

Supplementary Material

The honourable scientist's 101**GREGG'S RULES**

based on the popular set of rules by L. J. Gibbs (CBS 2021)

Popular references connected to ethical issues have turned out to be didactical icebreakers for students of science. Generations of “youngling” also at the Jagiellonian University have grown up with popular TV-series’. “NCIS” is one of them.

One of the recurrent popular elements of the series are *Gibbs' rules* - a guideline for best conduct of the work of criminal investigators.

For the adaptation of the rules for students of science, it was necessary to rephrase them.

The order of *Gibbs' rules* have been maintained because fans of the series usually quote single rules just by their ordinal numbers, and not by their content. This way it is easier to compare each the original rule with the one in the following list. Some gaps in the original list have been filled, and additional science specific issues have been added.

Rule 0:

It is metaphoric, and it is not: Never use or mix H₂ and O₂ when the Bunsen burner under is on.

Rule 1:

Never screw over your partner or professor.

Rule 2:

Always wear gloves in the lab.

Rule 3:

Never believe what you are told. Double check.

Other Rule 3:

Never be unreachable.

Rule 4:

Best way to keep a secret before publishing results:

Keep it to yourself.

Second-best:

tell one other person—if you must.

There is no third best.

Rule 5:

You don't waste good.

Rule 6:

Never say you're sorry for a mistake.

Mistakes and science take the same rail.

First, atone for it.

Second, next time do it better at once!

Rule 7:

Always be specific when you lie – always tell the truth!

Rule 8:

Never take anything for granted.

Rule 9:

Never go anywhere without a pipette.

Rule 10:

Never get involved personally in a research project.

Rule 11:

When the job is done, walk away and start the next project.

Rule 12:

Never date a co-worker - if you want to talk about anything else but science.

Rule 13:

Never ever involve lawyers - and bioethicists only if they know science.

Rule 14:

Bend the line, don't break it.

Rule 15:

Always work as a team.

Rule 16:

If someone thinks they have the upper hand, break it.

If someone thinks they have a better hypothesis, prove them wrong!

Rule 18:

It's always better to seek forgiveness than ask permission.

In EU-financed projects, however, it is vice versa!

Rule 20:

Always look under.

Rule 22:

Never, ever bother your boss when looking through a microscope - they and you!

Rule 23:

Never mess with your Boss' coffee if you want to live

Rule 27:

Two ways to make a career:

First way, they never notice you.

Second way, they only notice you.

Rule 28:

When you need help, ask.

Rule 35:

Always watch the watchers.

Rule 36:

If it feels like you're being played, you probably are.

Rule 38:

Your project, your lead.

Rule 39:

There is no such thing as a coincidence.

Rule 40:

If it seems like a reviewer is out to get you, they are.

Rule 42:

Never accept an apology from somebody who just sucker-punched you.

Rule 43:

First things first: Care for your cells, samples, and lab equipment!

Rule 44:

Clean up your mess.

Rule 45:

Chaos in the lab does not always indicate a genius at work.

Rule 46:

Taking a shower will never harm the project you are working at. (*Added by Mahdi Mahdi*)

Rule 51:

Sometimes you're wrong.

Rule 52:

A hypothesis is a hypothesis – and not a theory!

Rule 53:

If things are unclear, make them clear.

Rule 54:

If things are unclear:

"Whereof one cannot speak, thereof one must be silent." (Wittgenstein 2007)

Rule 69:

Never trust a professor who doesn't trust their assistant.

Rule 70

Never trust scientists who do not trust their trousers: wearing suspenders and additionally a belt.

Rule 71

There are good PIs, and there are bad PIs – but either way:
never expect a perfect one. (*Idea by Mahdi Mahdi*)

Rule 75:

Always give people space when they work at the lab bench.

Rule 77:

Always make sure that your six is covered by the law.

Rule 87:

There is no science without risks- but first:

...not without big chances!

Rule 88:

If you write about the ethics of your research,
report on HOW you deal with ethical implications, and not THAT you do.

Rule 89:

Believe it or not: Outside the lab there is also (a) life!

Rule 90:

Science “is the search for fact not truth. If it's truth you're looking for, *Dr. Becker's* philosophy class is right down the hall.” (Lucas 1989)

Rule 91:

What do we do with the facts in science? We use them!

Rule 92:

The fun in science? There is no fun to get – but satisfaction. What is better?

Rule 93:

If some things in science do not scare the living daylight out of you:

What is wrong with you?

Rule 94:

Also in science: who pays the piper, calls the tune.

Rule 95:

If things do not work out: Never give up, never surrender.

Remember: Things are only impossible until they're not!

(TNG 1988)

Rule 96:

Schindler's rule: Morality is just a word; doing the right things right is what counts.

Rule 97:

Animals in experiments and human guinea pigs are never just *working materials*.

Not now, and not after 40 years of work in science.

Rule 98:

No work is done until PAPERWORK is done! (*Original by Karol Subczynski*)

Rule 99:

Never ever vice versa: Think before doing. Conclude after doing.

Rule 100:

Way of the world also in science; many are called but few are chosen.

All of them may find each their place - or not!

Rule 101:

Scientists and researchers do not lie, cheat, steal or tolerate those who do.

(Based on West Point 2021)

References

CBS (2021) Gibbs' Rules: The Complete List From NCIS

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