



# GACETA

Academia Colombiana de Ciencias Exactas, Físicas y Naturales

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## Actividades de la Academia

### Distinciones a Académicos

La Universidad Nacional de Colombia reconoció, en ceremonia realizada el mes de septiembre, la labor realizada en esa institución por los siguientes académicos:

- D. DIÓGENES CAMPOS: Medalla al Mérito por investigación
- D. JORGE MARTÍNEZ: Medalla al Mérito por Gestión Universitaria
- D. SANTIAGO DÍAZ: Profesor Honorario
- D. LUIS EUARDO MORA OSEJO: Profesor Honorario
- D. HUMBERTO RODRÍGUEZ MURCIA: Maestro Universitario.

### Comisiones y comités de la Academia

La Presidencia de la Academia ha designado los siguientes **Comités temáticos**

- *Biología y Medio Ambiente*: Da. PAULINA MUÑOZ (Coordinadora), D. ENRIQUE FORERO, D. ORLANDO RANGEL
- *Matemáticas*: D. XAVIER CAICEDO (Coordinador), D. JAIRO CHARRIS, D. JORGE MARTÍNEZ
- *Física*: D. HUMBERTO RODRÍGUEZ (Coordinador), Da. ÁNGELA CAMACHO, D. GERARDO GORDILLO
- *Química*: D. AUGUSTO RIVERA (Coordinador), D. JOSÉ MARÍA RINCÓN, D. JUAN MARTÍNEZ
- *Bioquímica, Microbiología y Biología Molecular*: Da. ELIZABETH CASTAÑEDA (Coordinadora), D. GERARDO PÉREZ, D. CARLOS CORREDOR

• *Antropología y Ciencias Sociales*: D. GUILLERMO PÁRAMO (Coordinador), Da. ALICIA DUSÁN DE REICHEL, D. GONZALO CORREAL

• *Ciencias de la Tierra*: D. JAIRO MOJICA (Coordinador), D. JESÚS ESLAVA, D. FABIO CEDIEL

Cada Comité es libre de invitar a trabajar a cualquier académico. Así mismo los académicos están invitados a incorporarse al comité que deseen.

Los **Comités institucionales** que dieron así:

• *Comisión permanente de Parques Nacionales*: D. LUIS EDUARDO MORA, D. JULIO CARRIZOSA, D. JOHN LYNCH.

• *Comisión permanente de candidaturas*: D. CARLOS CORREDOR, D. HERNANDO GROOT, D. EDUARDO POSADA

• *Comité de la Revista y publicaciones*: D. SANTIAGO DÍAZ (Director de la Revista), D. VÍCTOR ALBIS, D. DIÓGENES CAMPOS, D. JOHN LYNCH, D. JAIRO MOJICA, D. POLIDORO PINTO, D. AUGUSTO RIVERA

Por otra parte fueron creados los siguientes nuevos comités:

• *Comité de recursos financieros y sede*: Da. INÉS BERNAL DE RAMÍREZ, D. HERNANDO DUEÑAS, D. HUMBERTO RODRÍGUEZ, D. JAIME RODRÍGUEZ LARA

• *Comité de regionalización y sedes*: D. LUIS CARABALLO, D. MICHEL HERMELIN, D. JOSÉ LOZANO, D. LUIS PRIETO, D. JOSÉ LUIS VILLAVECES

• *Comité de comunicación y sistemas*: D. VÍCTOR ALBIS, D. DIÓGENES CAMPOS, D. JAIME LESMES

## ¿Qué es S-Star.org?

S-Star.org es el resultado de la

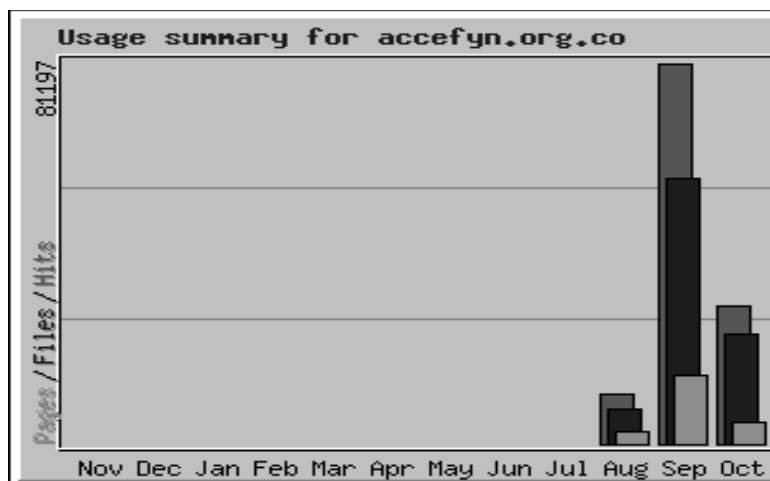
colaboración entre las siguientes universidades e instituciones:

- Karolinska Institutet, Sweden,
- National University of Singapore,
- Stanford University, USA,
- University of Sydney, Australia,
- University of Uppsala, Sweden,
- University of the Western Cape, South Africa.

La idea es tener un grupo de instituciones educativas que formen una alianza global para proveer un ambiente de aprendizaje unificado y global (GLOBULE), conformado por cursos modulares en las disciplinas de la genómica, la bioinformática y la informática médica. Los objetivos iniciales de GLOBULE son los siguientes:

- Suministrar un curso en línea para el entrenamiento en bioinformática y genómica.
- Suministrar acceso a las herramientas para el diseño de cursos de la más alta calidad existentes hoy en día en el ámbito mundial.
- Suministrar asesoría de la más alta calidad en las herramientas de diseño de cursos que han sido aprobadas por los educadores de las instituciones participantes.
- Desarrollar un aprendizaje modular integral que permita al estudiante elegir tanto los módulos de prerequisites como los módulos avanzados con el fin de que puedan construir un programa comprensivo en genómica y bioinformática.

La misión consiste en proveer a cualquiera de un curso introductorio en bioinformática. Se espera que esta



colección de lecciones estén disponibles para los estudiantes en cualquier parte del mundo a través de internet, independientemente de que las clases las tomen individuos o grupos.

## Comportamiento de la Página de la Academia

En el portal WWW de la Academia se colocó hace ya algunos meses un nuevo sitio: *Historiografía de la Ciencia en Colombia*, como parte del trabajo del Grupo de Historia y Filosofía de la Ciencia de la Academia. Las dos primeras páginas que se colocaron son las siguientes: *Historia Matemática Colombiana* y *Patrimonio Matemático Colombiano*, que forman parte del *Proyecto de Conservación del patrimonio Matemático Colombiano* y se encuentran actualmente en pleno desarrollo. Los responsables de este proyecto son el Académico D. VÍCTOR ALBIS y la profesora Da. CLARA H. SÁNCHEZ, de la Universidad Nacional de Colombia. El interés mostrado por el grupo internacional DML (*Digital Library in Mathematics*) en el proyecto y su difusión a partir de agosto de 2002 en el ámbito de la internet, produjo 13571 visitas en septiembre y la primera quincena de octubre de 2002 (véase el cuadro anexo). Algunos de los detalles son los siguientes:

### Octubre 19 de 2002

Visitas: 2820

Páginas: 4738

Archivos: 23474

Hits: 29369

### Septiembre de 2002

Visitas: 9093

Páginas: 14552

Archivos: 56431

Hits: 81197

### Agosto de 2002

Visitas: 1658

Páginas: 2482

Archivos: 7478

Hits: 10757

## Justa poética para festejar la demostración del Último Teorema de Fermat

Como resultado de una justa poética convocada por JEREMY TEITELBAUM, para festejar la demostración del último Teorema de Fermat, por WILES & TAYLOR, se enviaron los siguientes poemas (conservamos el idioma original):

### I

Author: JOHN FITZGERALD

Fermat's last theorem

Is a puzzling queer one:

Squares of a plane

Wholly squared, aren't arcane;

Cubic volumes and more, though

Have no solutions, I'm sure; so

All postulates otherwise

Will prove other than wise.

Author: Maurice Machover

Fermat's theorem has been solved,

What will now make math evolve?

There are many problems still,

None of which can cause that thrill.

Years and years of history,

Gave romance to Fermat-spreed,

Amateurs and top men too,  
Tried to push this theorem through.  
Some have thought they reached the goal,  
But were shipwrecked on the shoal,  
So the quest grew stronger still;  
Who would pay for Fermat's bill?  
So what is now the pearl to probe,  
The sanrk to hunt, the pot of gold,  
The fish to catch, the rainboe's end,  
The distant call towards which to tend?  
One such goal's the number brick,  
where integers to all lengths stick:  
To sides, diagonals, everyone,  
Does it exist or are there none?  
Then there are those famous pearls,  
That have stymied kins and earls:  
Goldbach, Twin Primes, Riemann Zeta;  
No solutions, plenty data.  
Find a perfect number odd;  
Through  $3n+1$  go plod;  
Will the  $P=NP$ ?  
Send a code unbreakably.  
Are independence proofs amiss;  
Continuum Hypothesis;  
Find a proof which has some texture  
of the Poincare conjecture.  
And so, you see, onward we sail,  
there still are mountains we must scale;  
But now there's something gone from  
math,  
At Fermat's end we weep and laugh

### II

Author: JONATHAN HARVEY

A mathematician named Wiles

Had papers stacked in large piles

Since he saw a clue

He could show Fermat true

Mixing many mathematical styles

He labored in search of the light

To find the crucial insight

Young Andrew, it seems

Had childhood dreams

To prove Mr. Fermat was right

He studied for seven long years  
 Expending much blood, sweat, and tears  
 After showing the proof  
 A sceptic said "Poof!  
 There's a hole here", raising deep fears.  
 This shattered Mr. Wiles's belief  
 His ship was wrecked on a reef  
 Then a quick switcheroo  
 Came out of the blue  
 Providing his mind much relief.  
 Mr. Wiles had been under the gun  
 But the obstacle blocking Proof One  
 Fixed a much older way  
 From an earlier day  
 And now Wiles has his place in the sun

**III**

Author: **TED MUNGER**  
 With an integer greater than 2  
 It's something one simply can't do  
 If this margin were fat  
 I'd show you all that  
 but it's not so the proof is on you!

**IV**

Author: **ROBERT VIVIAN HUXLEY** (with  
 acknowledgement to **KENNETH GRAHAME**)  
 The clever men at Oxford  
 Computed for hours and hours  
 But they none of them found a cube or  
 higher  
 As the sum of two equal powers.  
 A Wiley don from Cambridge  
 Cogitated for seven years -  
 Eventually told his friends  
 "By Hecke I'm moved to tears!"  
 "The Taniyama Conjecture's true  
 My new solution's stronger  
 This proof perfects old Fermat's note  
 If marginally longer"

**V**

Author: **JONATHAN MATTE**  
 Sir Wiles wrote home to his mama  
 And said, "I've improved Taniyama."  
 His mother replied,  
 "I am filled with such pride . . .  
 And to think, I once changed your  
 pajamas."

**VI**

Author: **JONATHAN MATTE**  
 Said Wiles, "I know it's for real  
 I've proven this theorem with zeal."  
 His doubters then said  
 "You're out of your head . . .  
 You've just reinvented the Weil."

**VII**

Author: **JONATHAN MATTE**  
 A mathematician named Pierre  
 Thought "I wonder if someone will care  
 If I say there's a proof  
 And then (somewhat aloof)  
 Admit I can't fit it in there."

**VIII**

Author: **PEGGY RUST**  
 What is a 'theorem'?  
 and what was Fermat's?  
 Personally,  
 I prefer cats.

**IX**

Author: **PETER SHALEN**  
 No higher pow'r can ever be,  
 The sum of two of like degree.  
**That** shouldn't be too hard to see...

**X**

Author: **JOSEPH SHAYA**  
 The proof of the claim of Fermat,  
 is truly a marvellous tract.  
 Did Pierre tease us all  
 'cause the margin was small, or his  
 writing was much much too fat?

**XI**

Author: **MATT PERRIENS**  
 A mathematician named Wiles  
 Came up with a proof for the files  
 He stretched Fermat's margin  
 And managed to barge in  
 Where others lay felled on their trials.

**XII**

Author: **BARRY MAZUR**  
 When Fermat Vapours clog our loaded  
 Brows,  
 With furrow'd frowns, when stupid  
 downcast Eyes  
 Th'external Symptoms of some Gap  
 within  
 Our Proof express, or when in sullen  
 Dumps  
 With Head Incumbent on Expanded Palm,  
 Moping we sit, our Gaulloise snuffed,  
 deform'd,  
 Sing then, Oh Wiles, and Taylor, Wiles!  
 Oh trio: put Fermata to our Toils.

**XIII**

Author: **JEREMY TEITELBAUM**  
 We take an elliptic curve E,  
 consider the points killed by 3,  
 This "rho" must be modular,

and by facts which are popular,  
 the proof of Fermat comes for free.

**XIV**

Authors: **EVERETT HOWE, HENDRIK  
 LENSTRA, & DAVID MOULTON.**  
 "My butter, garcon, is writ large in!"  
 a diner was heard to be chargin'.  
 "I HAD to write there,"  
 exclaimed waiter Pierre,  
 "I couldn't find room in the margarine."

**XV**

Author: **ANONYMOUS**  
 Rational, modular  
 cohomologically  
 Wiles and Taylor  
 prove they  
 both are the same. Modular, rational  
 nonarchimedian  
 methods now  
 justify  
 Fermat's old claim.

**XVI**

Author: **MATT BAKER**  
 Once upon a midnight dreary,  
 As I pondered weak and weary,  
 O'er many a quaint and etale sort of  
 cohomology,  
 While inducing representations,  
 I was led to deformations,  
 And the ramifications of modular forms  
 in characteristic p.  
 So I struggled to break free.  
 Ah, discreetly I conjectured,  
 to myself alone I lectured,  
 As the virile bust of Fermat wrought its  
 ghost upon my floor,  
 Suddenly there came an insight,  
 that these flat group schemes were finite  
 And I represented functors never  
 dreamed about before.  
 Then my soul began to soar.  
 "Taniyama!" I then shouted,  
 As the logic from me spouted,  
 "It all comes down to looking at the  
 prime l equals 3!"  
 Modularity is the conclusion,  
 And the Frey curve an illusion,  
 So Fermat's equation cannot have  
 nontrivial roots in Z!  
 Quoth the raven, "Q.E.D."

**XVII**

Author: **ALF VAN DER POORTEN**  
 With a little ingenious phrasing,  
 The proof's detail is not quite as dazing,  
 It's enough just to dream,

Of a finite flat scheme,  
and to say that the proof is amazing.

**XVIII**

Author: ALF VAN DER POORTEN  
I'm beginning to see the attraction,  
in deformation 'n complete intersection,  
I no longer fear 'em,  
'cause Fermat's Last Theorem,  
Demands that they have our affection.

**XIX**

Author: FERNANDO GOUVEA  
A reckless young fellow from Burma,  
Found proofs of the theorem of Fermat.  
He lived then in terror,  
Of finding an error,  
Wiles's proof, he suspected, was firmer.

**XX**

Author: FERNANDO GOUVEA  
They said the proof was long and hard,  
and painful to behold,  
But at the conference at BU,  
we got the real dirt.  
The proof, it sure is tricky,  
but its length isn't so bold—  
It doesn't fit the margin,  
but it does fit on a shirt.

**XXI**

Author: JOE SILVERMAN  
The time has come, Fermat opined,  
to talk of many things,  
of  $GL_2$  and flat group schemes,  
and local Hecke rings,  
and which ideals are Eisenstein,  
and Wiles's wild flings.

**XXII**

Author: ANONYMOUS  
Roses are red,  
violets are blue,  
Fermat is dead,  
but his theorem is true.

**XXIII**

Author: NOAM ELKIES  
(A Clerihew)  
Andrew Wiles  
After seven years' tribulations and trials  
Saw light at the end of the Tunnell  
Covering E by  $X_1(1)$ .

**XXIV**

Author: NOAM ELKIES  
(Double Dactyl)  
Higgledy-piggledy  
Fermat's Last Theorem's  
Finished at last, though old  
Pierre might have cursed:  
"Huge deformation rings?  
Semistability?  
Cocycles? Crystals!? My  
Margins would burst!"

**XXV**

Author: E. B. BURGER  
**Ode to Fermat**  
In around 1640, Fermat,  
upon his reading of Diophantus  
Was led to a romantic assertion that  
would  
From that point on entrance us  
Never did he dream that a few words in a  
margin could make him a hero  
As he wrote that certain equations had no  
solutions other than zero.  
Many searched for a proof and there may  
have been the rumor,  
It looks a complete solution will  
be found soon by Kummer.  
This was not the case and a proof would  
not appear out of thin air,  
but perhaps using the curve of Frey and  
and conjecture of Serre  
This strategy indeed works as proven by  
Ribet, Taylor, Wiles, and Wiles  
Causing the mathematical community at  
large  
to don tearful smiles  
Thus although now the spirit of Fermat  
is finally content  
He is shocked that the proof is not just a  
simple method of descent.

**XXVI**

Author: SHARON ANN KINEKE  
We study the proof of Fermat.  
Take Shimura-Taniyama  
And the Frey elliptic curve.  
Between them there is a tie  
As suggested by Gerhard Frey.  
Along came Jean-Pierre Serre  
Who formulated with great care  
The epsilon conjecture  
Which as a tie would serve.  
And yes the conjecture did fit  
As demonstrated by Ribet.  
Then it remained to consider  
Representations modular.  
Seven years later,  
Came the announcement of Wiles.  
But that was not the ending,  
We needed the Taylor mending.  
Now at last we all have smiles.

# GACETA

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En la Gaceta aparecerán notas editoriales, reseñas de libros, boletines de adquisición de la Biblioteca, noticias sobre las publicaciones de la corporación, pequeños artículos de interés general y otras secciones más, a las cuales están invitados a contribuir todos los académicos. La fecha límite para recibir información o reportes es el último día hábil de cada mes. De ser posible pedimos que las contribuciones se procesen y envíen en disquete, utilizando uno de los siguientes procesadores de palabras para IBM-PC o compatibles: Word Perfect, Microsoft Word o Word de Windows. Se permite copiar o reproducir parcial o totalmente el material publicado en la Gaceta siempre y cuando se haga referencia a su lugar de origen y se envíe una copia de la publicación a la Academia.

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