



University of  
**Pittsburgh**

Department of Anesthesiology  
and Perioperative Medicine

# RESEARCH

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Authorship

# Goals & Objectives

- Why does authorship matter?
- What is authorship?
- Types of authorship conflict
- Resolution of authorship conflict
- Prevention of authorship conflict

# Lecture Overview



- Why does authorship matter?
- What is authorship?
- Types of authorship conflict
- Resolution of authorship conflict
- Prevention of authorship conflict

# Why Does Authorship Matter?

- Authorship confers credit and has important academic, social, and financial implications.
- Authorship also implies responsibility and accountability for published work.

# Academic Promotion

University of Pittsburgh  
School of Medicine

## GUIDELINES FOR FACULTY APPOINTMENT AND PROMOTION

### *Evidence of Scholarship in investigation*

- Experimental
  - Basic science research
  - Clinical trials
- Population studies
- Case reports
- Scientific grants
- Scientific reviews
- Membership on editorial boards
- Service on national committees or Study sections
- Officer in scientific society

### *Evidence of scholarship in teaching*

- Classroom Teaching
- Bedside and bench top teaching
- Curriculum design
- Textbook authorship
- Mentorship
- Preparation of teaching materials
- Invited speaker
- Teaching awards
- Consistent national panelist
- Consistent pattern of strong, favorable Evaluations by students

**CRITERIA**  
**APPOINTMENT AS ASSOCIATE PROFESSOR OR PROFESSOR**  
**WITHOUT TENURE**  
**PROMOTION TO ASSOCIATE PROFESSOR OR PROFESSOR WITHOUT TENURE**

**Associate Professor**

Generally will have served a minimum of 5 years as an assistant professor

**Investigation**

Examples of Objective Evidence of Investigative Achievement for Associate Professor

- Record of scholarly publications (typically peer reviewed manuscripts in quality journals; 3-5 particularly important manuscripts provided to committee by the candidate).
- Consistent independent funding (2-3 years).
- Clear-cut evidence of originality, independence, and leadership, typically **15 publications** but actual number may range widely based upon significance, quality, and type of article (first or senior author on over one-third of manuscripts).
- Consistent research theme and goals.
- Authorship of important reviews, chapters, and/or books.
- Recognized by peers regionally (evidenced by letters).
- Membership in leading scientific organizations.
- Editorial boards of scientific journals.

**CRITERIA  
APPOINTMENT AS ASSOCIATE PROFESSOR OR PROFESSOR  
WITHOUT TENURE  
PROMOTION TO ASSOCIATE PROFESSOR OR PROFESSOR WITHOUT TENURE**

**Professor**

Most individuals will have served 5 to 7 years as Associate Professor as a minimum prior to consideration

**Investigation**

Examples of Investigative Achievement for Professor

- Continued scholarly publication (40 publications typically; first or senior author on over one-third of manuscripts)
- Consistent record of peer reviewed funding (5 to 7 years).
- Recognized by peers nationally and internationally (as evidenced by letters).
- Recognizable objective of research.
- Membership on editorial boards of scientific publications.
- Leadership role in significant scientific organizations.
- Membership on study sections and other scientific advisory panels.



## Examples of Objective Evidence of Investigative Achievement for Research Associate Professor

- Record of scholarly publications (typically peer reviewed manuscripts in quality journals; 3-5 particularly important manuscripts provided to committee by the candidate).
- Authorship. (Typically 15 publications but actual number may range widely based upon significance, quality, and type of article. Status may be as first or senior author but is not required.)
- Collaboration in obtaining funding with clear evidence of substantive contributions to the success of the laboratory. Faculty member's role in ongoing research and funding acquisition is to be described by the chair or PIs of successful grants. Intellectual contribution is the key measure, rather than mere technical or administrative contribution.

## Examples of Investigative Achievement for Professor

- Continued scholarly publication (40 publications typically; first or senior author not required)
- Consistent record of contributions critical to laboratory productivity and funding (5 to 7 years), as described by chair or PI.
- Recognition and demonstration that faculty member is an essential member of the research team, providing critical leadership in laboratory function, and supporting the overall cohesion of the research team.



# Lecture Overview



- Why does authorship matter?
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# What is Authorship?

- **Authorship**

- “refers to the **listing of the names of participants** in all communications, both oral and written, of experimental results and their interpretation to scientific colleagues.”
- “is the fulfillment of the **responsibility to communicate** research results to the scientific community for external evaluation.”
- “is also the primary mechanism for determining the **allocation of credit** for scientific advances and thus the primary basis for assessing **a scientist's contributions** to developing new knowledge.”

Uniform Requirements for Manuscripts Submitted to Biomedical Journals:  
Ethical Considerations in the Conduct and Reporting of Research:  
Authorship and Contributorship

Authorship credit is based on the following conditions.  
Authors should meet **ALL three** conditions:

1. **substantial contributions** to study conception and design, acquisition of data, or analysis and interpretation of data
2. **drafting** the article or **revising** it critically for important intellectual content
3. **final approval** of the version to be published.

- The following roles do NOT constitute authorship:
  - acquisition of funding only
  - collection of data only
  - general supervision only

**Acknowledgments** section:

- 1) Groups of persons who have contributed materially to the paper but whose **contributions do not justify authorship**
- 2) These persons must give **written permission** to be acknowledged.

# Authorship: Weight of Importance

- **First Author** = (Equal first author) = **Senior Author(s)**
- > Second > Third > .... > Second to last

# Authorship Order

- **First author**
  - Carried out the majority of the experimental work
  - Wrote first draft
- **Senior (Last) author**
  - Not awarded due to seniority
  - Directs, oversees, and guarantees authenticity of work
  - Provides funding, resources for work
  - Takes responsibility for work's scientific accuracy, valid methods, analysis, and conclusions



# Authorship Order

- **Corresponding author**
  - Person charged with communicating with editor and readers
  - Often the senior (last) author
- **Co-authors**
  - Listed between first and senior author
  - Listed in descending order by relative contribution

# Differential Myocardial Infarct Repair with Muscle Stem Cells Compared to Myoblasts

Hideki Oshima,<sup>1,2,3</sup> Thomas R. Payne,<sup>3,4</sup> Kenneth L. Urish,<sup>3,4</sup> Tetsuro Sakai,<sup>2,3,5</sup>  
Yiqun Ling,<sup>2,3</sup> Burhan Gharaibeh,<sup>1,3</sup> Kimimasa Tobita,<sup>7</sup> Bradley B. Keller,<sup>7</sup>  
James H. Cummins,<sup>3</sup> and Johnny Huard<sup>1,4,6,\*</sup>

<sup>1</sup>Department of Orthopaedic Surgery, <sup>4</sup>Department of Bioengineering, <sup>5</sup>Department of Anesthesiology, <sup>2</sup>Department of Cardiothoracic Surgery, and  
<sup>6</sup>Department of Molecular Genetics and Biochemistry, University of Pittsburgh, and <sup>7</sup>Department of Pediatrics, and <sup>3</sup>Growth and Development Laboratory,  
Children's Hospital of Pittsburgh, Pittsburgh, PA 15213-2582, USA

*British Journal of Anaesthesia* 108 (1): 72-9 (2012)  
Advance Access publication 14 November 2011 · doi:10.1093/bja/aer329

BJA

## CRITICAL CARE

Randomized, prospective, observational simulation study  
comparing residents' needle-guided vs free-hand ultrasound  
techniques for central venous catheter access†

R. D. Ball<sup>1,2</sup> N. E. Scouras<sup>1,2</sup> S. Orebaugh<sup>1,3</sup> J. Wilde<sup>4</sup> and T. Sakai<sup>1,5</sup>

# Mitral Valve Replacement With a Collar-Reinforced Prosthetic Valve for Disrupted Mitral Annulus

Yutaka Okita, MD, Shigehito Miki, MD, Yuichi Ueda, MD, Takafumi Tahata, MD, Tetsuro Sakai, MD, and Katsuhiko Matsuyama, MD

Department of Cardiovascular Surgery, Tenri Hospital, Nara, Japan

*British Journal of Anaesthesia* 108 (5): 776–83 (2012)  
Advance Access publication 23 February 2012 · doi:10.1093/bja/aes016

BJA

## Central venous thrombosis and perioperative vascular access in adult intestinal transplantation†

T. Matsusaki<sup>1‡</sup>, T. Sakai<sup>1,2\*‡</sup>, C. D. Boucek<sup>1</sup>, K. Abu-Elmagd<sup>3</sup>, L. M. Martin<sup>3</sup>, N. Amesur<sup>4</sup>, F. Leland Thaete<sup>4</sup>, L. A. Hilmi<sup>1</sup>, R. M. Planinsic<sup>1</sup> and S. Aggarwal<sup>1\*</sup>

<sup>1</sup> Department of Anesthesiology and <sup>2</sup> The McGowan Institute for Regenerative Medicine, University of Pittsburgh School of Medicine, UPMC Montefiore, 200 Lothrop Street, Pittsburgh, PA 15213, USA

<sup>3</sup> Department of Surgery, Thomas E. Starzl Transplantation Institute, University of Pittsburgh Medical Center/University of Pittsburgh School of Medicine, 3459 Fifth Avenue, Pittsburgh, PA 15213, USA

<sup>4</sup> Department of Radiology, University of Pittsburgh School of Medicine, Pittsburgh, PA 15213, USA

\* Corresponding authors. E-mail: sakait@upmc.edu (T.S.) or aggarwals@anes.upmc.edu (S.A.)

†Presented in part as a poster at the 105th Annual Meeting of the American Society of Anesthesiologists, San Diego, CA, USA, October 14–18, 2010.

‡Equal contribution as the first authors.



**Can students, technicians, or  
administrative staff be authors?**

**YES**

# Complications related to invasive hemodynamic monitors during adult liver transplantation

Lu SY, Matsusaki T, Abuelkasem E, Sturdevant ML, Humar A, Hilmi IA, Planinsic RM, Sakai T. Complications related to invasive hemodynamic monitors during adult liver transplantation.

Abstract: The rate of complications directly related to invasive monitors during liver transplantation (LT) was reviewed in 1206 consecutive adult

Shu Y. Lu<sup>a,\*</sup>, Takashi Matsusaki<sup>b,c,\*</sup>,  
Ezeldoen Abuelkasem<sup>b</sup>, Mark  
L. Sturdevant<sup>c</sup>, Abhinav Humar<sup>c</sup>,  
Ibtessam A. Hilmi<sup>b</sup>, Raymond  
M. Planinsic<sup>b</sup> and Tetsuro Sakai<sup>b,d</sup>

Journal of Clinical Anesthesia (2013) xx, xxx-xxx



ELSEVIER

Original Contribution

## Use of a problem-based learning discussion format to teach anesthesiology residents research fundamentals ☆,☆☆,★

Tetsuro Sakai MD, PhD (Associate Professor)<sup>a,\*</sup>,  
Patricia L. Karausky RN, BSN, CCRC (Research Facilitator)<sup>b</sup>,  
Shannon L. Valenti MBA, CIP (Regulatory Compliance Facilitator)<sup>b</sup>,  
Susan L. Sandusky BA (Research Facilitator)<sup>b</sup>

Sandra C. Hirsch MBA (Research and Training Coordinator)<sup>i</sup>, Yan Xu PhD (Professor)<sup>a</sup>

Journal of  
Clinical  
Anesthesia

# Lecture Overview



- Why does authorship matter?
- What is authorship?
- **Types of authorship conflict**
- Resolution of authorship conflict
- Prevention of authorship conflict

# Types of Authorship Problems

- **Gift (Guest/Honorary) author:** listed as author, but does not qualify
  - To make paper look “impressive”
  - Mutual CV enhancement
- **Ghost author:** Someone omitted from authorship who is qualified
- **Duplicate publication:** publishing the “same” work in multiple journals
- **Fraudulent authorship:**
  - Yoshitaka Fujii (anesthesiology) was found to have fabricated data in at least 172 scientific papers.
- **Coercive authorship:** exertion of seniority or supervisory status over subordinates



# Prevalence of Honorary and Ghost Authors?

BMJ

BMJ 2011;343:d6128 doi: 10.1136/bmj.d6128

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*New England Journal of Medicine*

*JAMA*

*Lancet*

*Nature Medicine*


*PLoS Medicine*

*Annals of Internal Medicine*

**21.0% in 2008**

**RESEARCH**

## Honorary and ghost authorship in high impact biomedical journals: a cross sectional survey

 OPEN ACCESS

**JAMA**

Joseph S Wislar *survey research specialist, JAMA*, Annette Flanagin *managing deputy editor, JAMA*, Phil B Fontanarosa *executive editor, JAMA*, Catherine D DeAngelis *editor emerita, JAMA*

American Medical Association, 515 N State Street, Chicago, Illinois 60654, USA

Wislar JS, et al. *BMJ*. 2011 Oct 25;343:d6128..

# Which One is Most Relevant to Authorship Conflict?

- **Gift (Guest/Honorary) author:** listed as author, but does not qualify
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  - Yoshitaka Fujii (anesthesiology) was found to have fabricated data
  - STAP cell scandal
- **Coercive authorship:** exertion of seniority or supervisory status over subordinates

## Authorship Conflict!

# Lecture Overview



- Why does authorship matter?
- What is authorship?
- Types of authorship conflict
- **Resolution of authorship conflict**
- Prevention of authorship conflict

# Authorship Conflict (Case 1)

- Using a mannequin at WISER, **Amanda, a PGY-4 resident**, wanted to compare the three methods used by resident volunteers for ultrasound-guided central line insertion.
- Amanda secured a department **a seed grant** (\$8,000) and initiated the study with **a faculty mentor**.
- **Amanda graduated** before completion of the study. So **John, a new PGY-4 resident**, took over the ongoing project from Amanda, completed the study, and wrote the manuscript draft.

# Authorship Conflict (Case 1)

- At the time the manuscript was submitted to a peer-reviewed journal, the faculty mentor of the project (**Assistant Professor**) argued that **he should be the first author**, since he would like to be “visible” in the field of simulation education.
- What should John do?



# Potential Options

- Talk with person directly
- Consult ombudsman
  - a neutral, independent party who can help students and faculty work out disputes
- Consult research integrity officer
- File formal complaint – (chair / dean)
- Extricate yourself

# Ombudsman System at Pitt



**Nathan Urban, PhD**

Vice Provost for Graduate Studies  
and Strategic Initiatives  
Associate Director of the Brain  
Institute

- He works with graduate and professional students to understand their perspectives on the graduate experience at Pitt.
- He led the effort to place **ombudspersons**—who advocate for students—in each of the schools.

# John's Choice

## Consult Ombudsman

- Discuss the authorship conflict to his department's **Director of Research Rotation**
- Director of Research Rotation reports the issue to **Vice Chair of Research** in the department
- Vice Chair of Research discusses the issue with the **senior research mentor** of the Assistant Professor
- The Assistant Professor agrees to list himself as the senior/last author with John and Amanda as the co-first authors.

# Authorship Conflict (Case 2)

- Rachel, a PGY-2 resident, participated in a prospective observational study at one hospital site.
- She created a data sheet, established a research protocol, and collected several patients' data.
- Rachel had to leave the hospital site due to clinical rotations at other training sites.
- In her absence, > 1,000 patients' data were collected by the research members of the hospital for one year.
- Then, Rachel helped to analyze the data and wrote part of the manuscript (introduction, methods, and discussion) with a junior faculty mentor.

# Authorship Conflict (Case 2)

- Rachel presented the paper at local and national meetings as the first author with the junior faculty member as the last author.
- At the time of full paper submission, Rachel was stunned to find her name **listed as the third author**.
- The junior faculty member was listed as the first author; another mid-level faculty member was the second author; and the chief of the division was the senior / last author.
- The reason was “*Because she did not collect the data and she was not there. her contribution of drafting the paper was not so great.*”
- What should Rachel do?

# Potential Options

- Talk with person directly
- Consult ombudsman
  - a neutral, independent party who can help students and faculty work out disputes.
- Consult research integrity officer
- File formal complaint – (chair / dean)
- Extricate yourself

# Rachel's Choice

## Extricate yourself

- Reports the authorship conflict to Director of Research Rotation with the strict condition that the director **WOULD NOT DISCUSS** the issue with other faculty members, especially the faculty members on the research team.
- *“Not worth arguing,” “I do not want to be looked at as a troubling resident, since the field is small.”*
- The paper is finally accepted for publication three years after her graduation from the program.



# Authorship Conflict (Case 3)

- **Theodore** was the faculty mentor on a prospective randomized clinical trial at UPMC.
- **Judy**, a senior anesthesiology resident, worked as the first author in the trial: planning and execution.
- Judy **graduated** in the middle of the trial and joined another institution as a faculty member.
- Theodore continued recruiting study patients.
- It took **two years to complete** the trial after July's departure.

# Authorship Conflict (Case 3)

- Finally all data were collected.
- Theodore continued working with Judy, who analyzed the data and drafted the manuscript.
- Theodore put **Judy as the first author with her new affiliation.**
- A very **powerful senior professor** who worked with Theodore on the trial now insisted Judy could not be the first author, as *“the work was done at UPMC.”*
- Theodore argued that Judy should be the first author and he the senior author.

# Authorship Conflict (Case 3)

- The senior professor insisted that if Judy became the first author, at least her **affiliation** should be UPMC to clearly indicate the work was solely done at UPMC.
- Judy, now as a junior faculty of the other institution, needed recognition as being faculty at the new institution, not as a past resident of UPMC.
- How should Theodore proceed?

# Potential Options

- Talk with person directly
- Consult ombudsman
  - a neutral, independent party who can help students and faculty work out disputes
- Consult research integrity officer
- File formal complaint – (chair / dean)
- Extricate yourself

# Theodore's Choice

## Consult Dean

- Informs the authorship conflict to **Dean** and asks for their opinion
- The Dean concurs with Theodore that Judy's affiliation should be her current institution.
- Theodore "cc"s the Dean on the email reply to the senior professor.
- The senior professor quickly agrees with Theodore.

# Institutional Oversight



- Ethics training
- Formal mechanisms in place to resolve disputes
  - Ombudsman
  - Authorship Conflict Resolution Committee:
    - Fact finding and advising
    - Serious abuses (coercion authorship, denial) should be referred for scientific misconduct review.

# Lecture Overview



- Why does authorship matter?
- What is authorship?
- Types of authorship conflict
- Resolution of authorship conflict
- Prevention of authorship conflict

# Authorship Conflict: Prevention

- Should discuss authorship issues beforehand
  - **Good:** Before manuscript is prepared.
  - **Better:** When study is being planned.
  - **Best:** When interviewing/considering collaboration or position.
- Written authorship agreement is ideal.
  - Special considerations for large multicenter studies



A good mentor will initiate the discussion, or

**You, as a mentee, can take the initiative:**

Dear Dr. (Mentor X),

I am working on the research study we discussed. Attached here is my initial draft. Thank you very much for your support!

Best,

Ted

Title:

A case of authorship conflict; how I avoided the headache successfully

Authors:

Tetsuro Sakai, MD, PhD, (co-author's name), (co-author's name), (co-author's name), ....., Mentor X.

Department of Anesthesiology, University of Pittsburgh School of Medicine

Corresponding Author:

Mentor X,

Professor of Anesthesiology, University of Pittsburgh School of Medicine, 469.11, 200 Lothrop Street, Pittsburgh, PA, 15213.

Tel: 412-648-6099

Fax: 412-658-6014

E-mail address: MentorX@upmc.edu

Title:

A case of authorship conflict; how I avoided the headache successfully

Authors:

**Tetsuro Sakai, MD, PhD,** (co-author's name), (co-author's name),  
(co-author's name), ....., **Mentor X.**

Department of Anesthesiology, University of Pittsburgh School of  
Medicine

Corresponding Author:

**Mentor X,**  
**Professor of Anesthesiology, University of Pittsburgh School of**  
**Medicine, 469.11, 200 Lothrop Street, Pittsburgh, PA, 15213.**  
**Tel: 412-648-6099**  
**Fax: 412-658-6014**  
**E-mail address: MentorX@upmc.edu**

# SUMMARY

- Why does authorship matter?
  - What is authorship?
  - Types of authorship conflict
- Resolution of authorship conflict
- Prevention of authorship conflict