



# **23RD ANNUAL MARK WILSON CONFERENCE**

**FEBRUARY 9-12, 2024**

**Corazon Cabo Resort & Spa, Cabo San Lucas, Mexico**

*34th Annual Meeting of the  
Oral Immunology/Microbiology Research Group*



*The opal mines of Querktaro, Mexico, have been an important source of this unique gem material for over 100 years. The opal occurs in rhyolitic lava flows and is, for the most part, mined by hand just as it was in the 19th century.*

The Annual Meeting of  
**THE ORAL IMMUNOLOGY/  
MICROBIOLOGY RESEARCH GROUP**

is dedicated to the memory of its founder, Mark

**Mark E. Wilson (1950-2000)**



*Photo taken at Fort Sumter in Charleston Harbor, SC, during one of several OIMRG meetings that were held in the "Low Country" of South Carolina in the early 1990s. Photo and caption courtesy of Edward "Ned" Lally, PhD (1943-2019).*

# ABOUT MARK AND THE ANNUAL OIMRG MEETING

**Mark E. Wilson** received his Bachelor of Science (1972) and his Master of Science degrees (1975) from the University of Maryland. He then earned his PhD at the University of West Virginia in 1978 and did his post-doctoral training in the Department of Immunology at The Scripps Research Institute, La Jolla, CA (1978-1980). He then followed his mentor David Morrison to Emory University and continued there from 1980-1982. His PhD thesis and post-doctoral training focused on neutrophil biology; first studying neutrophil chemoluminescence and then studying the interaction of endotoxin and complement on neutrophil oxidative capacity.

In 1982 Mark accepted an appointment with the Department Oral Biology, State University of New York at Buffalo where, in 1996, he achieved the title of full professor. While at Buffalo he continued his studies on the effects of endotoxin on neutrophil function and became interested in IgG subclass responses to *Aggregatibacter* (then known as *Actinobacillus*) *actinomycetemcomitans*. During that period he published 37 manuscripts; authored 8 book chapters and trained several PhD students among whom are; Ken Miyasaki, Casey Chen, Pam Baker and Andrew Dentino.

Mark was recruited to the University of Medicine and Dentistry of New Jersey in 1997 as a Professor in the Department of Oral Biology and continued his work on *A. actinomycetemcomitans* /IgG interactions.

Mark's last work focused on IgG2 mediated opsonization of *A. actinomycetemcomitans* and the influence of genetically defined polymorphisms in the Fcγ RIIA on PMN function.

Aside from the considerable contribution Mark made to the overall understanding of mucosal infections in general and oral infections in particular, he founded and assumed the position of director of the Oral Immunology and Microbiology Research Group (and Annual Meeting, now called the Mark Wilson Conference), which started in 1991. He worked tirelessly to recruit outstanding guest speakers to the meeting and held firm to the belief that this meeting should provide scientific exchange in a friendly and warm environment (he was in Buffalo when he started the meeting) for the betterment of scientific collegiality in microbiology and immunology. On a personal note, Mark was an idealist and a humanitarian with a keen sense of humor that was often unpredictable. In fact, he made extraordinary efforts to mask his unique way of looking at the world around him. Those who knew him sorely miss his presence but his contribution to our scientific community survives in the form of this meeting.

*Biography courtesy of Dan Fine, PhD.*

## The Meeting

This is the 34th year of the Oral Immunology/Microbiology Research Group Annual Meeting, holding fast to its original goals:

- To foster interaction and collaboration among scientists interested in oral immunology and microbiology.
- To promote information exchange and collaboration between academicians and their colleagues in the private sector who are engaged in basic and clinical studies pertaining to oral health and disease.
- To provide a forum through which new investigators entering the field can begin to network with more established investigators and to establish contact with potential sources of funding for future studies.

Over the years the meeting has retained the same format: an opening reception on Friday evening, sessions from morning till noon for three days (Saturday, Sunday and Monday), and a banquet on either Saturday or Sunday evening. The three sessions are divided into microbes, the host, and host/microbial interactions. Each year there are at least two invited speakers from outside our group. Invited speakers have included; Clark Anderson, Bruce Beutler, Andrew Camilli, Brett Findlay, E. Peter Greenberg, Richard Lehrer, Virginia Miller, David Morrison, Joost Oppenheim, George O'Toole, Daniel Portnoy, Abigail Salyers, and Elaine Tuomanen, to name a few.

The meeting has been universally praised for its focus and scientific rigor and we have Mark to thank for his vision and stewardship.



# SCHEDULE OF EVENTS

## Friday, February 9

**5:00 – 6:00 PM** | Early Stage Investigators' Networking Event  
Aleta Terrace

**6:30 – 7:30 PM** | Welcome Reception  
Sun Deck  
Weather backup – Azure

## Saturday, February 10

**7:00 – 9:00 AM** | Breakfast Buffet  
Cortez Foyer

**8:00 AM – 12:15 PM** | **SESSION I** – Pathogenic Strategies of Oral Microbiota  
Cortez C&D and Microbiomes

**10:15 – 10:30 AM** | Break  
Cortez Foyer

## Sunday, February 11

**7:00 – 9:00 AM** | Breakfast Buffet  
Cortez Foyer

**8:00 AM – 12:30 PM** | **SESSION II** – Host Response and Emerging Areas in  
Cortez C&D Translational Oral Medicine

**4:00 – 5:00 PM** | Group Margarita & Ceviche Making Class  
Aleta Terrace

**7:00 – 9:00 PM** | Dinner Banquet  
Rooftop 360 Vista Mar  
Weather backup – Azure

## Monday, February 12

**7:00 – 9:00 AM** | Breakfast Buffet  
Cortez Foyer

**8:00 – 11:00 AM** | **SESSION III** – Molecular Interactions of Oral Microbiota  
Cortez C&D

**11:00 AM** | Closing Remarks

👉 *Event locations are subject to change – look for signs in the hotel. The meals and breaks listed above are included in your registration fee.*

# SESSION I

Saturday, February 10

Pathogenic Strategies of Oral Microbiota and Microbiomes

ROOM | CORTEZ C&D

SESSION MODERATOR | FRANK GIBSON

INVITED SPEAKER AT 8:10 AM | JORGE GALÁN, DMV, PHD

TITLE | Pathogen restriction and host specificity: insight from *Salmonella typhi* and typhoid fever

8:00	Ann Progulske-Fox	Welcome
9:00	Jose Lemos	Targeted therapeutic potential of a P-type ATPase exporter that protects <i>Streptococcus mutans</i> from metal intoxication
9:15	Ping Xu	Systematic analysis of <i>Streptococcus sanguinis</i> virulence genes for infective endocarditis
9:30	Lisa McLellan	Uncovering the role of integrative and conjugative elements in <i>S. mutans</i>
9:45	Jonathon Baker	Unsaturated fatty acids impact physiology & virulence of streptococci
10:00	Samantha King	Streptococcal fibrils and oral colonization
10:15	<b>BREAK</b>	
10:30	Grace Spatafora	Investigating vitamin B6 derivatives as potential SloR interactors: a path toward alleviating <i>S. mutans</i> -induced dental caries?
10:45	Gill Diamond	Activity of a broad-spectrum antimicrobial peptoid against mixed species biofilms of <i>Candida albicans</i> and <i>Streptococcus mutans</i>
11:00	Gina Lewin	Gene expression heterogeneity in Aa- <i>S. gordonii</i> biofilms using single-cell RNA-seq
11:15	Stephanie Momeni	Measuring <i>Streptococcus mutans</i> biofilm pH with nanosensors
11:30	Julia Willett	<i>Streptococcus mutans</i> inhibits growth and biofilm formation of Gram-positive pathogens
11:45	Jacqueline Abranches	Protein glycosylation in <i>Streptococcus mutans</i>
12:00	Bruno Lima	Protein acetylation in the oral commensal <i>Streptococcus gordonii</i>

# SESSION II

**Sunday, February 11**

Host Response & Emerging Areas in Translational Oral Medicine

**ROOM | CORTEZ C&D**

**SESSION MODERATOR | JACQUELINE ABRANCHES**

**INVITED SPEAKER AT 8:00 AM | NIKI MOUTSOPOULOS, DDS, PHD**

**TITLE | Probing neutrophil biology through studies in oral immunity**

<b>9:00</b>	Lakmali Silva	Fibrin-neutrophil engagement mediates oral mucosal immunopathology
<b>9:15</b>	Christopher Cutler	Causal level studies in transgenic reporter mice of senescence and periodontitis
<b>9:30</b>	Hajime Sasaki	Does the DOHaD theory apply to oral inflammation?
<b>9:45</b>	S. Esra Sahingur	Uncovering the role of senescence and inflammaging in periodontal health
<b>10:00</b>	Jeffrey Ebersole	Alterations in connective tissue biology with experimental periodontitis in <i>Macaca mulatta</i>
<b>10:15</b>	Aaron Weinberg	Salivary humoral and innate immune responses in SARS-Cov-2 acutely infected subjects
<b>10:30</b>	Lisa Ryan	Modulation of proteins regulating ion balance in the human oral mucosa by SARS-CoV-2
<b>10:45</b>	Flora Momen-Heravi	Role of double negative T cells in periodontal disease
<b>11:00</b>	Charles Sfeir	Local delivery approaches to modulate the innate host response for the treatment of periodontitis
<b>11:15</b>	Sumita Jain	Selective sorting of pro-inflammatory lipid A into outer membrane vesicles of <i>P. gingivalis</i>
<b>11:30</b>	Jens Kreth	Commensal membrane vesicles – how commensal are they?
<b>11:45</b>	Evangelia Morou	Nitrate reduction by salivary bacteria and insulin resistance
<b>12:00</b>	Linh Nguyen	Nutrigenomics and chronic adult periodontitis
<b>12:15</b>	Ann Progulsk-Fox	Oral Immunology/Microbiology Research Group business meeting



# SESSION III

Monday, February 12

Molecular Interactions of Oral Microbiota

ROOM | CORTEZ C

SESSION MODERATOR | SUMITA JAIN

8:00	Xuesong He	Episymbiotic Saccharibacteria TM7x modulates susceptibility of its host bacteria to phage infection and promotes bacteria-phage coexistence
8:15	Marvin Whiteley	Who cares about Aa: a microbial perspective
8:30	Ramasubbu Narayanan	Is PNAG exopolysaccharide a driver for bone loss induced by Aa?
8:45	Yiping Han	Amyloid Fad A: a molecular commensal-to-pathogen switch
9:00	Michael Stolley	Tissue resident memory T cell immunosurveillance of taste buds
9:15	Modupe Coker	Clustered analyses of salivary and gut microbiomes in young children
9:30	Bruna Garcia	Getting to the root of the problem: predicting root caries in older adults
9:45	Lu Yin	Development of a novel cell-free generated vaccine against periodontal disease
10:00	Jessica Mark Welch	Imaging and metagenomics of microbial consortia from the tongue
10:15	Janina Lewis	Iron at the host-pathogen interface in the oral cavity
10:30	Sumant Puri	Signaling mucin Msb2 is a novel iron sensor in <i>Candida albicans</i>
10:45	Ann Progulsk-Fox	VBNC <i>P. gingivalis</i> and host cell invasion
11:00	Ann Progulsk-Fox	Closing remarks

# CONFERENCE PARTICIPANTS

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### Niki Moutsopoulos

*Head, Oral Immunity and Inflammation Unit  
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## CONFERENCE DIRECTOR

### Ann Progulske-Fox

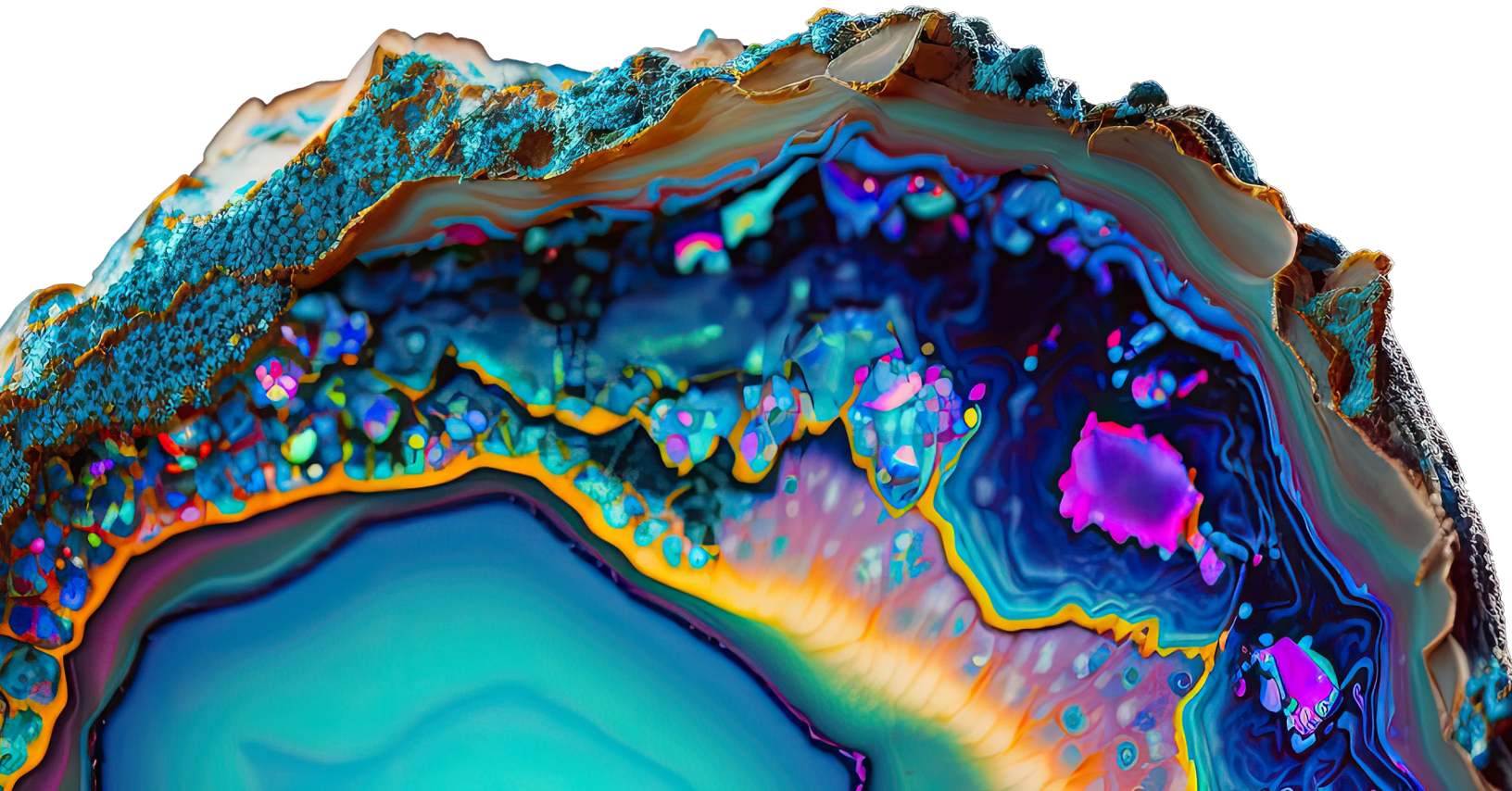
*Distinguished Professor, Department of Oral Biology  
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## ASSISTANT CONFERENCE DIRECTOR

### Jacob Burks

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➤ *For information about the Oral Immunology/Microbiology Research Group, the Mark Wilson Conference or to request inclusion on the email list, please contact Jacob Burks.*



# MANY THANKS TO OUR SPONSORS



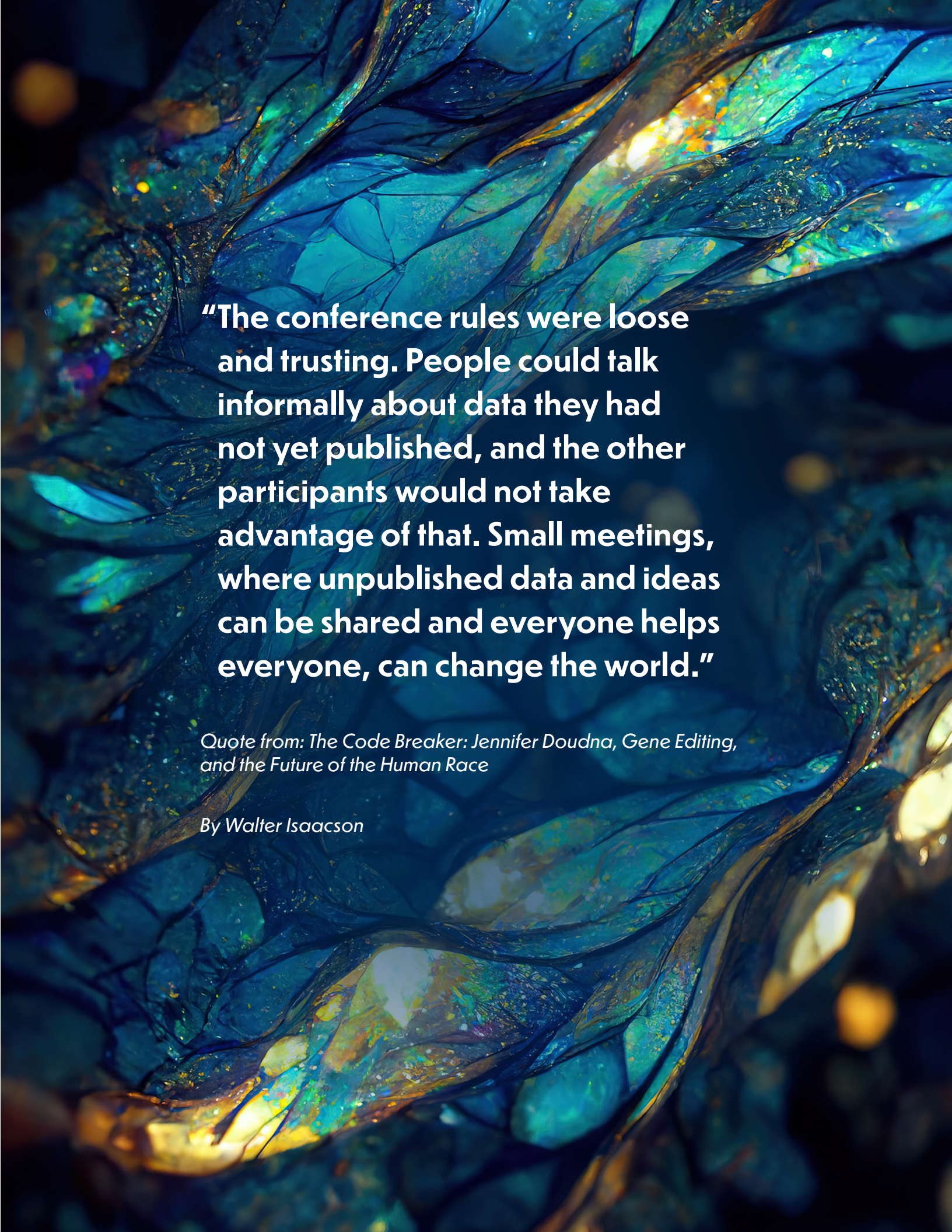
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Ann Progulsk-Fox, Susan Michalek and Jenny Katz!*



**“The conference rules were loose and trusting. People could talk informally about data they had not yet published, and the other participants would not take advantage of that. Small meetings, where unpublished data and ideas can be shared and everyone helps everyone, can change the world.”**

*Quote from: The Code Breaker: Jennifer Doudna, Gene Editing, and the Future of the Human Race*

*By Walter Isaacson*

