USCOTS 2013
Banquet Dinner

Friday, May 17
6:30 - 8:30 pm

The SAS Institute Campus
Cary, North Carolina

Greetings:
Allan Rossman, USCOTS Program Chair

Welcome from our host:
John Sall, Executive Vice President of SAS

Awards:

CAUSE/USCOTS Lifetime Achievement Award
Dennis Pearl, Director of CAUSE

CAUSE Appreciation Awards

Edutainment:

Larry Lesser

Michael Posner

CAUSE and NCSU would like to thank SAS for their generosity in hosting the USCOTS '13 banquet.

Check out CAUSEweb.org/resources/fun/ for more statistics songs.

"What P-Value Means" and "Hit Me with Your Best Plot" were originally published in *Teaching Statistics*; "Statistician's BLUEs", "The Gambler", and "Birthday Song" originally appeared in *Stats*; "Mean" was originally published in *Texas Mathematics Teacher*. For efficiency, some parodies are somewhat condensed from the parodied song's original length.

"**Gonna Give You a Lecture**"

You're the apprentice, I'm the expert, I'm the PhD:
You're payin' me to profess and give you the third degree.
For my wisdom to impart this time every week,
I'll teach how I was taught 'cause that worked for me!
Gonna give you a lecture, gonna give you a lecture:
As the professor, gonna give you a lecture!

Sit there at your desk, get my stories in your notes:
Is it Kafkaesque, pourin' so much down your throats?
But I must make it all so clear 'cause when I ask for questions
No one ever volunteers, though I pause two seconds.
Gonna give you a lecture, gonna give you a lecture:
As the sage on the stage, gonna give you a lecture!

I feel in control holding a script:
Don't know the flow if my classroom were flipped!
Lecture's what they expect of me and gives me a buffer,
And look how efficiently material gets buried -- I mean, *covered*!
Gonna give you a lecture, gonna give you a lecture:
Keep my grip on the lectern and give you a lecture!

But if your learning is not enduring,
I'll try turning to another way…..

I'll make the choice for the coming term:
To hear more of your voice to know what you've learned.
Lecture has its place: in little bits, it's fine.
Just to show I've changed, YOU can end this _ _ _ _!
Gonna do more than lecture, gonna do more than lecture:
As a guide on the side, gonna do more than lecture!

"Correlation Song"
Are points near a line, or far?
What's the correlation, _?
If the fit supports a line,
Its slope and *r* would share the _ _ _ _.
Twinkle twinkle, you're a star:
Knowing stats will take you _ _ _!

"What P-Value Means"
It is key to know
What *p*-value means:
It's the chance
(with the null)
you obtain
data that's
At least that extreme!

"Birthday Song"

Happy birthday to you— bring another 22:
Then we'll have even chances
Of a match in this room….
Or many more!
Happy birthday to me— bring another 253:
Then I'll have even chances
Someone matches with *me*….
Or many more!

"MLE"

When I'm in need of estimation,
Ronald Fisher comes to me,
Speaking words of wisdom: MLE.
And though there may be bias,
this will vanish asymptotically,
Speaking words of wisdom: MLE
MLE, MLE, MLE, MLE,
whisper words of wisdom, MLE.

And when the statisticians
put a focus on efficiency,
There will be an answer: MLE.
For samples really large,
tell me: where's the lowest M.S.E.?
There will be an answer: MLE.
MLE, MLE, MLE, MLE,
there will be an answer, MLE.

And when a θ hat is
found to be θ's MLE,
Then g of θ has what MLE?
Well, if g is 1-to-1,
an invariance property
Says g of θ hat is the MLE.
MLE, MLE, MLE, MLE –
the most likely answer is MLE.
MLE, MLE, asymptotic normality—
whisper its precision, MLE.

"The Gambler"

On a warm summer's evenin',
on a train bound for nowhere,
I met up with a gambler --
we were both too tired to sleep.
So he told me how he planned
winnin' lottery prizes
'Til, as a stats teacher,
I just had to speak:

"Son, you track those draws,
you say ya got a system—
You call some numbers 'hot',
you deem others 'due';
But I insist,
they each have the same chance—
If you're gonna play the game, boy,
ya gotta know what's true!"

Chorus: You gotta know
when you pick 'em, what's superstition.
Know what is strategy
and know when there's *none*!
You never try to learn this at the 7-11
Take the time right now for learnin'
when the singin's done!

Now all sets of numbers
are equally unlikely,
More rare than death by lightning,
still there's somethin' you should know;
If you should happen
to win that big jackpot,
You'll win more money
if you picked it all alone!

So avoid those numbers
that more folks are playin':
Like 7's and birthdays
and sequences, too.
'Til this song gets famous,
you'll have the advantage--
Maybe you'll thank me
with a share of your loot!"(Repeat Chorus)
[*steel guitar solo*]

"Mean"

You — with your words like mean and
mode and symbols that you use against me.
μ — stands for a population mean
and x bar for the sample.
Who — knows what symbol to use
for other measures of data location.
You — pickin' each time the mean.
But it can get pulled off by just one single point,
And you don't know what you don't know....

Chorus: Sometimes data have a real asymmetry
Or values that are really quite extreme.
In those cases, better use the median
If what's typical is what you need—
that's not gonna be the mean!

That won't be the mean -- with outliers, just forget it,
do you see just what I mean & mean & mean & mean
(Repeat Chorus)

"Statistician's BLUEs"

I've been mean-in' to tell ya 'bout my last co-relation,
I've been median to tell ya 'bout my last co-relation:
She wasn't from Haiti, but she was variation!
(*unexplained and uncontrolled!*)

I saw her with ANOVA man, and they were not discrete,
I saw her with ANOVA man, and they were not discrete—
I went proba-ballistic and let out a Pearson scream!
(*those deviates! what a moment!)*

I said, "If you're γ data me, $\mu\beta$ change your mode.

If you γ data me, $\mu\beta$ change your mode.

χ^2 you'll be inference, if you random that road!
(*you'll be skewed....and confounded!"*)

Called up my dad: "Hi Pa! This is testing my heart!"
Yeah I told my dad: "Hypothesis testing my heart!"
He said, "What's your expectation? Ya met her at an x-bar."
("You're right, Dad! Simulator!")

She was my significant other — significant at .03,
She was my significant other — significant at .03,
But α get her soon – as sample as can be! (*Time serious!)*
Gonna reclaim my degrees of freedom…

"Hit Me with Your Best Plot"

Well you're a real tough cookie in statistics class,
Doin' just average enough to pass.
That's OK, just don't fit a line
'Til you view the data you're assigned!

Chorus: Hit me with your best plot!
Why don't you hit me with your best plot?
Hit me with your best plot – graph away!

Come on, you know graphs gotta look fair—
Like pictogram areas showin' their share.
Let zero be where the y-axis starts
And don't have a graph with unlabeled parts! (Repeat Chorus)

Well Hans Rosling took our long history
And animated data so we could see
What's a trend or a special case
As nations move through time and space!
(Repeat Chorus)

"Butterflies"

Ev'ry August brings dreams
We teachers have: bein' unprepared,
Up there with our soul laid bare!
But to have a chance to change their lives
Gotta go past my fear, my butterflies.

'Cause ev'ry August brings dreams
That students have: what brought them there
In these chairs with much to share!
May I help them open wide
And see more of the world, like butterflies.

When I stay still and clear, they may alight right here:
And from the chaos learning brings,
The world can change from a pair of wings.

If I serve as their guide, they'll emerge and soar like butterflies
for more vibrant skies….
Ev'ry August brings dreams

"Y Hat Dance"

For (X, Y) data pairs, we call the Y's
The values observed. Now, let's fit a line!
For each X, the value of Y where on the line you would hit
Is known as a fitted value— the value we say we predict.

And those fitted Y's always wear a hat:
A caret or circumflex are other names for that.
Subtracting the Y hat from Y is (vertical) error defined.
The sum of the squares of all these we want to minimize.

And that is all done by the line of best fit,
But first make sure you plot the points you'd like to fit!
And when you go plot all the scatter, do you see linear trend?
And does everything all look random for errors versus the fits?

"Partial to You"

I feel young when you're near me:
I regress easily!
My age held constant by all you do—
I'm partial to you.

My old (e)**x**, I sent back 'cause
We were unstable from too much overlap.
Then you brought so much new—
I'm partial to you.

Love explained can't be denied:
Our fit makes R^2 high.
We're homoskedastic and normal, too—
I'm partial to you, partial to you.

1st place winning video 2013 A-Mu-sing contest
Lyrics by Michael Posner

"Stats Can Be Cool You See"

If I could take me a course,
that I would really love,
I would've already chosen stats just because,
It teaches skills for life,
that everybody needs,
and you probably know,
Stats can be cool you see.

There's data everywhere,
that can hide or reveal,
you've got to understand them,
stats can be cool you see
You design and collect,
and then you analyze,
it's probably cause,
stats can be cool you see

You got to work hard,
and think on your feet,
with confounders abound,
masking relationships.
And you gotta know,
when samples you pick,
you...do...it...randomly.

I got it,
all figured out,
you gotta take this course and you'll seem smart.
Behind that black box
nobody knows...what they do
But now you do.

If I could take me a course,
that I would really love,
I would've already chosen stats just because,
It teaches skills for life,
that everybody needs,
and you probably know,
Stats can be cool you see.

The population mean,
is what you'll estimate,
but it can't be observed,
it's a mystery.
But say with confidence,
it's within margin of E,
of the sample mean,
stats can be cool you see.

You test hypotheses,
when inference you need,
to get your p-value and make decisions.
But you don't know
if the error you'll make,
Is...type...I...or...II.

I got it,
all figured out,
you need to know the assumptions of each test.
When you got that,
A statistician... is who you are
I know you are.

'Cause it sure seems
(it sure seems)
Data's all around
(all around)
with statistics
(statistics)
You got this all figured out
(out, out, out)

If I could take me a course,
that I would really love,
I would've already chosen stats just because,
It teaches skills for life,
that everybody needs,
and you probably know,
Stats can be cool you see.

You design your graphs,
just to visualize,
and you show them around
stats can be cool you see.
Correlation, Causality,
You remember their names,
its probably cuz,
stats can be cool you see.