Way to Science &

Scientific Publication

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Outline / My point of view

- Scientific thinking
- Role Models
- 28 years ago…..before MSc
- What about you
- Way to scientific publication
- Examples of publication problems

Scientific thinking

- **Scientific thinking is a type of knowledge seeking involving intentional information seeking, including asking questions, testing hypotheses, making observations, recognizing patterns, and making inferences.**

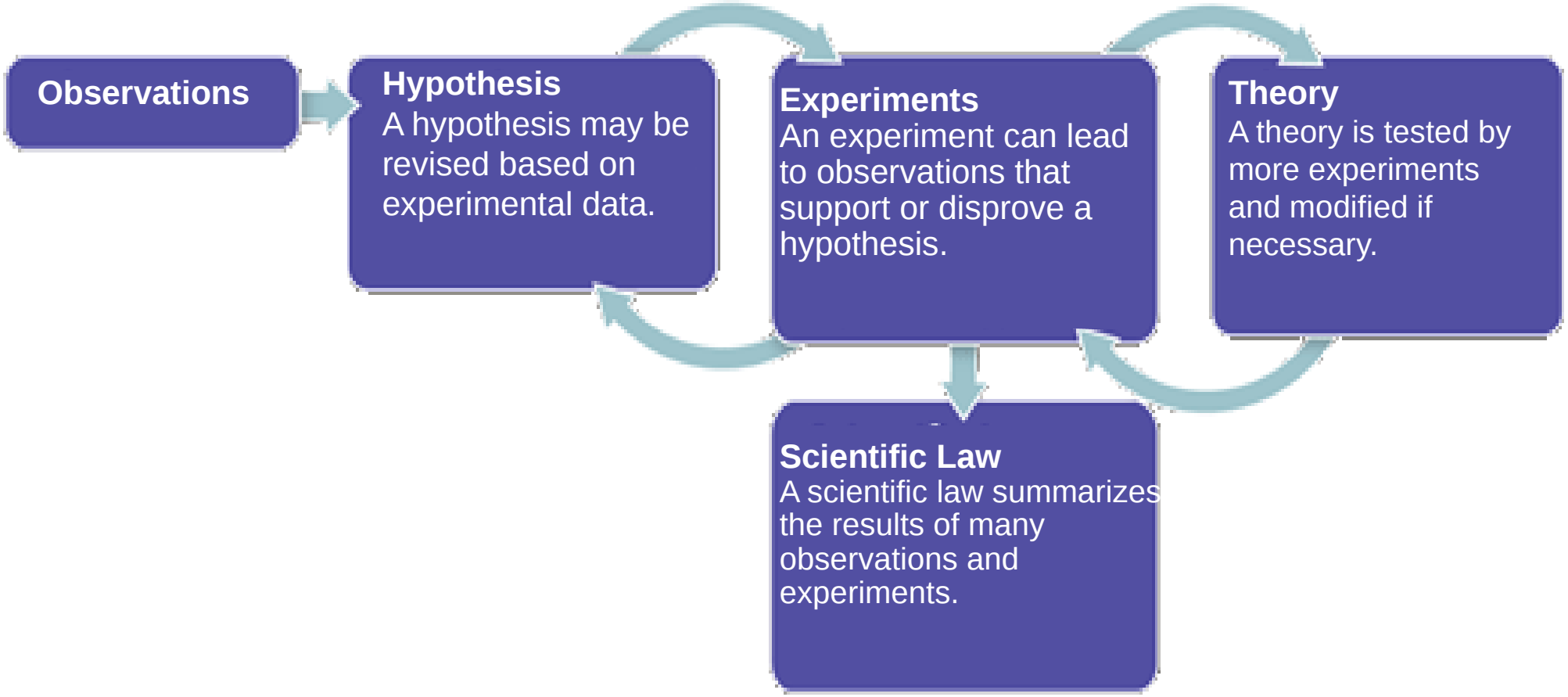
- التفكير العلمي هو نوع من البحث عن المعرفة الذي يتضمن البحث عن معلومات محددة ، بما في ذلك طرح الأسئلة واختبار الفرضيات وإجراء الملاحظات والتعرف على الأنماط والتوصل إلى الاستدلالات

Scientific thinking

Scientific thinking

- In 1928, Alexander Fleming, a Scottish scientist, noticed that the bacteria
- Discover the world's first broadly effective antibiotic substance, which he named penicillin → Scientific thinking

Scientific thinking



Scientific thinking

- Critical thinking skills are valuable tools that will help students be successful in all aspects of their lives.
- مهارات التفكير النقدي هي أدوات مهمة تساعد الطلاب على النجاح في جميع جوانب حياتهم.
  - التركيز على السؤال
  - التحليل
  - توجيه أسئلة توضيحية والإجابة عليها
  - الحكم على موثوقية مصدر المعلومة
  - استيعاب الرسومات البيانية والرياضيات
  - استيعاب تقارير الملاحظات والحكم عليها
  - تطبيق المعرفة المكتسبة
  - الحكم على الافتراضات التي لا أساس لها

Scientific thinking

A student makes an experiment to calculate a particle charge, his calculations explain that the particle has two values of charge $e/3$ and e? His teacher told him that the result might be correct depending on the type of particle. **Could you explain the teacher's answer?**

Role models

Role models, cont.

Padma Kant Shukla
1950 – 2013 (India-Germany)

Role models, cont.

Reinhard Schlickeiser & Ioannis Kourakis

Role models, cont.

The Alexander von Humboldt Foundation

Connecting academic excellence worldwide

Knowledge transfer and cooperation at the highest level

28 years ago…..before MSc

- No internet
- No E-mails
- No computer facilities & computer skills
- No English
- No guidance
- Limited books & research papers

28 years ago…..before MSc

- No internet
- No E-mails
- No computer facilities & computer skills
- No English
- No guidance
- Limited books & research papers
- Finally, Interaction = Experience = Big Zero
- What about you?

What about you

- **You have all my No → internet + E-mail + computer + English + guidance + many sources of knowledge + interaction = MORE experience**

What about you

- **You have all my No → internet + E-mail + computer + English + guidance + many sources of knowledge + interaction = MORE experience**
- **So, What is the problem?**
- **Plan to your future by science**
- **Writing a plan not only for project but to your life**

Let us go……

Way to the scientific publications

- **Undergraduate student (academic or other)**

Way to the scientific publications

- **Undergraduate student (academic or other)**
- **Postgraduate student – Researcher**
    1. **Supervisor**
    2. **Research point**

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- **Journals (Cited – Not Cited) && H-index**

Way to the scientific publications

- Undergraduate student (academic or other)
- Postgraduate student – Researcher
    1. Supervisor
    2. Research point
- Publications
- Journals (Cited – Not Cited) && H-index
- Citation database: Clarivate & Scopus

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- Citation database: Clarivate & Scopus
- Impact factor
- Peer-Reviewers

Way to the scientific publications

- Undergraduate student (academic or other)
- Postgraduate student – Researcher
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- Journals (Cited – Not Cited) && H-index
- Citation database: Clarivate & Scopus
- Impact factor
- Peer-Reviewers
- Positive/negative report


Paper Accepted!
Criticism
Plagiarism
Reviewing
Writing
@successpictures
Funding
Peer Reviewiers
Discussion
Plotting
@successpictures
Interpret Results
Collecting Data
Constracting Model
YOU
Idea


Author submits paper to journal
Are journal requirements met?
No
Inform Author
Yes
Inform Author
Reject
Editor's initial evaluation of paper.
Worthy of consideration. Invite experts to peer review.
Paper needs revision; returned to authors.
Editor decides next steps - Reject, Revise, or Accept.
Experts agree. Send report to Editor.
Authors revise and submit revised paper.
Editor and/or original reviewers re-evaluate. Reviewers recommend and editor decides.
Thank peer reviewers for their time, effort, and expert evaluation.
Further revisions needed
Reject
Accept
Inform Author
Inform Author

Examples of publication problems

Problem with supervisor

J. Plasma Physics (1999), *vol.* 61, *part* 2, *pp.* 177–189. Printed in the United Kingdom

Propagation of ion acoustic waves in a warm multicomponent plasma with an electron beam

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Physics Department, Faculty of Science, Mansoura University, Damietta, Egypt
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(Received 13 April 1998 and in revised form 9 September 1998)

Examples of publication problems

Problem with supervisor

J. Plasma Physics (2000), *vol.* 63, *part* 2, *pp.* 139–155. Printed in the United Kingdom

Higher-order contributions to ion-acoustic solitary waves in a warm multicomponent plasma with an electron beam

W. M. MOSLEM

Physics Department, Faculty of Science, Mansoura University, Damietta, Egypt
(sinfac @mum.mans.eun.eg)

(Received 3 March 1999 and in revised form 7 July 1999)

Examples of publication problems

Problem with student

APPLIED PHYSICS LETTERS **103**, 082105 (2013)

Quantum effects in electron beam pumped GaAs

M. E. Yahia,[1,2,a)] I. M. Azzouz,[2] and W. M. Moslem[3]
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(Received 5 February 2013; accepted 31 July 2013; published online 20 August 2013)

Examples of publication problems

Problem with referees (-ve referees)

APPLIED PHYSICS LETTERS **104**, 231609 (2014)

Surface nanostructuring by ion-induced localized plasma expansion in zinc oxide

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(Received 22 March 2014; accepted 2 June 2014; published online 13 June 2014)

Examples of publication problems

Problem with referees (+ve referee)

PHYSICS OF PLASMAS VOLUME 10, NUMBER 11 NOVEMBER 2003

Effects of trapped electron temperature, dust charge variations, and grain radius on the existence of the dust-ion-acoustic waves

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A. E. Mowafy
Faculty of Science, Mansoura University, Egypt

Examples of publication problems

Problem with time

SCIENTIFIC REPORTS

OPEN

Rogue waves lead to the instability in GaN semiconductors

M. E. Yahia[1,2], R. E. Tolba[3], N. A. El-Bedwehy[3], S. K. El-Labany[4] & W. M. Moslem[2,5]

Received: 01 August 2014
Accepted: 15 June 2015
Published: 24 July 2015

A new approach to understand the electron/hole interfaced plasma in GaN high electron mobility transistors (HEMTs). A quantum hydrodynamic model is constructed to include electrons/holes degenerate pressure, Bohm potential, and the exchange/correlation effect and then reduced to the nonlinear Schrödinger equation (NLSE). Numerical analysis of the latter predicts the rough (in)stability domains, which allow for the rogue waves to occur. Our results might give physical solution rather than the engineering one to the intrinsic problems in these high frequency/power transistors.

Examples of publication problems

Problem with new topic

Available online at www.sciencedirect.com

ScienceDirect

Advances in Space Research 66 (2020) 1276–1285

ADVANCES IN SPACE RESEARCH
(a COSPAR publication)

www.elsevier.com/locate/asr

Nonlinear ion-acoustic waves at Venus ionosphere

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Received 19 January 2020; received in revised form 9 June 2020; accepted 17 June 2020
Available online 27 June 2020

Examples of publication problems

Problem with quantity and quality of comments

Physics of Plasmas ARTICLE scitation.org/journal/php

On the propagation of electrostatic wave modes in the inhomogeneous ionospheric plasma of Venus

Cite as: Phys. Plasmas **28**, 082902 (2021); doi: 10.1063/5.0050039
Submitted: 11 March 2021 · Accepted: 22 July 2021 ·
Published Online: 10 August 2021

View Online Export Citation CrossMark

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Thank you