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Fan of the Week
Dr. Rachid Skouta
Research Assistant Professor
Department of Biological Sciences
University of Texas at El Paso

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Who Will Win the #ChemNobel? Predicting the Next Nobel Laureate(s) in Chemistry

Share your comments in the webinar question window or tweet at us using the hashtag.

Jillian Buriak
Professor of Chemistry
University of Alberta
@jburiak

Philip Ball
Science Writer
Chemistry World
www.philipball.uk.co
@philipcball

Paul Bracher
Professor of Chemistry
St. Louis University
http://blog.chembark.com/
@chembark
The capital, invested in safe securities by my executors, shall constitute a fund, the interest on which shall be **annually distributed** in the form of **prizes** to those who, during the preceding year, shall **have conferred the greatest benefit to mankind**.

The said interest shall be divided into five equal parts, which shall be apportioned as follows: … **one** part to the person who shall have made the most important chemical discovery or improvement.

It is my express wish that in awarding the prizes **no consideration whatever shall be given to the nationality of the candidates**, but that the **most worthy** shall receive the prize, **whether he be a Scandinavian or not**.

*–Alfred Bernhard Nobel, 1895*

*Source: NobelPrize.org*

---

**Philip’s Pick: The Most Nobel Laureate**

**Gerhard Ertl**

…rewarded for a lifetime’s work.

I want to see the Nobels do that more, so that we can start getting rid of this awful first-past-the-post competitive culture of science. –*Philip Ball*

*2007 Nobel Laureate*

For “studies of chemical processes on solid surfaces.”
Paul’s Picks: The Most Nobel Laureates

Rudy Marcus won in 1992
"for his contributions to the theory of
electron transfer reactions in chemical
systems."

Roald Hoffmann won in 1981
for “theories…concerning the course of
chemical reactions.”

Source: Nobel.org

Meet the Nobel Chemistry Committee

Sara Snogerup Linse
Chair
Professor of Physical Chemistry &
Molecular Protein Science
Lund University

Sven Lidin
Professor of inorganic chemistry
Lund University

Jan-Erling Bäckvall
Professor of Organic Chemistry
Stockholm University

Olof Ramström
Professor of chemistry
KTH – Royal Institute of Technology
Stockholm

Claes Gustafsson
Professor of Medical Biochemistry
University of Gothenburg

Gunnar von Heijne
Secretary
Professor of Theoretical Chemistry
Stockholm University

Source: Nobel.org/Listed institutions
Paul's 2015 Chem Nobel Pick

Harry Gray
Professor of chemistry
Caltech

Stephen Lippard
Professor of Chemistry
MIT

Richard Holm
Professor of chemistry
Harvard

Philip's 2015 Chem Nobel Pick

Mildred Dresselhaus
MIT
Professor of Physics

Sumio Iijima
NEC Corporation

“…for pretty much launching the field of nanocarbon.”
Jillian’s 2015 Chem Nobel Pick

John B. Goodenough
University of Texas at Austin
Invention and development of Li-ion batteries

Very close runner-up:
George Whitesides
Harvard University
Self-assembled monolayers, nanoscience on surfaces

Lauren’s 2015 Chem Nobel Pick

John B. Goodenough
University of Texas at Austin
Invention and development of Li-ion batteries
Who Paul Would Give the Prize To…

John B. Goodenough
University of Texas at Austin
Invention and development of Li-ion batteries

Matt’s 2015 Chem Nobel Pick

Mildred Dresselhaus
MIT
Professor of Physics

“…to lock down carbon for chemistry.”
Notable Nobel Contenders

• George Whitesides + (Pick 2) Ralph Nuzzo, Dave Allara, Jacob Sagiv for self-assembled monolayers and surface nanoscience

• Louis Brus, Paul Alivisatos, and Chad Mirkin for semiconductor nanoparticles

• Bob Langer and Joseph Vacanti for tissue engineering

• Ned Seeman and Paul Rothemund for DNA nanotechnology

• Jennifer Doudna and Emmanuelle Charpentier for CRISPR/Cas9

Audience Survey Question

In your opinion who will win the next Nobel Prize in Chemistry?

• Gray, Holm, and Lippard for bioinorganic chemistry
• Mildred Dresselhaus and Sumio Iijima for carbon-nano discoveries
• Goodenough for Li-ion batteries
• Doudna and Charpentier for CRISPR/Cas9
• Other
Introducing C&EN’s Interactive Nobel Graphic

http://cen.acs.org/nobels.html

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Which subfield will win this year’s award?

- Biochemistry
- Organic
- Physical
- Inorganic
- Theoretical

Women & the Nobel Prize

<table>
<thead>
<tr>
<th>Subject</th>
<th>Total Laureates</th>
<th>Female Laureates</th>
</tr>
</thead>
<tbody>
<tr>
<td>Physics</td>
<td>199</td>
<td></td>
</tr>
<tr>
<td>Economics</td>
<td>75</td>
<td>1</td>
</tr>
<tr>
<td>Chemistry</td>
<td>169</td>
<td>4</td>
</tr>
<tr>
<td>Medicine</td>
<td>207</td>
<td>11</td>
</tr>
<tr>
<td>Literature</td>
<td>111</td>
<td>17</td>
</tr>
<tr>
<td>Peace</td>
<td>103</td>
<td>16</td>
</tr>
</tbody>
</table>

* The Sveriges Riksbank Prize in Economic Sciences in Memory of Alfred Nobel

Source: Nobel.org
Up to 3 Laureates can share a prize.

<table>
<thead>
<tr>
<th>Years with 1 Laureate</th>
<th>63</th>
</tr>
</thead>
<tbody>
<tr>
<td>Years with 2 Laureates</td>
<td>23</td>
</tr>
<tr>
<td>Years with 3 Laureates</td>
<td>20</td>
</tr>
<tr>
<td>Average number of Laureates/year</td>
<td>1.6</td>
</tr>
<tr>
<td>Years without a prize</td>
<td>8</td>
</tr>
</tbody>
</table>

Source: Nobel.org

**Average number of Laureates per 5-year interval**

Audience Survey Question

ANSWER THE QUESTION ON BLUE SCREEN IN ONE MOMENT

How many Laureates will win this year’s #ChemNobel?

- 1
- 2
- 3
Who Will Win the #ChemNobel? Predicting the Next Nobel Laureate(s) in Chemistry

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“Halloween Candy Chemistry: Caramels, Gummies, Jellies, and Candy Corn”

Rich Hartel, Professor of Food Engineering at University of Wisconsin-Madison
Silvana Martini, Associate Professor, Department of Nutrition, Dietetics, and Food Science Utah State University

Thursday, October 15, 2015

“The Material World of Color: Chemical Characterization of Pigments in Art”

Barbara Berrie, Head of Scientific Research, National Gallery of Art
Eric Breitung, Senior Research Scientist, Department of Scientific Research The Metropolitan Museum of Art

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