



Tom Coughlin

Candidate for IEEE President Elect in 2021

Who I am

I am originally from South Dakota and raised in the upper Midwestern US

I have a BS Physics and an MS and PhD in Electrical Engineering

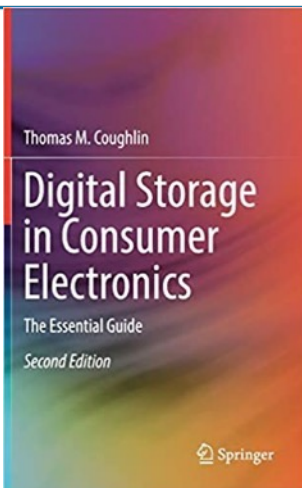
I have an extended and diverse family in California

I have worked for > 40 years in industry on digital storage and memory and also write and speak regularly on storage, memory and their applications

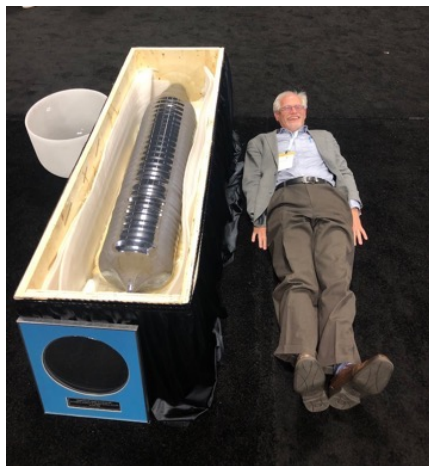


Digital Storage for AI at the Edge

Tom Coughlin
Coughlin Associates
www.tomcoughlin.com



Tom Coughlin
Coughlin Associates



Intel Sells Its NAND Flash Business
To SK Hynix



Who I am (2)

Besides IEEE, I have been active in other professional organizations including IDEMA, SNIA and SMPTE

I have been an IEEE member for 42 years, am an IEEE Fellow and also a member of HKN

Winner of 2020 MGA Leadership Award



Memories of Tomorrow
Coughlin
Associates

Tom Coughlin, Coughlin Associates
&
Jim Handy, Objective Analysis



IEEE activities

I am past president of IEEE-USA,
Former director of IEEE Region 6,
Former chair of the IEEE NIC and PVC,
General chair, 2011 Sections Congress,
Past VP for the CT Society and helped
with IEEE standards,

Past chair of the Santa Clara Valley
IEEE section (the largest section in the
world) and

An active IEEE volunteer, working in
many IEEE organization units and
serving on many IEEE committee.



Flying Animals and
the Art of Presentation

Have we made an important presentation? This is an important question, especially for young people in their 20s and 30s, who have to make presentations (often, to a panel) and deliver with an

Column: The Art of Storage

Let's Build a Holodeck!

Tom Coughlin
Coughlin Associates

It seems simple at first to have an overall meeting and connecting with people through various ways. We have seen nothing that more often seems to connect with each other and also get out and experience the world more often. But the home of today's virtual reality and augmented reality experiences are really changing. But they just are not a real replacement for being somewhere else. So we still have to find the right way to have a holodeck-like that allows in Figure 1.

"The other would be to create an immersive environment like the holodeck." Will we ever probably have many ways from reality representation and have fields for us to create a holographic environment where things seem to be virtual as well as depth, giving a feeling of presence in a way that we cannot feel. Today's VR and AR are not even close to the reality of reality and holodeck.



CAREERS POLICY INFOCUS VIEWS SUBSCRIBE JOIN IEEE IEEEUSA.ORG

BIAS AND DIVERSITY IN ENGINEERING

by Tom Coughlin 25 Jun 2020



Recent national and international protests against police violence (sparked by the death of George Floyd in Minneapolis) and non-uniform justice for black people, has highlighted problems with institutional racism. The IEEE President, President Elect and Past President made a short statement about their opposition to hatred and discrimination. "IEEE is, and remains, strongly committed to diversity, equity, and inclusion and we see no place for hatred and discrimination in our communities."

Greek Chapter Starts Its Life Cycle
with Distinguished Lecturer Talk

The IEEE Greece Section CEE Section Chapter is a well-established Chapter in Region 9 and has celebrated its initiation with an open house by Thomas Coughlin (president, Coughlin Associates), a distinguished lecturer of IEEE Society. The event took place at the premises of Cordelia Caters Initiative on Monday, 12 September 2021. The lecture was titled "Strong Year Later: Consumer Digital Storage—Personal, Shared, Household and Virtual" and attracted 25 attendees. The lecture was followed by a Q&A session with the attendees and to Patra Patra Science Park. The lecture was attended by 17 professionals and 8 students of the TET of Patra IEEE Student Branch.

SPECIAL THANKS TO CORNELIA AND M. GLOVER
Coughlin (www.coughlin.org) is well known in Greece and Europe as an



These members of TET of Patra IEEE Student Branch with Thomas Coughlin (second from left) and the Chapter's Chair Thomas Coughlin (in the middle) at the lecture venue.

Digital Storage and Memory
Technology (Part 1)

Tom Coughlin, Roger Hoyt, and Jim Hardy
November 2017

130

IEEE Transactions on Consumer Electronics, Vol. 53, No. 1, August 2013

A Cross-Standard Metadata Formatting Structure

Scott L. Lindseth, Senior Member, IEEE, Thomas Coughlin, Senior Member, IEEE

Abstract—Over the past 10 years, the amount of user-generated content has increased at phenomenal rates. However, due to a lack of common content descriptors, reliable website searches and access to this content is becoming increasingly difficult. There are three main problems with the current metadata descriptors: they are not standardized, they are not consistent, and they are not compatible with the various standards. With so many different standards for metadata, the whole area is becoming extremely disorganized. This paper will present a cross-standard metadata formatting platform that will allow compatibility between standards.

Index Terms—Metadata, standardization, cross-standard, tagging.

I. INTRODUCTION

In 2005, one of the world's most popular consumer video

With the popularity of a number of media sharing platforms, self protection of posted content has become much simpler (through blogs, social networking, and bookmark websites). As a result, consumers have now found new ways of creating and distributing commercial video content, resulting in new content industries. This has the effect of driving media production and distribution costs down for clients of these new video producers. At the same time, that production and distribution costs have declined, according to a recent report, advertising revenues are increasing year over year in a 2010 high of \$18.1B [1]. In many cases smaller video production companies can provide a better value for money than the larger ones.

As revenues are increasing in the media space, there is also an increased amount of content in the sector and it has been estimated [2] that storage requirements will

IEEE activities (2)

I have written many articles,
papers and other IEEE
documents and am a reviewer
I have helped organize many
IEEE events
I was a distinguished lecturer
for the CT Soc.

2012

IEEE TRANSACTIONS ON MAGNETICS, VOL. 48, NO. 5, SEPTEMBER 2012

Effective Permeability and Imaging of Multilayered
Soft Films for Perpendicular Recording Media

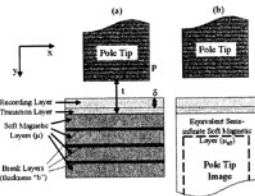
James E. Monson, Fellow, IEEE, and Thomas M. Coughlin, Senior Member, IEEE

Abstract—Thinner soft magnetic film layers show significant variation of effective permeability with wavenumber or magnetic recording density. When the magnetic material is divided between several equally thick soft layers, the effective permeability of the composite film is reduced, particularly at lower wavenumbers. At lower wavenumbers and low bulk film permeabilities, the imaging factor for soft magnetic multilayered films can be significantly reduced, making writing high coercivity media more difficult. For single pole heads, a two-dimensional analysis of writing on a perpendicular medium shows that these effects become pronounced at bulk film permeabilities less than 10. Effects on recording field gradients are much less.

Index Terms—Magnetic films, multilayers, permeability, perpendicular media, recording, soft magnetic underlayer.

I. INTRODUCTION

A. STIFFNESS decreases with increasing film thickness. Stiffness

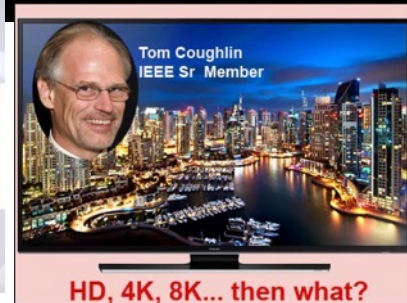


IEEE activities (3)

I am a frequent speaker at IEEE and other events & webinars



IEEE Technology,
DigitalTwin,
DNA Storage
and More
with
Thomas Coughlin



IEEE activities (4)

I love meeting new people

I have been happy to travel and participate in many IEEE events over the years



Some IEEE accomplishments

I chaired a 2019 IEEE BoD membership price adhoc that informed a recent initiative to offer reduced student and YP memberships

I got IEEE-USA to fund the creation of a set of videos featuring YPs (with the CS and PES) for membership promotion in the US, “IEEE is my competitive edge” these are being used for IEEE member promotion for the 2021 membership campaign

As R6 Director I gave awards to several companies in the region, conducted senior member elevations for R6 company executives and promoted a campaign for local section volunteers in R6 to call non-renewing members

As IEEE NIC chair, I aligned proposal solicitations to the IEEE 2020-2025 strategic goals

I was a co-founder of the IEEE Rising Stars Conference

Some IEEE accomplishments (2)

As SCV section chair and SF Bay Area Council chair I promoted and then chaired the 2011 Sections Congress in San Francisco
I have been a recommender or nominator for over 100 senior members and fellows

I nominated the successful Apple I and Apple II IEEE Engineering Milestones

I have nominated a winner of the IEEE Edison Medal and the Ibuka Medal

I have made some cool IEEE shirts that folks seem to like



What I am running for:

I would encourage diversity, inclusion and globalism in our membership, for we need new thoughts and approaches to solve the world's problems.

I want us to create surplus generating hybrid and virtual conference and networking models, to gain from our experience with Covid.

What I am running for (2):

I want to leverage the broad information sources in the IEEE to create valuable tools for the generation and application of wisdom, even while enabling the easy flow of information, because we need income to survive.



What I am running for (3):



"IEEE is my competitive edge"



I want to grow our membership by helping to make IEEE an organization that students, technical professionals (and especially young industry professionals) desire to belong to

and by enabling greater support for local activities where most of our members engage with the IEEE, so IEEE has greater value to industry and our local members.

What I am running for (4):

I want to reach across the IEEE OUs so we may work together and present to the world an IEEE that is vital, essential, adventurous and fun, because **together, we are much more than the sum of our parts.**



Thanks for the opportunity to talk to you about why I am running for IEEE President-elect, more information at:

<http://electtomcoughlin.com>

**Please vote in the
2021 IEEE Elections!**

VOTE FOR TOM COUGHLIN

FOR IEEE PRESIDENT ELECT IN 2021

Tom Coughlin



TOM STANDS FOR:

- Enhancing the value of membership
- Enabling active sections
- Stronger connections to industry
- A global and diverse IEEE

**Together we are
more than the sum
of our parts!**

**FOR MORE INFORMATION ON WHY TOM IS RUNNING
PLEASE VISIT: [HTTP://ELECTTOMCOUGHLIN.COM](http://electtomcoughlin.com)**