities >>>>>>>> Strengths





# CDER-OND Reorganization Open Opportunities for Non-Clinical Reviewers

Website	Posting Date	Closing Date	Type	Link
Indeed	9/17/2019	N/A	N/A	<a href="https://www.indeed.com">https://www.indeed.com</a>
American Society for Pharmacology and Experimental Therapeutics (ASPET)	10/11/2019	1/9/2020	90 Days Online	<a href="https://careers.aspet.org/jobs/12812175">https://careers.aspet.org/jobs/12812175</a>
American College of Toxicology (ACT)	10/14/2019	4/11/2020	180 Days Online	<a href="https://www.actox.org/members/employmentOpps.asp#U101419">https://www.actox.org/members/employmentOpps.asp#U101419</a>
Society of Toxicology (SOT)	10/16/2019	2/13/2020	120 Days Online	<a href="https://www.toxicology.org/application/jobbank/jobseeker/index.aspx">https://www.toxicology.org/application/jobbank/jobseeker/index.aspx</a> GS13-Step 1 Starting Salary
American Association for Cancer Research (AACR)	10/16/2019	12/15/2019	60 Days Online	<a href="https://www.cancercareers.org/jobs/2076313_1-non-clinical-reviewer-at-fda-s-office-of-new-drugs">https://www.cancercareers.org/jobs/2076313_1-non-clinical-reviewer-at-fda-s-office-of-new-drugs</a>



# Take Home Message

- The FDA Diversity and Inclusion initiatives/efforts are defined in a 4-year Strategic Plan
- The Strategic Plan establishes priorities, implementation strategies and actions to accomplish defined goals
- There is always room for improvement to reach higher marks for Diversity and Inclusion
- The FDA is, in my opinion, a great place to work and advance your career as Toxicologist.



# Acknowledgments

Karen Donnelly, BS, MBA

Recruitment and Outreach Specialist, FDA

Ofelia Olivero, PhD, ATS

Chief, Intramural Diversity Workforce Branch, Center  
for Cancer Training, National Cancer Institute, NIH

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# Inclusivity Webinar II: Obstacles Faced by Underrepresented Groups and Solutions to Ameliorate Them

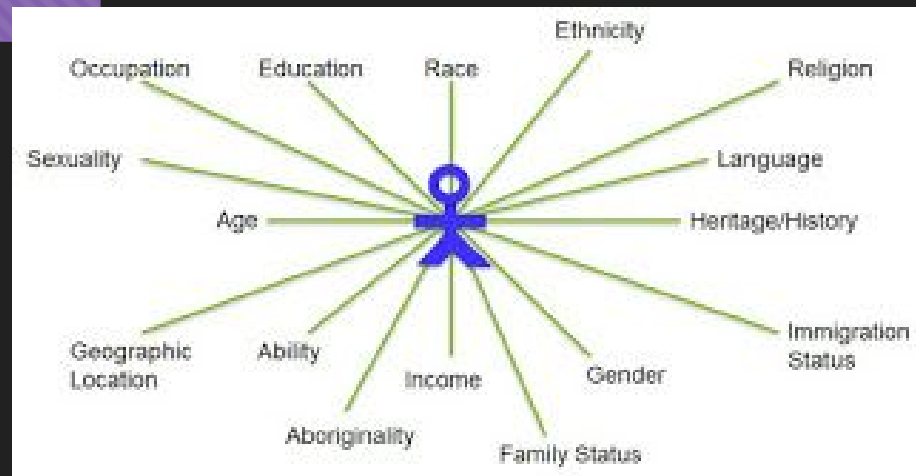
Irene M. Baskerville-Abraham, Ph.D., DABT, ERT

There is no such thing as a  
**SINGLE-ISSUE STRUGGLE**  
because we **DO NOT** live  
**SINGLE-ISSUE LIVES.**

AUDRE LORDE, *American writer and civil rights activist*

Picture attributed to: <http://womenandwarne.blogspot.com.au>

## INTERSECTIONALITY



# Personal Experiences Matter, But...

- African-American Midwesterner born to Conservative Christian Southern parents
- Attended an HBCU (Undergraduate) and PWI (Graduate)
- Personal experiences often shape worldviews
  - Remember to listen for other voices who say their experience is different. Constantly challenge yourself.
  - When serving as an Ally, be careful not to speak over those you are trying to support

# DIVERSITY, EQUITY & INCLUSION — EXPLAINED



## DIVERSITY



is the representation of various identities and differences

## EQUITY



focuses on fair treatment, equal opportunity and equal access to resources

## INCLUSION



is the active engagement of the contributions and participation of all people

DIVERSITY  
ASKS

**WHO**  
— IS IN —  
THE ROOM



EQUITY  
ASKS

**WHO IS**  
— TRYING TO —  
GET IN THE ROOM  
BUT CAN'T



INCLUSION  
ASKS

— HAVE —  
EVERYONE'S  
IDEAS BEEN  
HEARD



**DIVERSITY** is being invited to  
the party.

**INCLUSION** is being invited  
to dance.

VERNA MYERS, Diversity and Inclusion expert

# Looking towards the Future... with an Industry Focus

## SOME OBSTACLES and/or CLAIMS

- **Broken or Leaky Pipeline:** “We can’t find people with more diverse backgrounds or they do not stay”
- **Imposter Syndrome:** “I am not qualified to be in my role”
- **Glass Ceiling or Broken Rung:** There are many people with diverse backgrounds, but they do not get promoted to roles higher in the organization

## POTENTIAL SOLUTIONS

- Evaluate processes to see where and how you are recruiting
- Update policies that may unintentionally block diversity and inclusion (e.g. family policies, job sharing, sabbaticals)
- Mentoring and coaching programs with active company leadership support
- Employee Working Groups and Support Networks

# Some Relevant Articles and Studies

## Racial Diversity

- Economist Executive Education

<https://execed.economist.com/blog/industry-trends/racial-diversity-theres-more-work-be-done-workplace>

## Gender Equality

- McKinsey & Company 2019 “Women in the Workplace” report

<https://www.mckinsey.com/featured-insights/gender-equality/women-in-the-workplace-2019?cid=eml-web>

## Neurodiversity

<https://www.bbc.com/worklife/article/20191018-where-75-of-workers-are-on-the-autistic-spectrum>



**Welcome to  
our Active  
Inclusivity  
Conversation!**

# Lets Talk!

- What is your one sentence tweet or take-away about the importance of diversity in science?
- Do you think manager or advisors should increase their involvement with diversity initiatives? If so, in what ways?
- How can we start conversations regarding the multifaceted topics that are related to diversity
- Are there any critical ideas that haven't been raised in our discussions today that you would like listeners to think about?

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**Thanks for your participation!**

*Feel free to contact or  
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SOT

Society of  
Toxicology



**Thanks to all!**

# Education and Career Development Opportunities for SOT Trainees

Administered by the Education and Career Development Committee (ECDC)

## Graduate Students:

### Graduate Internship Fellowship in Toxicology (GIFT)

- Designed to encourage participation in internship experiences by offsetting financial barriers for graduate students to obtain experience not normally included in graduate training (up to \$3,000)

**Next Deadline: Spring 2020** more information at <https://www.toxicology.org/education/st/next.asp>

### Supplemental Training for Education Program (STEP)

- Several awards available up to \$1,000 each for professional/scientific development experience directed to career goals and outside the scope of their graduate training

**Next Deadline: Spring 2020** more information at <https://www.toxicology.org/education/st/step.asp>

## Postdoctoral Scholars:

### New Experiences in Toxicology (NEXT)

- Supports gaining experience to transition into a professional position in toxicology by several awards available up to \$1,000 each to enable postdocs to obtain exposure/training outside of their current sector

**Next Deadline: Spring 2020** more information at <https://www.toxicology.org/education/st/next.asp>