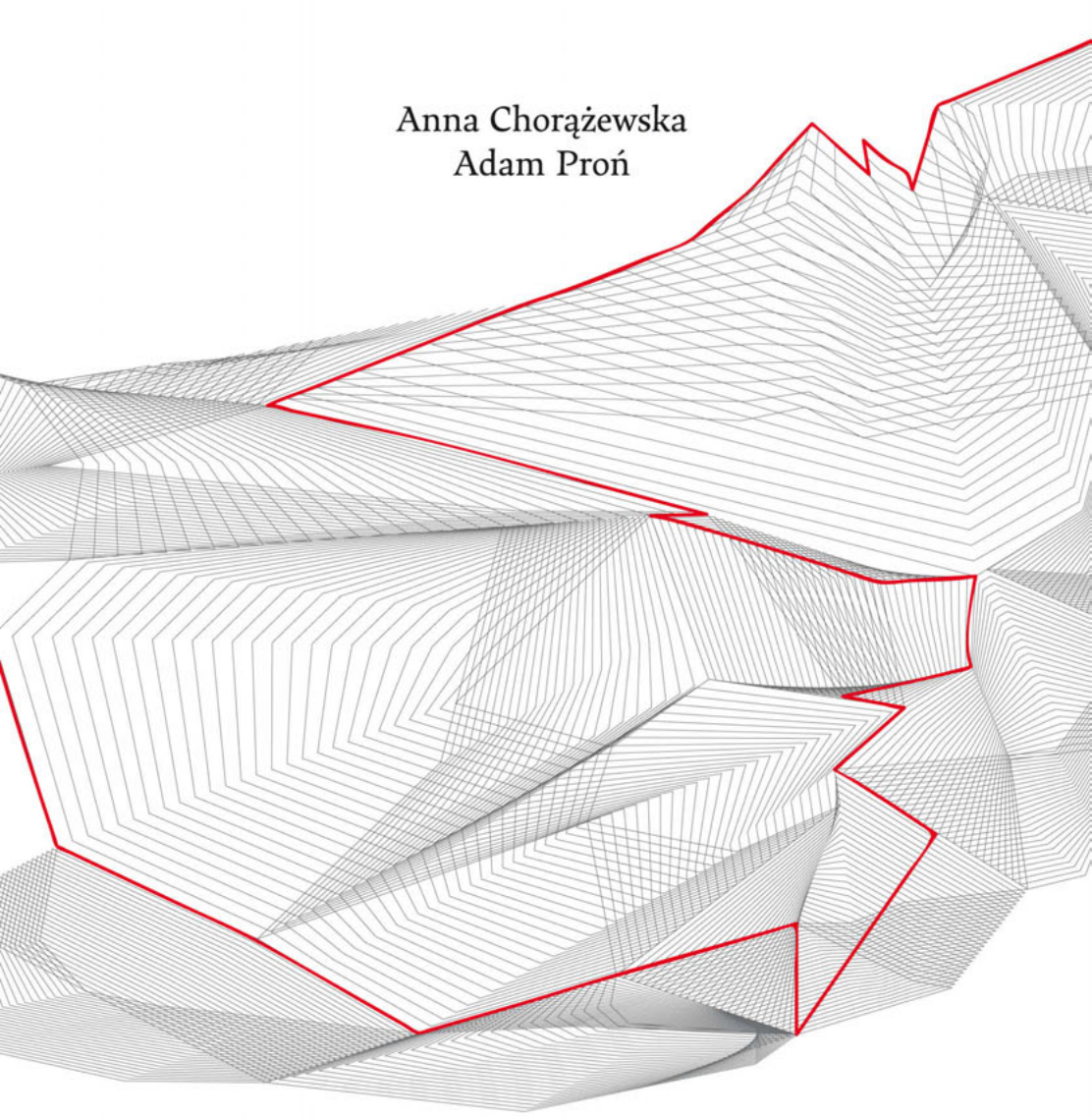
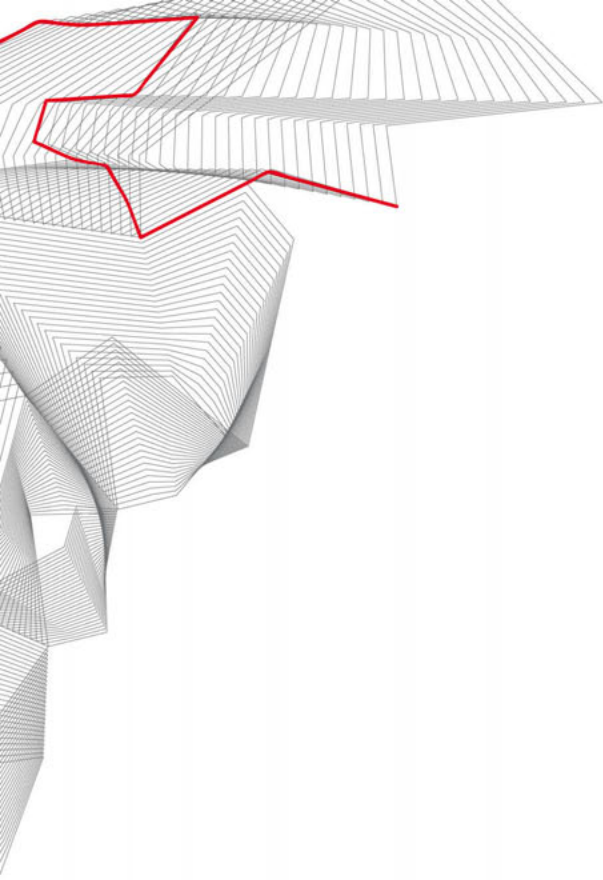
Anna Chorążewska
Adam Proń



Intellectual Property Rights and Scientific Authorship: Legal and Ethical Considerations

Case Study in Hard Sciences and Natural Sciences

UNIWERSYTET ŚLĄSKI
WYDAWNICTWO



The Science

Quotations from Richard P. Feynman
(Nobel Prize in Physics, 1965):

There is the value of the worldview created by science. There is the beauty and the wonder of the world that is discovered through the results of these new experiences.

What is science? The word is usually used to mean one of three things, or a mixture of them. [...] Science means, sometimes, a special method of finding things out. Sometimes it means the body of knowledge arising from the things found out. It may also mean the new things you can do when you have found something out, or the actual doing of new things.

A quotation from Percy W. Bridgman
(Nobel Prize in Physics, 1946):

A formulation of the purpose of scientific activity which appeals to me as rather exhaustive is the understanding, prediction and control of events.

Intellectual Property Rights and Scientific Authorship:

Legal and Ethical Considerations Case Study in Hard Sciences and Natural Sciences

Publication co-financed from the funds granted under
the Research Excellence Initiative
of the University of Silesia in Katowice

Patronat Prezesa Fundacji
na rzecz Nauki Polskiej
prof. Macieja Żylicza

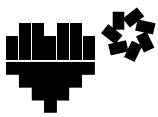
Anna Chorążewska, Adam Proń

Intellectual Property Rights and Scientific Authorship:

Legal and Ethical Considerations Case Study in Hard Sciences and Natural Sciences

Wydawnictwo Uniwersytetu Śląskiego • Katowice 2024

Referees
Adam Sulikowski
Janusz Limon



European
City of Science
Katowice 2024

Table of Contents

Part II
Law and Ethics in Scientific Work
(*Anna Chorążewska, Adam Proń*)

Introductory Remarks

The link between human rights, intellectual property rights and the safeguarding of personal and property rights of scientific creators has garnered increasing attention in recent times. While the 1997 Constitution of the Republic of Poland, along with the constitutions of other countries, guarantees researchers the freedom to engage in scientific inquiry and disseminate their findings, they often fall short in adequately addressing the protection of these rights. Furthermore, in the 20th century, as scientific and technological advancements surged, research inquiries and methodologies grew increasingly intricate. In the 21st century, the challenges confronting the scientific community have become even more intricate. Additionally, the advent of data-driven science, financial considerations, national science policies and the pressure exerted by rapidly developing China have substantially shaped the trajectory of research, particularly within the domains of the hard sciences, life sciences and medicine. These developments have given rise to a growing demand for multidisciplinary research projects led by teams of scientists and technical support personnel. The outcomes of such research endeavours are often announced as multi-author scientific articles or invention projects. The researcher's involvement in such projects can assume various forms. It may encompass the inception of a research concept or hypothesis, the attainment of a scientific breakthrough (discovery) or the establishment of scientific truths. It can also encompass more technical roles, such as experiment design or data acquisition during measurement processes, followed by comprehensive analysis and interpretation of experimental data. Thus, the results of research activities

do not, in all cases, demonstrate the ability to be expressed in a form appropriate to the categories of intangible goods defined in the intellectual property law system. In such cases, researchers do not obtain legal protection for the fruits of their labour either from copyright or invention law.

Consequently, the evolving landscape of scientific research, characterized by multidisciplinary and international collaboration, presents challenges in protecting scientific authorship. It should be explained that having its source in the Berne Convention for the Protection of Literary and Artistic Works, the copyright law of many countries protects only the author of the work, which means that only the method of expression is subject to copyright protection. For example, the Polish legislator explored in Article 1(1) that a "work" constituting the subject matter of copyright is every manifestation of creative activity of individual nature, fixed in any form, regardless of value, purpose and manner of expression. Furthermore, as far as negative definition is concerned, the legislator explains what form a "work" cannot take, that is, what it is not. Article 1(2)1 sentence 2 excludes copyright protection of: discoveries, ideas, procedures, methods, principles of operation and mathematical concepts. Similarly, the Polish Industrial Property Law Act (Article 28, paragraph 1) provides that inventions are not considered to be, in particular: (1) discoveries, scientific theories and mathematical methods; (2) creations of merely aesthetic nature; (3) schemes, rules and methods for carrying out mental processes, playing games or conducting business; (5) computer programs; (6) representation of information.

It is generally accepted in intellectual property law that a contribution to research can obtain legal protection when it has the capacity to be fixed in the form of an intellectual good as defined in the legal system. In the case of a work subject to copyright protection, the effect of the research activity should be established in any form, even impermanent, yet stable enough to be perceived by persons other than the creator himself. In addition, its nature should be individualised and thus constitute a materialised creative and significant product of the human intellect. In the research process, often essential research contributions, even those that condition the success of the entire project, do not demonstrate this capacity. The problem of the lack of adequate and, at the same time, effective guarantees of legal protection for the fruits of scientific work has already been recognised in

the literature. The authors of this book have set themselves the goal of joining the ongoing discussion on this subject. The authors seek to answer the question of who is a creator of science and what constitutes scientific authorship and recognition of individual contributions to the state of knowledge in the contemporary world of collaborative research conducted by very numerous interdisciplinary teams.

The book examines various perspectives on the indicated topic. First, from the point of view of the scientist's right to become a co-author of a single scientific work, established in the form of an article or poster or orally in the form of a conference speech. Second, from the point of view of the criteria used in promotion procedures for the award of scientific degrees for recognising the existence of an individual contribution to the state of knowledge of the applicant. These analyses lead to identifying the prerequisites required to demonstrate the authorship of the scientific achievement identified in the application for the award of a degree. Identifying and delimiting an individual contribution to the state of knowledge today is not an easy task to perform. Conducting scientific research requires drawing on other researchers' scientific achievements and findings. The complexity of research problems means that a researcher rarely works alone or as a member of a small research group. Consequently, in promotion proceedings, scientific achievements are often documented by multi-authored articles and inventions. Determining who should be credited with the authorship of a scientific achievement obtained from collaborative research and based on predecessors' work undoubtedly requires extraordinary clarity of mind, objectivity and expertise in the scientific issues under investigation.

Pursuing answers to these questions compelled the authors to engage in interdisciplinary analyses. It became imperative to scrutinize not only the legal framework governing scientific authorship and the right to be recognized as an author but also the ethical dimensions of the matter. Consequently, this book approaches these issues from the vantage point of legal sciences, encompassing intellectual property law and jurisprudence, as well as the field of the science of studies. Such a precisely defined research problem and the authors' ambitious objectives have also shaped the structure of this book, leading to its division into two parts.

The first part, authored by Anna Chorążewska, delves into examining the freedom of scientific research as a constitution-

ally protected concept and the problem surrounding the legal foundations for safeguarding the authorship of scientific works under Polish law while considering the legal and comparative background.

The analysis is grounded in the academic thesis positing that an individual who makes an independent, creative (original), and significant contribution to a collaborative research project possesses the right to be acknowledged as a co-author of a scientific work that publishes the outcomes of jointly conducted research. The author's examinations substantiate the validity of this thesis.

The legal basis for protecting the interests of scientists is rooted in national constitutions and international human rights conventions, collectively elevating the subjective rights of creators in the realm of science to the realm of human rights, entitling them to the protection of both personal and material benefits stemming from their scientific endeavours. Simultaneously, the author recognises that existing regulations do not furnish adequate safeguards or ensure the effective realisation of this defined subjective right.

As a result, the book articulates *de lege lata* postulates and *de lege ferenda*. It is duly emphasised that a pressing task for contemporary national legislators is to establish a comprehensive and effective legal framework for protecting authors' personal and property rights in the realm of science. Undoubtedly, it is beyond contention that the exercise of the freedom of scientific research should entail that an originator of an original, significant and individualised contribution to research acquire the right to authorship of a scientific publication or invention to the development of which the results of their creative scientific activity have contributed. A notable exemplar of an appropriate approach to this quandary is the solution embraced within the German higher education and science system, where the German legislator extends the protection of the right to scientific authorship to all participants in the research process, irrespective of whether their research contribution fulfils the criteria for authorship as per intellectual property law. However, such a practice is not widespread. Meanwhile, the extensive inclusion of guarantees for property rights in the constitutions of many countries (e.g., Article 64 of the Constitution of the Republic of Poland) should be construed to encompass not only traditional property rights about tangible things and immovable property but also an intellectual property to all products of the human

intellect. Consequently, the identified legal gap within the legal systems of numerous countries necessitates rectification.

The second part of the book, co-authored by Anna Chorążewska and Adam Proń, a legal expert and a representative of the sciences with considerable research and reviewing experience, analyses the legal and ethical conditions for carrying out team-based scientific research in the area of hard sciences and natural sciences from the perspective of reflection inherent in science of studies, taking into account the historical background of the development of the system of science and the assessment of scientists. The foundation for these deliberations, as well as the guiding framework, are rooted in the insights of Professor Józef Pieter (1904—1989), a distinguished Polish psychologist, philosopher and pedagogue who also served as an academic teacher at various Silesian universities. Pieter's exceptional monographs, which explore scientific work as an expression of human creativity, contribute significantly to the exploration of critical issues such as the categorization of scientific work, the scientific methodology, the phenomenon of mentorship in the scientific realm, the subject and essence of research contributions, and the legal and ethical prerequisites for ascribing authorship to scientific works and scientific accomplishments.

The analyses conducted led the authors to two main findings. First, the determination of binding ethical principles for attributing the authorship of scientific works. Considering the legal and ethical context, the authors also answer the question of who is entitled to authorship of scientific work and who should only be mentioned in the Acknowledgments section of the article. Second, within the legal, ethical and factual framework, the principles for effective demonstration of authorship of scientific achievement, that is, authorship of an independent and individualised contribution to the state of knowledge, by applicants for awarding a degree or title in promotion proceedings are set out. It also addresses the issue of proper documentation of authorship of a scientific achievement that has not been published as a single author monograph but as a published series of thematically related multi-author scientific articles.

The authorship of a scientific achievement is analysed through the prism of the requirements for a doctoral dissertation, a habilitation thesis and the scientific achievements of a candidate for the title of professor. It should be noted the doctoral dissertation (thesis) is characterised not only from the perspective of Polish legal

and factual conditions but also from a comparative background. In so doing, the authors take into account two aspects. First, the doctoral degree is common in the higher education and science systems of various countries, whereas the postdoctoral (habilitation) degree and the title of professor are rare. The second is that in other countries the professorship is often related to a position of employment in a scientific research unit or university rather than a formally conferred title by the state itself.

Considering that the outlined problem is exceptionally actualised when working in interdisciplinary and often international research groups, considerations of a theoretical nature were supplemented with case studies from the hard sciences and natural sciences. The purpose of this treatment is to decode the content of desirable authorship attribution rules with careful consideration of the role of the research group leader. As a result, the analysis of the established customs and rules of coexistence prevailing in the Polish scientific community is carried out, taking into account the international background. This is because Polish scientists must consider the standards of authorship attribution binding in the international scientific community when working in international research teams or publishing in foreign scientific periodicals.

To achieve this goal, the following formula was applied. The authors have chosen individual research domains in hard sciences and natural sciences to be analysed in the study. Next, in interviews with the subject matter consultants of these domains, the essence of the problems occurring in the attribution of authorship of publications and the documentation of scientific achievements in promotion proceedings was diagnosed. The consultants for this part of the study were scientists of unquestionable scientific status who could be called experts in their discipline of science. These scientists were then asked to explain which types of research processes during the preparation and implementation of a scientific project they qualify as creative and significant to their research and which, in their view, take the form of activities that, although highly specialised and relevant, are non-creative. A case study was developed based on these interviews and the materials provided concerning relevant scientific publications. Then, individual parts of study cases were subjected to the authorisation procedure of each researcher whose research work was analysed. On this basis, the principles of reliable attribution of authorship of scientific works and documentation of scientific

achievements in promotion proceedings applicable to selected scientific specialities in the hard sciences and natural sciences were decoded.

The findings reached by the authors of this book allow for the formulation of a thesis. Law and ethics require that "scientific creativity" be covered by appropriate legal protection. On equal terms with other manifestations of human creative activity, it becomes necessary to sanction an effective system of protection of scientific authorship. The adopted solution should cover not only the issue of protection of authorship of a research contribution but also the protection of authorship of a scientific achievement. Consequently, the legal regulations should consider the diversity of the nature and subject of research, the scientific workshop and the nature of academic writing occurring in different areas of knowledge.

Regarding the Polish three-stage scientific promotion system, obtaining full research independence and the possibility of the unfettered exercise of scientific freedom are reached only after receiving the status of titular professor, the lack of protection for scientific authorship seems to be a severe shortcoming of the legal regulations in force in Poland. In their present form, especially in the field of hard sciences and natural sciences, the promoting system may even constitute a factor hampering the development of Polish science. The necessity to demonstrate in the promotion procedure an independent and individualised contribution to the state of knowledge in many cases may preclude the possibility of undertaking exceptionally socially and economically necessary transdisciplinary scientific projects in favour of those that allow the precise determination of the individual contribution of a future postdoctoral (habilitation) candidate or candidate for the title. This may result in Polish scientists being able to contribute effectively to global research trends only after obtaining a professorship. In contrast, researchers from the USA or most Western European countries can do so after receiving a doctoral degree. It, therefore, seems necessary to undertake a broader discussion in Poland on the protection of the right to be an author of a single article and the criteria for scientific authorship in promotion proceedings. In this discussion, attention should be paid to the significant differences in science practice in different areas of knowledge and to the social and economic needs of countries and societies. The nature of research in the humanities is markedly different from that in the hard sciences, natural sciences or medi-

cal sciences. States and societies also have different expectations of these sciences. This definite difference seems to be overlooked by the Polish legislator, leaving full freedom to the scientific community to interpret and apply legal norms defining authorship of scientific achievements in individual disciplines and scientific specialisations. However, the directions of interpretation of the application of the law developing in this way are not codified in official collections. Reviewers of promotion proceedings do not have the opportunity to familiarise themselves with the guidelines for assessing scientific merit that are in force in a given scientific discipline. This causes scientific achievements may be evaluated according to different criteria and measures.

Meanwhile, the principles and criteria used in promotion procedures, such as elements of the administrative procedure, should be clear, understandable and effective and they should create a widely regarded system that is transparent, fair and equitable. One of the foundations of such procedures is the assumption that decisions with similar, if not identical, content will be made against an entity whose legal and factual situation is similar. Fulfilment of these requirements should be regarded as a binding standard in every democratic state and society as the implementation of the constitutional principle of a democratic state ruled by law, detailing the rules of protection of citizen's trust in the state and the law created by it, as well as the individual's right to good administration (Article 2 of the Constitution of the Republic of Poland).

Bibliography

Aad, G., et al. (ATLAS Collaboration, CMS Collaboration). "Combined Measurement of the Higgs Boson Mass in pp Collisions at $\sqrt{s}$ = 7 and 8 TeV with the ATLAS and CMS Experiments." *Physical Review Letters* 114, no. 191803 (2015). https://doi.org/10.1103/PhysRevLett.114.191803.

Baker, M. "Five Keys to Writing a Reproducible Lab Protocol." *Nature* 597 (September 06, 2021). https://doi.org/10.1038/d41586-021-02428-3.

Baldwin, M. *Making Nature: The History of a Scientific Journal*. Chicago and London: University of Chicago Press, 2015.

Banasiuk, J., and J. Sieńczyło-Chlabicz. "Pojęcie i istota zjawiska autoplagiatu w twórczości naukowej" [The Concept and Essence of the Phenomenon of Self-plagiarism in Scientific Creation]. *Państwo i Prawo* 3 (2012): 6–19.

Banaszak, B. *Prawo konstytucyjne* [Constitutional Law]. Warszawa: Wydawnictwo C. H. Beck, 2015.

Baptista, A., L. Frick, K. Holley, M. Remmik, J. Tesch, and G. Âkerlind. "The Doctorate as an Original Contribution to Knowledge: Considering Relationships between Originality, Creativity, and Innovation." *Frontline Learning Research* 3, no. 3 (2015): 55–67. https://doi.org/10.14786/flr.v3i3.147.

Barta, J., and R. Markiewicz. *Własność intelektualna w szkołach wyższych i instytutach naukowych (Raport)* [Intellectual Property in Universities and Research Institutes (Report)]. Warszawa: Wydawnictwo KBN, 1993.

Barta, J., and R. Markiewicz. *Prawo autorskie* [Copyright Law]. Warszawa: Wolters Kluwer Polska, 2010.

Barta, J., and R. Markiewicz. *Prawo autorskie i prawa pokrewne* [Copyright and Related Rights]. Warszawa: Wolters Kluwer Polska, 2014.

Barta, J., and R. Markiewicz. "Utwory naukowe [Scientific Works]." *Rzeczpospolita* (October 18, 1994).

Bartnicka, K. "Uniwersytety europejskie na przełomie XVIII i XIX wieku [European Universities at the Turn of the Eighteenth and Nineteenth Centuries]." *Kwartalnik Historii Nauki i Techniki* 60, no. 1 (2015): 17–54.

Beall, J., and R. Levine. "OMICS Goes from 'Predatory Publishing' to 'Predatory Meetings.'" *scholarlyoa* (May 31, 2019). https://scholarlyoa.com/omics-goes-from-predatory-publishing-to-predatory-meetings/.

Biagioli, M. "Aporias of Scientific Authorship: Credit and Responsibility in Contemporary Biomedicine." In *The Science Studies Reader*, edited by M. Biagioli. New York: Routledge, 1999.

Biagioli, M. "Rights or Rewards? Changing Frameworks of Scientific Authorship." In *Scientific Authorship: Credit and Intellectual Property in Science*, edited by M. Biagioli and P. Galison. New York: Routledge, 2003.

Biłgorajski, A. "Część pierwsza: Konstytucyjna wolność badań naukowych" [Part One: Constitutional Freedom of Scientific Research]. In *Konstytucyjna wolność badań naukowych a ochrona pracy naukowej. Studium przypadków z nauk ścisłych eksperymentalnych* [Constitutional Freedom of Scientific Research and Protection of Scientific Work. A Case Study in Experimental Science], edited by A. Chorążewska and A. Biłgorajski, 17–77. Katowice: Wydawnictwo Uniwersytetu Śląskiego, 2018.

Błeszyński, J. *Prawo autorskie* [Copyright Law]. Warszawa: Wydawnictwo Naukowe PWN, 1988.

Błeszyński, J., and M. Staszków. *Prawo autorskie i wynalazcze* [Copyright Law and Invention Law]. Warszawa: Państwowy Instytut Wydawniczy, 1983.

Borenstein, M., L. V. Hedges, J. P. T. Higgins, and H. R. Rothstein. *Introduction to Meta-Analysis*. Chichester: John Wiley & Sons Ltd., 2009.

Bornmann, L., R. Haunschild, and R. Mutz. "Growth Rates of Modern Science: A Latent Piecewise Growth Curve Approach to Model Publication Numbers from Established and New Literature Databases." *Humanities and Social Sciences Communications* 8, no. 224 (2021): 1–15. https://doi.org/10.1057/s41599-021-00903-w.

Brzeziński, J. M. "Praca doktorska jako cykl publikacji" [Doctoral Thesis as a Publication Cycle]. *Forum Akademickie*, no. 9 (2014): 41–43.

Brzozowski, W. "Konstytucyjna wolność badań naukowych i ogłaszania ich wyników" [Constitutional Freedom of Scientific Research and Publication of Its Results]. In *Prawo nauki. Wybrane zagadnienia* [Law of Science. Selected Issues], edited by A. Wiktorowska and A. Jakubowski. Warszawa: Wydawnictwo Prawnicze LexisNexis, 2014.

Brzozowski, W. *Uniwersalny system ochrony praw człowieka* [Universal System of Human Rights Protection]. In *Prawa człowieka* [Human Rights], edited by W. Brzozowski, A. Krzywoń, and M. Wiącek. Warszawa: Wolters Kluwer Polska, 2019.

Buccafusco, C. "A Theory of Copyright Authorship." *Virginia Law Review* 102 (2016): 1229–1295.

Charles University Open Access Support Centre. *Predatory Publishing: Predatory Journals and Publishers & Predatory Conferences*. https://openscience.cuni.cz/OSCIEN-27.html.

Chartier, M. "The Alarming Rise of Predatory Conferences." *Eos 103* (September 15, 2022). https://doi.org/10.1029/2022EO220449.

Chawla, D. S. "Russian Journals Retract More Than 800 Papers after 'Bombshell' Investigation." *Science* (January 8, 2020). https://www.science.org/content/article/russian-journals-retract-more-800-papers-after-bombshell-investigation.

Chobot, A. *Regulacja prawna twórczej pracy badawczej w stosunkach pracy* [Legal Regulation of Creative Research Work in Employment Relations]. Warszawa: Wydawnictwo Szkolne PWN, 1975.

Chorążewska, A. *Część druga. Utwór naukowy a ochrona pracy naukowej* [Part Two. Scientific Work and the Protection of Scientific Work]. In *Konstytucyjna wolność badań naukowych a ochrona pracy naukowej. Studium przypadków z nauk ścisłych eksperymentalnych* [Constitutional Freedom of Scientific Research and the Protection of Scientific Work. A Case Study in Experimental Hard Sciences], edited by A. Chorążewska and A. Biłgorajski, 81–241. Katowice: Wydawnictwo Uniwersytetu Śląskiego, 2018.

Chorążewska, A., K. Grzybczyk, A. Kertyczak, A. Proń, and J. Zrałek. "Sprawozdanie: Międzynarodowa Konferencja Naukowa nt.: Przyszłość badań naukowych w świetle prawa autorskiego, kodeksów etycznych naukowców oraz kryteriów ocen jakości badań," Katowice, 31 stycznia–1 lutego 2020 [Report: International Scientific Conference: The Future of Scientific Research in the Light of Copyright Law, Ethical Codes of Scientists and Criteria for Assessing the Quality of Research, Katowice, 31 January–1 February 2020]. *Przegląd Prawa Konstytucyjnego* 3, no. 55 (2020). https://doi.org/10.15804/ppk.2020.03.10.

Chorążewska, A. "Konstytucyjne prawa osobiste i majątkowe twórców nauki *de lege lata* i *de lege ferenda*. Zagadnienia konstrukcyjne w kontekście uniwersalnego systemu ochrony praw człowieka [Constitutional, Moral, and Economic Rights of Science Creators *de lege lata* and *de lege ferenda*. Structural Issues in the Context of a Universal System of Human Rights Protection]. *Przegląd Prawa Konstytucyjnego* 3, no. 67 (2022): 39–51.

Chorążewska, A. "Scientific creation as a constitutionally protected category and the rules of collective attribution of authorship to scientific works in exact sciences." *Przegląd Prawa Konstytucyjnego* 3, no. 55 (2020): 35–52.

Clarke, G., and I. Lunt. "The Concept of 'Originality' in the Ph.D.: How Is It Interpreted by Examiners?". *Assessment & Evaluation in Higher Education* 39, no. 7 (2014): 803–820. https://doi.org/10.1080/02602938.2013.870970.

Cray, H. "How To Make an Original Contribution to Knowledge" (August 6, 2014). https://www.universityaffairs.ca/career-advice/career-advice-article/how-to-make-an-original-contribution-to-knowledge/.

Crotty, D. "Preprints and Citations: Should Non-Peer Reviewed Material Be Included in Article References?", *The Scholarly Kitchen* (March 14, 2018), https://scholarlykitchen.sspnet.org/2018/03/14/preprints-citations-non-peer-reviewed-material-included-article-references/.

CSE's White Paper on Promoting Integrity in Scientific Journal Publications. http://cseditors.wpenginepowered.com/wp-content/uploads/CSE-White-Paper_Feb2022_webPDF.pdf.

Csiszar, A. "Peer Review: Troubled from the Start." *Nature* 532 (April 21, 2016): 306–308. https://doi.org/10.1038/532306a.

Czajkowska-Dąbrowska, M., Z. Ćwiąkalski, K. Felchner, E. Traple, J. Barta, R. Markiewicz, ed. *Ustawa o prawie autorskim i prawach pokrewnych. Komentarz*. Wyd. V. Warszawa: Wolters Kluwer, 2011.

Czub, K. *Prawa osobiste twórców dóbr niematerialnych. Zagadnienia konstrukcyjne* [Moral Rights of Creators of Intangible Property. Structural Issues]. Warszawa: Wolters Kluwer Polska, 2011.

Dance, A. "Authorship—Who's on First?." *Nature* 489 (September 27, 2012): 591–593. https://doi.org/10.1038/nj7417-591a.

Daszkiewicz, K., and W. Daszkiewicz. "Glosa do wyroku SN z dnia 18.11.1969, V KRN 267/69." *Państwo i Prawo* 5 (1973): 169–175.

Defining the Role of Authors and Contributors of the International Committee of Medical Journal Editors. http://www.icmje.org/recommendations/browse/roles-and-responsibilities/defining-the-role-of-authors-and-contributors.html.

Dirac, P. A. M. "On the Theory of Quantum Mechanics." *Proceedings of the Royal Society of London Series A*, 112, no. 762 (1926): 661–677. https://doi.org/10.1098/rspa.1926.0133.

Dokowicz, M. "Komentarz do art. 190" [Comment on Article 190]. In *Prawo o szkolnictwie wyższym i nauce. Komentarz* [Law on Higher Education and Science. Commentary], edited by J. Woźnicki. Warszawa: Wolters Kluwer Polska, 2019.

Drozdowicz, Z. "Drapieżniki w życiu akademickim" [Predators in Academic Life]. *Forum Akademickie* 2 (2023): 44–46.

Dybowski, T. Ochrona prawa własności na tle konstytucyjnej koncepcji źródeł prawa w orzecznictwie Trybunału Konstytucyjnego. In *Trybunał Konstytucyjny. Księga XV-lecia* [Constitutional Tribunal. The 15th Anniversary Book], edited by F. Rymarz and A. Jankiewicz. Warszawa: Wydawnictwo Trybunału Konstytucyjnego, 2001.

Editorial. "Defining the Scientific Method." *Nature Methods* 6, no. 237 (April 1, 2009). https://doi.org/10.1038/nmeth0409-237.

Etcmad, S., A. Proń, A. J. Heeger, A. G. MacDiarmid, E. J. Mele, and M. J. Rice. Infrared-active Vibrational Modes of Charged Solitons in $(CH)_x$ and $(CD)_x$. *Physical Review B* 23, no. 10 (1981): 5137–5141. https://doi.org/10.1103/PhysRevB.23.5137.

Examples of online pre-print servers: Physics: https://arxiv.org/; Biology: https://www.biorxiv.org/; Chemistry: https://chemrxiv.org/; Earth Sciences: https://eartharxiv.org/; Earth and Space Sciences: https://essopenarchive.org/; Engineering: https://engrxiv.org/; Medicine and Health Sciences: https://yoda.yale.edu/medrxiv; Social Sciences: https://www.ssrn.com/en/ and https://socopen.org/; Arts & Humanities, Behavioural Sciences, Chemistry, Earth Sciences, Engineering, Life Sciences, Materials Sciences, Mathematics & Computer Science, Medicine & Pharmacology, Physical Sciences, Social Sciences: https://www.preprints.org/.

Fassnacht, M. M.D., M. Terzolo, M.D., B. Allolio, M.D., E. Baudin, M.D., H. Haak, M.D., A. Berruti, M.D., S. Welin, M.D., C. Schade-Brittinger, A. Lacroix, M.D., B. Jarzab, M.D., H. Sorbye, M.D., D. J. Torpy, M.D., et al., for the FIRM-ACT Study Group, "Combination Chemotherapy in Advanced Adrenocortical Carcinoma." *New England Journal of Medicine* 366, no. 23 (2012): 2189–2197. https://doi.org/10.1056/NEJMoa1200966.

Ferenc-Szydełko, E., ed. *Ustawa o prawie autorskim i prawach pokrewnych. Komentarz* [Copyright and Related Rights Act. Commentary], 3rd edition. Warszawa: Wydawnictwo C. H. Beck, 2016.

Ferguson, C., A. Marcus, and I. Oransky. "Publishing: The Peer-Review Scam." *Nature* 515 (November 26, 2014): 480–482. https://doi.org/10.1038/515480a.

Fermi, E. "Sulla quantizzazione del gas perfetto monoatomico." *Rendiconti Accademia Lincei* 3 (1926): 145–149.

Fermi, E. "Zur Quantelung des idealen einatomigen Gases." *Zeitschrift für Physik* 36 (1926), 902–912. https://doi.org/10.1007/BF01400221.

Flisak, D., ed., M. Bukowski, Z. Okoń, P. Podrecki, J. Raglewski, S. Stanisławska-Kloc, and T. Targosz. *Prawo autorskie i prawa pokrewne. Komentarz LEX*

[Copyright and Related Rights LEX Commentary]. Warszawa: Wolters Kluwer Business, 2015.

Florczak, I. "Komentarz do wybranych przepisów ustawy—Prawo o szkolnictwie wyższym i nauce" [Commentary on Selected Provisions of the Act—Law on Higher Education and Science]. In *Akademickie prawo zatrudnienia. Komentarz* [Academic Employment Law. Commentary], edited by K. W. Baran, 355–358. Warszawa: Wolters Kluwer Polska, 2020.

Frisch, O. R. "Physical Evidence for the Division of Heavy Nuclei under Neutron Bombardment." *Nature* 143 (1939): 276 (experiments of 13 January, sent on 16 January, published on 18 February 1939).

Gajdus, M. "Utwór naukowy i jego ochrona" [Scientific Work and Its Protection]. In *Prawo nauki. Zagadnienia wybrane* [The Law of Science. Selected Issues], edited by A. Wiktorowska and A. Jakubowski, 108–133. Warszawa: Wydawnictwo LexisNexis, 2014.

Garlicki, L., and M. Derlatka. "Komentarz do art. 73" [Commentary on Art. 73]. In *Konstytucja Rzeczypospolitej Polskiej. Komentarz* [Constitution of the Republic of Poland. Commentary], edited by L. Garlicki and M. Zubik, 789–800 (2nd revised and supplemented edition). Warszawa: Wydawnictwo Sejmowe, 2016.

Garlicki, L., and S. Jarosz-Żukowska. "Komentarz do art. 64" [Commentary on Article 64]. In *Konstytucja Rzeczypospolitej Polskiej. Komentarz* [Constitution of the Republic of Poland. Commentary], edited by L. Garlicki and M. Zubik, 569–634 (2nd revised and supplemented edition). Warszawa: Wydawnictwo Sejmowe, 2016.

Garlicki, L. Komentarz do art. 64 Konstytucji [Commentary on Article 64 of the Constitution]. In *Konstytucja Rzeczypospolitej Polskiej z dnia 2 kwietnia 1997 roku. Komentarz* [Constitution of the Republic of Poland of 2 April 1997. Commentary], T. 3, Chapter 2, edited by L. Garlicki, 1–22. Warszawa: Wydawnictwo Sejmowe, 2003.

Garlicki, L. "Komentarz do art. 73 Konstytucji RP" [Commentary on Article 73 of the Constitution of the Republic of Poland]. In *Konstytucja Rzeczypospolitej Polskiej z dnia 2 kwietnia 1997 roku. Komentarz* [Constitution of the Republic of Poland of 2 April 1997. Commentary], T. 3, Chapter 2, edited by L. Garlicki, 1–9. Warszawa: Wydawnictwo Sejmowe, 2003.

Geertz, C. *Local Knowledge. Further Essays in Interpretive Anthropology*. New York: Basic Books Inc., 1983.

Giesen, B., and E. Wojnicka. *System Prawa Prywatnego* [Private Law System], T. 13., edited by J. Barta, 297–457. Warszawa: Wydawnictwo C. H. Beck, 2017.

Ginsburg, J. C. "The Concept of Authorship in Comparative Copyright Law." *DePaul Law Review* 52, no. 4 (January 10, 2003). http://dx.doi.org/10.2139/ssrn.368481.

Ginsburg, J. C. "The Right to Claim Authorship in U.S. Copyright and Trademark Law." *University Houston Law Review* 41 (2004): 263–307.

Górnicz-Mulcahy, A. "Utwór naukowy jako przedmiot ochrony autorskoprawnej" [Scientific Work as an Object of Copyright Protection]. In *Aktualne zagadnienia prawa prywatnego* [Current Issues of Private Law], edited by E. Marszałkowska-Krześ. Wrocław: Prawnicza i Ekonomiczna Biblioteka Cyfrowa, 2012.

Granat, M. "Godność człowieka z art. 30 Konstytucji RP jako wartość i jako norma prawna" [Human Dignity under Article 30 of the Constitution of

the Republic of Poland as a Value and as a Legal Norm]. *Państwo i Prawo* 8 (2014), 3–22.

Greene, M. T. "The Demise of the Lone Author." *Nature* 450, no. 7173 (2007): 1165.

Greenland, S., and K. O'Rourke. "Meta-Analysis." In *Modern Epidemiology* (3rd ed.), edited by K. J. Rothman, S. Greenland, and T. L. Lash, 652–681. Philadelphia: Wolters Kluwer Health/Lippincott Williams & Wilkins, 2008.

Greser, J. "Prawa autorskie a prawa człowieka (§ 6. Prawa autorskie w Konstytucji RP)" [Copyright and Human Rights (§ 6. Copyright in the Constitution of the Republic of Poland)]. In *Granice prawa autorskiego* [Limits of Copyright], edited by J. Kępiński, K. Klafkowska-Waśniowska, and R. Sikorski, 189–207. Warszawa: Wydawnictwo C. H. Beck, 2010.

Hahn, O., and F. Strassmann. "Nachweis der Entstehung aktiver Bariumisotope aus Uranium und Thorium durch Neutronenbestrahlung; Nachweis weiterer aktiver Bruchstucke bei der Uranspaltung" [Verification of the Creation of Radioactive Barium Isotopes from Uranium and Thorium by Neutrons Irradiation; Identification of Additional Radioactive Fragments from Uranium Fission]. *Naturwissenschaften* 27 (1939): 89–95 (posted 28 January, published 10 February 1939).

Hahn, O., and F. Strassmann. "Uber den Nachweis und das Verhalten der bei der Bestrahlung des Urans mittels Neutronem enstehenden Erdalkalimetalle" [Concerning the Existence of Alkaline Earth Metals Resulting from Neutron Irradiation of Uranium]. *Naturwissenschaften* 27 (1939): 11–15 (sent 22 December 1938, published 6 January 1939). https://www.chemteam.info/Chem-History/Hahn-fission-1939a/Hahn-fission-1939a.html.

Harrison, W. T. A., J. Simpson, and M. Weilc. Editorial. "Acta Crystallographica Section E Structure Reports Online" *Acta Crystallographica E66* (2010), e1–e2. https://doi.org/10.1107/S1600536809051757.

Hunter, S. I., I. Kleshchevich, and B. Rosenblumsep. "Guest Post—What's Wrong with Preprint Citations?," *The Scholarly Kitchen* (September 18, 2020) https://scholarlykitchen.sspnet.org/2020/09/18/guest-post-whats-wrong-with-preprint-citations/.

Hutton, B., G. Salanti, D. M. Caldwell, A. Chaimani, C. H. Schmid, C. Cameron et al. "The PRISMA Extension Statement for Reporting of Systematic Reviews Incorporating Network Meta-analyses of Health Care Interventions: Checklist and Explanations." *Annals of Internal Medicine* 162, no. 11 (2015). https://doi.org/10.7326/M14-2385.

Ingleby, C. "Creators of Science." *Nature* 5 (1871): 62.

Introduction to posted content (includes preprints): https://www.crossref.org/documentation/research-nexus/posted-content-includes-preprints/.

Ioannidis, J. P. A., R. Klavans, and K. W. Boyack. "Thousands of Scientists Publish a Paper Every Five Days." *Nature* 561 (2018): 167–169. https://doi.org/10.1038/d41586-018-06185-8.

Izdebski, H., and J. M. Zieliński, eds. *Prawo o szkolnictwie wyższym i nauce. Komentarz* [Law on Higher Education and Science. Commentary], 2nd edition. LEX/el. 2021.

Izdebski, H. "Postępowanie w sprawie nadania stopnia doktora" [Procedure for the Award of the Doctoral Degree]. In *Metodologia dysertacji doktorskiej*

dla prawników. Teoria i praktyka [Doctoral Dissertation Methodology for Lawyers. Theory and Practice], edited by H. Izdebski and A. Łazarska, 45–61. Warszawa: Wolters Kluwer Polska, 2022.

Izdebski, H., and J. M. Zieliński. *Ustawa o stopniach naukowych i tytule naukowym. Komentarz* [The Act on Academic Degrees and Academic Title. Commentary], 2nd edition, LEX 2015.

Jabłoński, M. "Wolności z art. 73 Konstytucji RP" [Freedom under Article 73 of the Constitution of the Republic of Poland]. In *Prawa i wolności obywatelskie w Konstytucji RP* [Civil Rights and Freedoms in the Constitution of the Republic of Poland], edited by B. Banaszak and A. Preisner, 551–568. Warszawa: Wydawnictwo C. H. Beck, 2002.

Jaczewski, Z. "W sprawie autorstwa pracy naukowej" [On the Authorship of a Scientific Work]. *Nauka Polska* 6 (1985): 215–216.

Jankowska, M. *Autor i prawo do autorstwa* [Author and the Right to Authorship]. Warszawa: Wydawnictwo Wolters Kluwer Polska, 2011.

Jarosz-Żukowska, S., and Ł. Żukowski. "Wolność badań naukowych i nauczania" [Freedom of scientific research and teaching]. In *Realizacja i ochrona konstytucyjnych wolności i praw jednostki w polskim porządku prawnym* [Realisation and Protection of Constitutional Freedoms and Rights of the Individual in the Polish Legal Order], edited by M. Jabłoński and E-Wydawnictwo. Wrocław: Prawnicza i Ekonomiczna Biblioteka Cyfrowa, 2014.

Jasińska, K. *Ochrona idei—zagadnienia wybrane* [Protection of Ideas—Selected Issues]. *Prace Instytutu Prawa Własności Intelektualnej UJ* 93 (2006): 9–28.

Kaiser, J. "Are Preprints the Future of Biology? A Survival Guide for Scientists." *Science* [News] (September 29, 2017), https://www.science.org/content/article/are-preprints-future-biology-survival-guide-scientists.

Kała, D. P. *Szczegółowe przesłanki nadania stopnia doktora habilitowanego* [Detailed prerequisites for the award of the habilitated doctor degree]. *Ruch Prawniczy, Ekonomiczny i Społeczny* 3 (2022): 37–52. https://doi.org/10.14746/rpeis.2022.84.3.03.

Kędzierska-Cieślak, A. Pierwszeństwo instytucji naukowej do opublikowania utworu jej pracownika [Priority of a scientific institution to publish the work of its employee]. *Państwo i Prawo* 8–9 (1996): 80–87.

Kim-Ngan, N.-T. H. "Niedoceniony przez Komitet Nagrody Nobla udział austriackiej uczonej Lise Meitner w odkryciu rozszczepienia jądra atomowego" [The Nobel Prize Committee's underestimation of Austrian scientist Lise Meitner's contribution to the discovery of nuclear fission]. *Postępy Techniki Jądrowej* 1 (2007): 15–23.

Kiser, G. L. "No More First Authors, no More Last Authors." *Nature* 561 (September 25, 2018). https://doi.org/10.1038/d41586-018-06779-2.

Knypl, J. S. *Autorstwo pracy naukowej* [Authorship of a Scientific Work]. *Nauka Polska* 5–6 (1984): 139–141.

Kopff, A. "Co chronimy w dziełach naukowych?" [What Do We Protect in Scientific Works?]. *Państwo i Prawo* 6 (1978): 122–123.

Kopff, A. "Dzieło sztuk plastycznych i jego twórca w świetle przepisów prawa autorskiego" [The Work of Visual Arts and Its Creator in the Light of Copyright Law]. *Zeszyty Naukowe Uniwersytetu Jagiellońskiego. Rozprawy i Studia* 36. Kraków: Wydawnictwo Uniwersytetu Jagiellońskiego, 1961.

Kopff, A. "Prawo cywilne a prawo dóbr niematerialnych" [Civil law and the law of Intangible Property]. *Zeszyty Naukowe Uniwersytetu Jagiellońskiego. Prace z Prawa Własności Intelektualnej* 5 (1975): 9–35.

Korpala, A. "Prawo autorskie. Orzecznictwo" [Copyright Law. Case Law], edited by S. Stanisławska-Kloc and A. Matlak. Warszawa: Wydawnictwo Wolters Kluwer Business, 2010.

Kosmulski, M. "MDPI a sprawa polska" [MDPI and the Polish Case]. *Forum Akademickie* 5 (2022): 17.

Kostański, P. "Prawa osobiste wynalazcy" [Personal Rights of the Inventor]. *Transformacje Prawa Prywatnego* 2 (2012): 59–75. https://doi.org/10.1038/s41586-022-05543-x.

Kozlov, M. "'Disruptive' Science Has Declined—And No One Knows Why." *Nature News* (January 4, 2023). https://doi.org/10.1038/d41586-022-04577-5.

Królikowski, M., and K. Szczucki. "Komentarz do art. 73 Konstytucji RP [Commentary on Article 73 of the Constitution of the Republic of Poland]." In *Konstytucja RP, T. 1: Komentarz. Art. 1–86*, edited by M. Safjan and L. Bosek, 1670–1690. Warszawa: Wydawnictwo C. H. Beck, 2016.

Lakens, D. "Is My Study Useless? Why Researchers Need Methodological Review Boards." *Nature* 613, no. 9 (January 3, 2023). https://doi.org/10.1038/d41586-022-04504-8.

Lamentowicz, W. "O wolnościach i ich granicach" [On Freedoms and Their Limits]. In *Historia. Idea. Polityka. Księga dedykowana profesorowi Janowi Baszkiewiczowi* [History, Idea, Politics. Book Dedicated to Professor Jan Baszkiewicz], edited by F. Ryszka, 479–498. Warszawa: Wydawnictwo Naukowe Scholar, 1995.

Lipsey, M. W., and D. B. Wilson. *Practical Meta-analysis* [Applied Social Research Methods Series 49]. Thousand Oaks, CA: Sage Publications, Inc., 2001.

Lovitts, B. E. "Being a Good Course-taker is Not Enough: A Theoretical Perspective on the Transition to Independent Research." *Studies in Higher Education* 30, no. 2 (2005): 137–154. https://doi.org/10.1080/03075070500043093.

Łabno, A. "Istota zasady proporcjonalności" [The Essence of the Principle of Proportionality]. In *Zasada proporcjonalności w prawie karnym* [The Principle of Proportionality in Criminal Law], edited by T. Dukiet- Nagórska, 17–36. Warszawa: Oficyna Wydawnicza Wolters Kluwer Business, 2010.

Łabno, A. "Ograniczenia wolności i praw człowieka na podstawie art. 31 Konstytucji III RP" [Restrictions on Human Freedoms and Rights under Article 31 of the Constitution of the Third Republic of Poland]. In *Prawa i wolności obywatelskie w Konstytucji RP* [Civil Rights and Freedoms in the Constitution of the Republic of Poland], edited by B. Banaszak and A. Preisner, 693–709. Warszawa: Wydawnictwo C. H. Beck, 2002.

Łabno, A. "Ograniczenia wolności i praw człowieka w polskiej konstytucji i w prawie europejskim" [Restrictions on Human Freedoms and Rights in the Polish Constitution and in European Law]. *Zeszyty Naukowe Beskidzkiej Wyższej Szkoły Turystyki w Żywcu* 1, no. 3 (2004): 67–80.

Łabno, A. "Zasada bezpośredni obowiązywania konstytucyjnych praw i wolności jednostki. Analiza prawnoporównawcza" [The Principle of Direct Effect of Constitutional Rights and Freedoms of the Individual. Comparative Legal Analysis]. In *Podstawowe prawa jednostki i ich sądowa ochrona* [Fundamental Rights of the Individual and Their Judicial

Protection], edited by L. Wiśniewski, 64–81. Warszawa: Wydawnictwo Sejmowe, 1997.

Łazarska, A. Dysertacja doktorska—istota, cel i metodologia [Doctoral Dissertation—Essence, Purpose and Methodology]. In *Metodologia dysertacji doktorskiej dla prawników. Teoria i praktyka* [Doctoral Dissertation Methodology for Lawyers. Theory and Practice], edited by H. Izdebski and A. Łazarska, 63–99. Warszawa: Wolters Kluwer Polska, 2022.

Macdonald, F. 8 "Scientific Papers That Were Rejected Before Going on to Win a Nobel Prize." *HUMANS* (August 19, 2016). https://www.sciencealert.com/these-8-papers-were-rejected-before-going-on-to-win-the-nobel-prize.

Mackenzie, R. J. "Inside a 'Fake' Conference: A Journey Into Predatory Science." *Technology Networks* (July 11, 2019). https://www.technologynetworks.com/tn/articles/inside-a-fake-conference-a-journey-into-predatory-science-321619.

Markiewicz, R. *Dzieło literackie i jego twórca w polskim prawie autorskim* [Literary Work and Its Author in Polish Copyright Law]. Kraków: Wydawnictwo Uniwersytetu Jagiellońskiego, 1984.

Markiewicz, R. "Ochrona prac naukowych" [Protection of Scientific Works]. *Zeszyty Naukowe Uniwersytetu Jagiellońskiego CMLV. Prace z Wynalazczości i Ochrony Własności Intelektualnej*, no. 55 (1990).

Mazurek, F. J. *Godność osoby ludzkiej podstawą praw człowieka* [Dignity of the Human Person as the Basis of Human Rights]. Lublin: Redakcja Wydawnictw KUL, 2001.

Mccrostie, J. "'Predatory Conferences' Stalk Japan's Groves of Academia." *The Japan Times* (May 11, 2016). https://www.japantimes.co.jp/community/2016/05/11/issues/predatory-conferences-stalk-japans-groves-academia/.

McNutt, M. K., M. Bradford, J. M. Drazen et al. "Transparency in Authors' Contributions and Responsibilities to Promote Integrity in Scientific Publishing." *PNAS* 115, no. 11 (February 27, 2018): 2557–2650. https://doi.org/10.1073/pnas.1715374115.

Meitner, L., and O. R. Frisch. "Disintegration of Uranium by Neutrons: A New Type of Nuclear Reaction." *Nature* 143 (February 11, 1939): 239–240.

Meitner, L., and O. R. Frisch. "New Products of the Fission of the Thorium Nucleus." *Nature* 143 (April 15, 1939): 637.

Meitner, L., and O. R. Frisch. Products of the Fission of the Uranium Nucleus. *Nature* 143 (18 March 1939): 471–472.

Miller, G. R., H. A. Resing, F. L. Vogel, A. Pron, T. C. Wu, and D. Billaud. "The Identification of PF_6—Ions in Intercalated Graphites by 19 F and 31 P NMR Spectroscopy." *The Journal of Physical Chemistry* 84, no. 25 (1980): 3333–3335.

Ministerstwo Nauki i Szkolnictwa Wyższego. *Rzetelność w badaniach naukowych oraz poszanowanie własności intelektualnej* [Integrity in research and respect for intellectual property]. Warszawa, 2012. https://ken.pan.pl/images/Rzetelnosc_broszura_fin_low-skompresowany.pdf.

Morawski, R. Z. *Etyczne aspekty działalności badawczej w naukach empirycznych* [Ethical Aspects of Research Activities in Empirical Sciences]. Warszawa: Wydawnictwo Uniwersytetu Warszawskiego, 2011.

Ngai, S., J. L. Gold, S. S. Gill, and P. A. Rochon. "Haunted Manuscripts: Ghost Authorship in the Medical Literature." *Accountability in Research* 12, no. 2 (2005): 103–114. https://doi.org/10.1080/08989620590957175.

Noorden, R. V. "The Scientists Who Get Credit for Peer Review." *Nature* [Q&As] (October 9, 2014). https://doi.org/10.1038/nature.2014.16102.

Pacini, F., M. Schlumberger, H. Dralle, R. Elisei, J. W A Smit, and W. Wiersinga. "European Consensus for the Management of Patients with Differentiated Thyroid Carcinoma of the Follicular Epithelium." *European Journal of Endocrinology* 154, no. 6 (2006): 787–803. https://doi.org/10.1530/eje.1.02158.

Park, M., E. Leahey, and R. J. Funk. "Papers and Patents are Becoming Less Disruptive over Time." *Nature* 613 (January 4, 2023). https://doi.org/10.1038/s41586-022-05543-x.

Peplow, M. "Peer Review-reviewed." *Nature* News (December 22, 2014). https://doi.org/10.1038/nature.2014.16629.

Pieter, J. "Autorskie kłopoty. Maszynopis 1974 r." [Author's Troubles. Typescript 1974]. Warszawa: Wydawnictwo Naukowe PWN, 2019.

Pieter, J. *Nauka i wiedza* [Science and Knowledge]. Warszawa: Instytut Wydawniczy "Nasza Księgarnia," 1967.

Pieter, J. *Praca naukowa* [Scientific Work]. Katowice: Wydawnictwo Śląsk, 1960.

Pospieszny, T. *Zapomniany geniusz. Lise Meitner—pierwsza dama fizyki jądrowej* [Forgotten Genius. Lise Meitner—The First Lady of Nuclear Physics]. Warszawa: Novae Res, 2016.

Postnikov, E. B., and M. Chorążewski. "Transition in Fluctuation Behaviour of Normal Liquids under High Pressures." *Physica A: Statistical Mechanics and Its Applications* 449 (2016): 275–280.

Poźniak-Niedzielska, M., J. Szczotka, and M. Mozgawa. *Prawo autorskie i prawa pokrewne. Zarys wykładu* [Copyright and Related Rights. Lecture Outline]. Bydgoszcz–Warszawa–Lublin: Oficyna Wydawnicza BRANTA, 2007.

Preprint plagiarism of COPE. https://publicationethics.org/case/preprint-plagiarism.

Preprints—Discussion documents of COPE. https://publicationethics.org/sites/default/files/u7140/COPE_Preprints_Mar18.pdf.

Preussner-Zamorska, J. *Prawo do autorstwa wynalazku* [The Right to Authorship of an Invention]. Kraków: Wydawnictwo Naukowe PWN, 1974.

Proń, A., Z. Kucharski, P. Bernier, I. Kulszewicz, M. Zagorska, J. Suwalski, and D. Billaud. Comments on "Magnetic Phase Transition, Aggregate Formation, and Electrical Conductivity in FeCl3-doped Polyacetylene." *Physical Review B* 31, no. 7 (1985): 4690–4691. https://doi.org/10.1103/PhysRevB.31.4690.

Proń, A., and H. Szatyłowicz. "Nie marnować publicznych pieniędzy" [Do Not Waste Public Money]. *Forum Akademickie* 12 (2022): 47–52.

Pyziak-Szafnicka, M. "Prawo podmiotowe" [Subjective Right]. In *Prawo cywilne—część ogólna* [Civil Law—General Part], T. 1, edited by M. Safjan, 675–827. Warszawa: Wydawnictwo C. H. Beck, 2007.

Radwański, Z., and A. Olejniczak. *Prawo cywilne—część ogólna* [Civil Law—General Part]. Warszawa: Wydawnictwo C.H. Beck, 2015.

Recommendations for the Conduct, Reporting, Editing, and Publication of Scholarly Work in Medical Journal of the International Committee of Medical Journal Editors, Updated May 2023, https://www.icmje.org/icmje-recommendations.pdf.

Recommendations on Publication Ethics Policies for Medical Journals of the World Association of Medical Editors (WAME) Publication Ethics Committee. https://wame.org/recommendations-on-publication-ethics-policies-for-medical-journals.

Relman, A. S. "The Ingelfinger Rule." *The New England Journal of Medicine* 305 (1981): 824–826. https://doi.org/10.1056/NEJM198110013051408.

Retraction Watch. "Exclusive: Elsevier Retracting 500 Papers for Shoddy Peer Review." https://retractionwatch.com/2022/10/28/exclusive-elsevier-retracting-500-papers-for-shoddy-peer-review/#comment-2146593.

Retraction Watch. "Nobel Winner Retracts Paper from *Science*." https://retractionwatch.com/2020/01/02/nobel-winner-retracts-paper-from-science/?fbclid=IwAR3Hl6xg0Canp7ub4RCJR3OZxeqPOLsQ1Hz0hzJjgL23blJWnXU-TkpGn3E.

Ricketson, S., and J. Ginsburg. *International Copyright and Neighbouring Rights: the Berne Convention and Beyond*. 2nd ed. New York: Oxford University Press Inc., 2006.

Roig, M. "Plagiarism and Self-plagiarism: What Every Author Should Know." *Biochemia Medica* 20, no. 3 (2010): 295–300. https://doi.org/10.11613/BM.2010.037.

Rosenthal, R. "Combining Results of Independent Studies." *Psychological Bulletin* 85, no. 1 (1978): 185–193. https://doi.org/10.1037/0033-2909.85.1.185.

Ross, J. S., K. P. Hill, D. S. Egilman, and H. M. Krumholz. "Guest Authorship and Ghostwriting in Publications Related to Rofecoxib. A Case Study of Industry Documents From Rofecoxib Litigation." *JAMA* 299, no. 15 (April 16, 2008), 1800–1812. https://doi.org/10.1001/jama.299.15.1800.

Safjan, M. "Refleksje wokół konstytucyjnych uwarunkowań rozwoju ochrony dóbr osobistych" [Reflections on the Constitutional Conditions for the Development of the Protection of Personal Interests]. *Kwartalnik Prawa Prywatnego* 1 (2002): 223–246.

Sarbiński, R. M. "Komentarz do art. 1" [Commentary on Article 1]. In *Prawo autorskie i prawa pokrewne. Komentarz* [Copyright and Related Rights. Commentary], edited by W. Machała and R. M. Sarbiński, 17–129. Warszawa: Wolters Kluwer Polska, 2019.

Sarecka-Hujar, B., I. Kopyta, M. Skrzypek, and J. Sordyl. "Association between the 20210G>A Prothrombin Gene Polymorphism and Arterial Ischemic Stroke in Children and Young AdultsTwo Meta-analyses of 3586 Cases and 6440 Control Subjects in Total." *Pediatric Neurology* 69 (2017): 93–101.

Schwartz, D. N. *The Last Man Who Knew Everything. The Life and Times of Enrico Fermi, Father of the Nuclear Age*. New York: Basic Books, 2017.

Sichel, E. K., M. F. Rubner, J. Georger Jr., G. C. Papaefthymiou, S. Ofer, and R. B. Frankel. "Magnetic Phase Transition, Aggregate Formation, and Electrical Conductivity in FeC13-doped Polyacetylene." *Physical Review B* 28, no. 11 (1983). https://doi.org/10.1103/PhysRevB.28.6589.

Sieńczyło-Chlabicz, and J. Banasiuk. "Czas ochrony autorskich praw majątkowych do utworu jako przedmiotu prawa autorskiego" [Term of Protection of Author's Economic Rights to a Work as an Object of Copyright]. *Białostockie Studia Prawnicze* 7 (2010): 101–113.

Silera, K., K. Leeb, and L. Beroc. "Measuring the Effectiveness of Scientific Gatekeeping." *PNAS* 112, no. 2 (2015): 360–365. https://doi.org/10.1073/pnas.1418218112.

Simone, D. *Copyright and Collective Authorship. Locating the authors of Collaborative Work*. Cambridge: University Printing House, 2019.

Siuda, P. "Recenzenckie patologie" [Reviewer Pathologies]. *Forum Akademickie* 2 (2023): 40–43.

Sobczak, J. "Wolność badań naukowych—standardy europejskie i rzeczywistość polska" [Freedom of Scientific Research—European Standards and Polish Reality]. *Nauka i Szkolnictwo Wyższe* 2, no. 30 (2007): 53–74.

Sokołowska, D. "'Omnis definitio periculosa,' czyli kilka uwag o zmianie paradygmatu utworu" ["Omnis definitio periculosa," or a Few Remarks on the Paradigm Shift of a Work]. In *Granice prawa autorskiego* [Limits of Copyright], edited by J. Kępiński, K. Klafkowska-Wiśniowska, and R. Sikorski, 1–24. Warszawa: Wydawnictwo C. H. Beck, 2010.

Sorokowski, P., E. Kulczycki, A. Sorokowska, and K. Pisanski. "Comment: Predatory Journals Recruit Fake Editors." *Nature* 543 (March 23, 2017). https://doi.org/10.1038/543481a.

Sorokowski, P., E. Kulczycki, A. Sorokowska, and K. Pisanski. "Predatory Journals Recruit Fake Editors." *Nature* 543 (March 22, 2017): 481–483. https://doi.org/10.1038/543481a.

Sprawozdanie prof. A. Zolla, Przewodniczącego Komisji ds. Etyki w Nauce z działalności Komisji za rok 2013 [Report of Prof. A. Zoll, Chairman of the Commission for Ethics in Science on the activities of the Commission for 2013].

Sprawozdanie prof. A. Zolla, Przewodniczącego Komisji ds. Etyki w Nauce z działalności Komisji za rok 2014 [Report of Prof. A. Zoll, Chairman of the Commission for Ethics in Science on the activities of the Commission for 2014].

Sprawozdanie prof. A. Zolla, Przewodniczącego Komisji ds. Etyki w Nauce z działalności Komisji za rok 2015 [Report of Prof. A. Zoll, Chairman of the Commission for Ethics in Science on the activities of the Commission for 2015].

Sprawozdanie prof. A. Zolla, Przewodniczącego Komisji ds. Etyki w Nauce z działalności Komisji za rok 2017 [Report of Prof. A. Zoll, Chairman of the Commission for Ethics in Science on the activities of the Commission for 2017, *NAUKA* 3, 2018].

Sprawozdanie prof. A. Zolla, Przewodniczącego Komisji ds. Etyki w Nauce z działalności Komisji za rok 2018 [Report of Prof. A. Zoll, Chairman of the Commission for Ethics in Science on the activities of the Commission for 2018].

Starck, C. "Konstytucyjne granice wolności nauki na przykładzie zapłodnienia 'in vitro,' terapii genetycznej i analizy genomów [Constitutional Limits of the Freedom of Science, Based on the Example of in vitro Fertilisation, Genetic Therapy and Genome Analysis]. *Palestra* 11–12 (1989): 168–180.

Starck, C. Wolność badań naukowych i jej granice [Freedom of Research and Its Limits]. *Przegląd Sejmowy* 3, no. 80 (2007): 45–57.

Statistical Yearbook of the Republic of Poland, Warsaw 2022. https://stat.gov.pl/obszary-tematyczne/roczniki-statystyczne/roczniki-statystyczne/rocznik-statystyczny-rzeczypospolitej-polskiej-2022,2,22.html.

Stec, P. "Uczelnie jako podmiot praw na dobrach niematerialnych" [Universities as the Subject of Rights in Intangible Assets]. *Państwo i Prawo* 1 (2008): 46–58.

Stone, T. E., and R. C. Rossiter. "Predatory Publishing: Take Care That You Are Not Caught in the Open Access Net." *Nursing & Health Sciences* 17, no. 3 (2015). https://doi.org/10.1111/nhs.12215.

Stroup, D. F., J. A. Berlin, S. C. Morton et al. "Meta-analysis of Observational Studies in Epidemiology: A Proposal for Reporting." *JAMA* 283, no. 15 (2000): 2008–2012. https://doi.org/10.1001/jama.283.15.2008.

Szczepański, J. *Socjologiczne zagadnienia wyższego wykształcenia* [Sociological Issues of Higher Education]. Warszawa: Wydawnictwo Naukowe PWN, 1963, p. 230 et seq. Quoted after: Szczepański, J. *Problemy i perspektywy szkolnictwa wyższego w Polsce* [Problems and Prospects for Higher Education in Poland]. Warszawa: Państwowe Wydawnictwo "Wiedza Powszechna," 1969.

Szewc, A. "Dzieła naukowe i ich status w prawie autorskim" [Scientific Works and Their Status in Copyright Law]. *Państwo i Prawo* 10 (1997): 23–31.

Szwajna, J. "Ochrona dóbr osobistych twórców nauki" [Protection of Personal Interests of Authors of Science]. *Zeszyty Naukowe Uniwersytetu Jagiellońskiego. Prace z Wynalazczości i Ochrony Własności Intelektualnej* 67 (1996): 169–188.

Ślebzak, K. "Jednotematyczny cykl publikacji jako przesłanka nadawania stopnia doktora habilitowanego nauk prawnych" [Monothematic Publication Series as a Prerequisite for Awarding the Degree of Habilitated Doctor of Legal Science]. *Państwo i Prawo* 7, no. 68 (2013): 31–40.

Ślebzak, K. "Komentarz do wybranych przepisów ustawy—Prawo o szkolnictwie wyższym i nauce" [Commentary on selected provisions of the Law on Higher Education and Science]. In *Akademickie prawo zatrudnienia. Komentarz* [Academic Employment Law. Commentary], edited by K. W. Baran, 392–400. Warszawa: Wolters Kluwer Polska, 2020.

Święcka, K., and J. S. Święcki. *Prawo autorskie i prawa pokrewne: komentarz: wybór międzynarodowych aktów prawnych* [Copyright and Related Rights: Commentary: A Selection of International Instruments]. Warszawa: Kodeks, 2004.

Teytelman, L. "No More Excuses for Non-reproducible Methods." *Nature* 560, no. 7719 (August 22, 2018): 411–411. https://doi.org/10.1038/d41586-018-06008-w.

Thomson, P. "What Is an 'Original Contribution'?". blog (May 11, 2015). https://patthomson.net/2015/05/11/what-is-an-original-contribution/.

Uniwersalny słownik języka polskiego [Universal Dictionary of the Polish Language], T. 2: k-ó, edited by S. Dubisz. Warszawa: Wydawnictwo Naukowe PWN, 2006.

Walker, E., and A. V. Hernandez, and M. W. Kattan. "Meta-analysis: Its Strengths and Limitations." *Cleveland Clinic Journal of Medicine* 75, no. 6 (2008): 431–439.

Wellington, J. *Making Supervision Work for You: A Student's Guide*. London: SAGE Publications Ltd., 2010 (online: 2012). https://doi.org/10.4135/9781446251614.

Wertenstein, L. "An Artificial Radioelement from Nitrogen." *Nature* 133 (1934): 564–565.

Wilson, E. B. Jr. *An Introduction to Scientific Research*. 3rd edition. New York: Dover Publications, INC, 1990.

Wojciechowska, A. "Czy autorskie dobra osobiste są dobrami osobistymi prawa cywilnego" [Are Author's Moral Rights Personal Interests under Civil Law]. *Kwartalnik Prawa Prywatnego* 3 (1994): 371–391.

Wojtyczek, K. *Granice eringencji ustawodawczej w sferę praw człowieka w Konstytucji RP* [Limits of Legislative Interference in the Sphere of Human Rights in the Polish Constitution]. Kraków: Kantor Wydawniczy "Zakamycze," 1999.

Wójcik, C. "Eastern Europe: Progress Stifled by the Old Guard." *Nature* 427, no. 196 (2004). https://doi.org/10.1038/427196b.
Załącznik do sprawozdania z działalności Komisji do Spraw Etyki w Nauce w 2020 [Annex to the Report on the Activities of the Commission for Ethics in Science in 2020].
Załącznik nr 4 do Sprawozdania z działalności Komisji do Spraw Etyki w Nauce w 2021 [Annex 4 to the Report on the Activities of the Commission for Ethics in Science in 2021].
Zaradkiewicz, K. *Instytucjonalizacja wolności majątkowej. Koncepcja prawa podstawowego własności i jej urzeczywistnienie w prawie prywatnym* [Institutionalization of Proprietary Freedom. The Concept of the Fundamental Right to Property and Its Realisation in Private Law]. Warszawa: Biuro Trybunału Konstytucyjnego, 2013.
Zepernick, J. Musick MS and Ch. "How to Avoid Predatory Conferences." Think SCIENCE, https://thinkscience.co.jp/en/articles/avoiding-predatory-conferences.

Court Judgments

Judgment of the Court of Appeal in Kraków of 18.06.2003, I ACa 510/03. *Transformacje Prawa Prywatnego* no. 1–2 (2004).
Judgment of the Court of Appeal in Kraków of 29.10.1997, I ACa 477/97, Lex no. 533708.
Judgment of the Court of Appeal in Kraków of 7.02.1995, I ACr 697/94, OSA 1996, no. 3, item 5.
Judgment of the Court of Appeal in Łódź of 5.05.2010, I ACa 224/10.
Judgment of the Court of Appeal in Poznań of 7.11.2007, I ACa 800/07, Lex no. 370747.
Judgment of the Court of Appeal in Poznań of 9.11.2006, I ACa 490/06, Lex no. 298567.
Judgment of the Court of Appeal in Poznań of 17.12.2009, I ACa 893/09, Lex no. 628228.
Judgment of the Court of Appeal in Poznań of 28.08.2009, I ACa 309/09, Legalis no. 260736.
Judgment of the Court of Appeal in Warsaw of 18.02.2009, I ACa 809/08, Lex no. 1120180.
Judgment of the Court of Appeal in Warsaw of 29.03.1994, I ACr 104/96, Lex no. 62572.
Judgment of the Court of Appeal in Warsaw of 5.07.1995, I ACr 453/95, Lex no. 62609.
Judgment of the Polish Constitutional Tribunal of 3.04.2008, K 6/05.
Judgment of the Polish Constitutional Tribunal of 5.09.2006, K 51/05.
Judgment of the Polish Constitutional Tribunal of 7.11.2006, SK 42/05.
Judgment of the Polish Constitutional Tribunal of 9.03.1988, in case U.7/87, OTK 1988, item 1.

Judgment of the Polish Constitutional Tribunal of 10.04.2002, K 26/00.
Judgment of the Polish Constitutional Tribunal of 12.01.2000, P 11/98.
Judgment of the Polish Constitutional Tribunal of 13.03.2007, K 8/07.
Judgment of the Polish Constitutional Tribunal of 13.04.1999, K 36/98, OTK 1999, No. 3, item 40.
Judgment of the Polish Constitutional Tribunal of 13.12.2012, P 12/11.
Judgment of the Polish Constitutional Tribunal of 20.02.2002, K 39/00.
Judgment of the Supreme Administrative Court of 12.03.2010, II FSK 1791/08, Lex no. 595971.
Judgment of the Supreme Court of 03.09.1998, I CKN 818/97, OSP 1999, no. 7-8, item 142.
Judgment of the Supreme Court of 05.01.2001, V CKN 499/00, Lex no. 53112.
Judgment of the Supreme Court of 05.07.2002, III CKN 1096/00, Lex no. 81369.
Judgment of the Supreme Court of 15.11.2002, II CKN 1289/00, OSNC 2004, no. 3, item 44.
Judgment of the Supreme Court of 18.11.1969, V KRN 267/69, Legalis no. 537717.
Judgment of the Supreme Court of 22.03.1973, I CR 3/73, LEX No. 63268.
Judgment of the Supreme Court of 22.06.2010, IV CSK 359/09, OSP 2011, no. 5, item 59.
Judgment of the Supreme Court of 24.11.1978, I CR 185/78, LEX no. 8151.
Judgment of the Supreme Court of 25.01.2006, I CK 281/05, OSNC 2006, no. 11, item 286.
Judgment of the Supreme Court of 25.04.1973, I CR 91/73, OSNCP 1974, no. 3, item 50.
Judgment of the Supreme Court of 27.08.2013, II UK 26/13, Lex no. 1379926.
Judgment of the Supreme Court of 30.06.2005, IV CK 763/04, OSNC 2006, no. 5, item 92.
Judgment of the Supreme Court of 5.03.1971, II CR 686/70, OSNCP 1971, no. 12, item 213.
Judgment of the Supreme Court of 8.02.1978, II CR 515/77, LEX no. 5087.
Judgment of the Supreme Court of 9.05.1969, I CR 77/69, Legalis no. 13954.
Judgment of the Voivodeship Administrative Court in Warsaw of 12.11.2020, II SA/Wa 1681/20, LEX no. 3152269.

Legal Acts

Act on Copyright and Related Rights of the Republic of Germany (1965). https://www.gesetze-im-internet.de/englisch_urhg/englisch_urhg.html.
Berne Convention for the Protection of Literary and Artistic Works (1979). https://wipolex.wipo.int/en/text/283698.
BGBl. I S. 1622 of 19 January 1999 Hochschulrahmengesetz (1976), http://www.gesetze-im-internet.de/hrg/BJNR001850976.html.
Code de la propriété intellectuel, loi n° 92–597 of the Republic of France (1992). https://www.legifrance.gouv.fr/jorf/id/JORFTEXT000000357475/.

Convention Establishing the World Intellectual Property Organization, Journal of Laws 1975, No. 9, item 49; done at Stockholm on 14 July 1967 and amended on 28 September 1979.
Copyright Law of the United States and Related Laws Contained in Title 17 of the United States Code (1976). https://www.copyright.gov/title17/.
Copyright, Designs and Patents Act of the United Kingdom of Great Britain and Northern Ireland (1988). https://www.legislation.gov.uk/ukpga/1988/48/contents.
Regulation of the Minister of Science and Higher Education of 19 January 2018 on the detailed procedure and conditions for conducting activities in the doctoral procedure, in the habilitation procedure and in the procedure for the award of the title of professor, Journal of Laws 2018, item 261 as amended.
Regulation of the Minister of Science and Higher Education of 22 February 2019 on the evaluation of the quality of scientific activity, i.e., Journal of Laws 2022, item 661.
The European Convention on Human Rights.
The European Universities Association. (2007). Lisbon Declaration—Europe's universities beyond 2010: diversity with a common purpose. Brussels: EUA.
The International Covenant on Economic, Social and Cultural Rights.
The International Covenant on Personal and Political Rights.
The Universal Declaration of Human Rights.
The Polish Act of 29 March 1926 on Copyright, Journal of Laws 1935, No. 36, item 260.
The Polish Act of 10 July 1952 on Copyright, Journal of Laws 1952, No. 34, item 234.
The Polish Act of 23 April 1964—Civil Code, Journal of Laws 2022, item 1360 as amended.
The Polish Act of 4 February 1994 on Copyright and Related Rights, Journal of Laws 2022, item 2509.
The Polish Act of 14 March 2003 on Academic Degrees and Academic Title and Degrees and Title in the Field of Art, Journal of Laws 2017, item 1789 as amended.
The Polish Act of 30.04.2010 on Research Institutes, i.e. Journal of Laws 2022, item 498.
The Polish Act of 30.04.2010 on the Polish Academy of Sciences, consolidated text: Journal of Laws 2020, item 1796.
The Polish Act of 20 July 2018—The Law on Higher Education and Science, consolidated text: Journal of Laws 2023, item 742.

Codes of Ethics for Scientists

Authorship Guidelines for Academic Papers of the British Sociological Association (2001). (United Kingdom). https://www.britsoc.co.uk/publications/guidelines-reports/authorship-guidelines/.

Authorship Guidelines of Harvard Medical School (1999) (USA). https://hms.harvard.edu/sites/default/files/assets/Sites/Ombuds/files/AUTHORSHIP%20GUIDELINES.pdf.

Authorship Guidelines of the University of Manchester (2021) (United Kingdom). https://www.staffnet.manchester.ac.uk/rbe/ethics-integrity/author-guidance/.

Code of Academic Ethics—Ben-Gurion University of the Negev (2007) (Israel). http://in.bgu.ac.il/en/Global/Documents/General/EthicalCodeenglishversion.pdf.

Code of Ethics for Researchers of the Czech Academy of Sciences (Czech Republic). https://www.avcr.cz/en/about-us/legal-regulations/code-of-ethics-for-researchers-of-the-czech-academy-of-sciences/.

Code of Ethics for Researchers of the General Assembly (2020) (Poland). https://instytucja.pan.pl/images/2021/CodeofEthicsForResearchersThirdEdition.pdf.

Code of Ethics for Students and Researchers of Faculty of Electrical Engineering Czech Technical University in Prague (2006) (Czech Republic). https://intranet.fel.cvut.cz/en/education/code-of-ethics.

Code of Ethics in Academic Research of European University Institute (International level). https://www.eui.eu/Documents/ServicesAdmin/DeanOfStudies/CodeofEthicsinAcademicResearch.pdf.

Code of Ethics of Charles University (2018) (Czech Republic). https://cuni.cz/UKEN-731.html.

Code of Ethics of the Silesian University in Opava (2022) (Czech Republic). https://www.slu.cz/slu/en/file/cul/cecb723e-ce1c-4b17-bee8-4be5176ae5a3.

Code of Good Scientific Practices of the Spanish National Research Council (CSIS) (2011) (Spain). https://www.cnb.csic.es/documents/CBP_CSIC.pdf.

Code of Practice on Authorship of University of Cambridge School of Clinical Medicine (2014) (United Kingdom). https://www.medschl.cam.ac.uk/wp-content/uploads/2014/02/CoS14_68-Authorship_Code_of_Practice-FINAL.pdf?04c0fc.

Conduct of Research at Stanford University (2007) (USA). https://doresearch.stanford.edu/policies/research-policy-handbook.

Declaration of support for the European Charter for Researchers and the Code of Conduct for the Recruitment of Researchers of the Foundation for Polish Science (2011). https://www.fnp.org.pl/assets/Declaration-for-support-for-CC.pdf.

Declaration VP European of Ben-Gurion University of the Negev (2015). http://in.bgu.ac.il/en/Global/Documents/BGU%20-%20Declaration%20VP%20European.pdf.

Frascati Manual 2015 © OECD 2015. https://www.oecd.org/innovation/frascati-manual-2015-9789264239012-en.htm.

Guidance on Authorship in Scholarly or Scientific Publications of Yale University (2023) (USA). https://provost.yale.edu/policies/academic-integrity/guidance-authorship-scholarly-or-scientific-publications.

Guidelines of the Committee on Publication Ethics (COPE) How to handle authorship disputes: A guide for new researchers (2003). https://publicationethics.org/files/2003pdf12_0.pdf.
Guidelines of the International Committee of Medical Journal Editors (ICMJE), Defining the Role of Authors and Contributors (2023). https://www.icmje.org/recommendations/browse/roles-and-responsibilities/defining-the-role-of-authors-and-contributors.html.
Integrity and responsibility in research practices Guide of CNRS Ethics Committee (2017) (France). https://comite-ethique.cnrs.fr/wp-content/uploads/2020/09/COMETS-GUIDE-EN.pdf.
Integrity in Research of Israel National Council for Research & Development (1998) (Israel). https://in.bgu.ac.il/en/Global/Pages/EURAXESS/EURAXESS-Rights.aspx.
International Committee of Medical Journal Editors, Recommendations for the Conduct, Reporting, Editing and Publication of Scholarly Work in Medical Journals (2023). https://www.icmje.org/icmje-recommendations.pdf.
Montreal Statement on Research Integrity in Cross-Boundary Research Collaborations (2013). https://www.wcrif.org/downloads/main-website/montreal-statement/123-montreal-statement-english/file.
Nature Research journals' authorship policy (2021). https://www.nature.com/authors/policies/authorship.html.
Rules of Good Scientific Practice of the Max Planck Society (2000, amended 2009) (Germany). https://www.mpg.de/16404553/rules-scientific-practice.pdf.
Singapore Statement on Research Integrity (2010). https://www.wcrif.org/downloads/main-website/singapore-statements/224-singpore-statement-lettersize/file.
Spanish National Statement on Scientific Integrity (2015) (Spain). http://www.enrio.eu/wp-content/uploads/2017/03/csic-national-statement-on-scientific-integrity.pdf.
The Code of Ethics of the American Educational Research Association (2011) (USA). https://journals.sagepub.com/doi/abs/10.3102/0013189X11410403?journalCode=edra.
The Concordat to Support Research Integrity (United Kingdom). https://www.universitiesuk.ac.uk/sites/default/files/field/downloads/2021-08/Updated%20FINAL-the-concordat-to-support-research-integrity.pdf.
The Danish Code of Conduct for Research Integrity (2014) (Denmark). https://ufm.dk/publikationer/2014/the-danish-code-of-conduct-for-research-integrity/.
The European Charter for Researchers & The Code of Conduct for the Recruitment of Researchers (2005). https://euraxess.ec.europa.eu/sites/default/files/am509774cee_en_e4.pdf.
The European Code of Conduct for Research Integrity (2017). (The European Union). https://www.allea.org/wp-content/uploads/2017/05/ALLEA-European-Code-of-Conduct-for-Research-Integrity-2017.pdf.
The TRUST Code—A Global Code of Conduct for Equitable Research Partnerships. https://www.globalcodeofconduct.org/the-code/.

Bibliography to Case Studies in Hard Sciences and Natural Sciences

Adrjanowicz, K., K. Kolodziejczyk, W. K. Kipnusu, M. Tarnacka, E. U. Mapesa, E. Kaminska, S. Pawlus, K. Kaminski, and M. Paluch. "Decoupling between the Interfacial and Core Molecular Dynamics of Salol in 2D Confinement." *The Journal of Physical Chemistry C* 119, no. 25 (2015): 14366–14374. https://doi.org/10.1021/acs.jpcc.5b01391.

Aduszkiewicz, A. Y. Ali, E. Andronov et al. "Measurements of π±, K±, p and p^- spectra in proton-proton interactions at 20, 31, 40, 80 and 158 GeV /c with the NA61/SHINE spectrometer at the CERN SPS." *The European Physical Journal C* 77, no. 671 (2017): 1–41. https://doi.org/10.1140/epjc/s10052-017-5260-4.

Biagioli, M. "Rights or Rewards? Changing Frameworks of Scientific Authorship." In *Scientific Authorship: Credit and Intellectual Property in Science*, edited by M. Biagioli and P. Galison. New York: Routledge, 2003.

Chorążewski, M., F. Dergal, T. Sawaya, I. J.-P. E. Mokbel Grolier, and J. Jose. "Thermophysical Properties of Normafluid (ISO 4113) over Wide Pressure and Temperature Ranges." *Fuel* 105 (2013): 440–450. https://doi.org/10.1016/j.fuel.2012.05.059.

Chorążewski, M., E. B. Postnikov, B. Jasiok, Y. V. Nedyalkov, J. Jacquemin. "A Fluctuation Equation of State for Prediction of High-Pressure Densities of Ionic Liquids." *Scientific Reports* 7 (2017): 5563. https://doi.org/10.1038/s41598-017-06225-9.

Chorążewski, M., P. Zajdel, T. Feng, D. Luo, A. R. Lowe, C. M. Brown, J. B. Leão, M. Li, M. Bleuel, G. Jensen, D. Li, A. Faik, and Y. Grosu. "Compact Thermal Actuation by Water and Flexible Hydrophobic Nanopore." *ACS Nano* 15, no. 5 (2021): 9048–9056. https://doi.org/10.1021/acsnano.1c02175.

Dajka, J., M. Łobejko, and J. Łuczka. "Leggett-Garg Inequalities for a Quantum Top Affected by Classical Noise." *Quantum Information Processing* 15 (2016): 4911–4925. https://doi.org/10.1007/s11128-016-1401-1.

Dan, F., and J.-P.E. Grolier. "Spectroscopic Screening for Complex Process Optimisation, Chemical Thermodynamics for Industry." In *Chemical Thermodynamics for Industry*, edited by T. M. Letcher, 88–103. London: The Royal Society of Chemistry, 2004.

Dan, F., and J.-P. E. Grolier. "The Use of Advanced Calorimetric Techniques in Polymer Synthesis and Characterization." *Thermochimica Acta* 450, no. 1–2 (2006): 47–55. https://doi.org/10.1016/j.tca.2006.07.016.

Dzienia, A., K. Koperwas, M. Tarnacka, M. Chorążewski, E. B. Postnikov, A. R. Lowe, K. Kamiński, and M. Paluch. "Direct Insight into the Kinetics of the High-pressure Step-Growth Polymerization of DGEBA/aniline Model System." *Polymer* 172 (2019): 322–329. https://doi.org/10.1016/j.polymer.2019.04.001.

Fassnacht, M., M. Terzolo, B. Allolio, E. Baudin, H. Haak, A. Berruti, S. Welin, C. Schade-Brittinger, A. Lacroix, B. Jarzab, H. Sorbye, D. J. Torpy, et al., for the FIRM-ACT Study Group. "Combination Chemotherapy in Advanced Adrenocortical Carcinoma." *New England Journal of Medicine* 366, no. 23 (2012): 2189–2197. https://doi.org/10.1056/NEJMoa1200966.

Feder-Kubis, J. "Synthesis and Spectroscopic Properties of Symmetrical Ionic Liquids Based on (–)-Menthol." *Journal of Molecular Liquids* 226 (2017): 63–70. https://doi.org/10.1016/j.molliq.2016.08.112.

Feder-Kubis, J., B. Szefczyk, and M. Kubicki. "Symmetrical Imidazolium Chloride Based on (–)-Menthol: Synthesis, Characterisation, and Theoretical Model of the Reaction." *The Journal of Organic Chemistry* 80, no. 1 (2015): 237–246. https://doi.org/10.1021/jo502317m.

Fischer, K., M. J. Wilken, and J. Gmehling. "The Effect of Gas Pressure on the Melting Behavior of Compounds." *Fluid Phase Equilibrium* 210, no. 2 (2003): 199–214. https://doi.org/10.1016/S0378-3812(03)00180-8.

Gilkes, D. M., L. Xiang, S. J. Lee, P. Chaturvedi, M. E. Hubbi, D. Wirtz, and G. L. Semenza. *Hypoxia-inducible factors mediate coordinated RhoA-ROCK1 expression and signaling in breast cancer cells*. *PNAS 11*, no. 3 (2013). https://doi.org/10.1073/pnas.2213288119.

Grolier, J.-P. E., and F. Dan. "Calorimetric Measurements of Thermophysical Properties for Industry, Chemical Thermodynamics for Industry." In *Chemical Thermodynamics for Industry*, edited by T. M. Letcher, 144–158. London: The Royal Society of Chemistry, 2004.

Grosu, Y., Li M., Y. L. Peng, D. Luo, D. Li, A. Faik, J.-.M. Nedelec, J.-P. Grolier. Communication: A Highly Stable Nonhysteretic Molecular Spring. *ChemPhysChem* 17, no. 21 (July 21, 2016): 3359–3364. https://doi.org/10.1002/cphc.201600567.

Grosu, Y., M. Li, Y. L. Peng, D. Luo, D. Li, A. Faik, J.-.M. Nedelec, J.-P. Grolier. "Inside Back Cover, A Highly Stable Nonhysteretic Molecular Spring." *ChemPhysChem* 17, no. 21 (Nov. 7, 2016): 3576–3576. https://doi.org/10.1002/cphc.201601107.

Heßelmann, A., and G. Jansen. "First-order Intermolecular Interaction Energies from Kohn-Sham Orbitals." *Chemical Physics Letters* 357, no. 5–6 (2002): 464–470. https://doi.org/10.1016/S0009-2614(02)00538-9.

Heßelmann, A., and G. Jansen. "Intermolecular Dispersion Energies from Time-dependent Density Functional Theory." *Chemical Physics Letters* 357, no. 5–6 (2003): 778–784. https://doi.org/10.1016/S0009-2614(02)01796-7.

Heßelmann, A., and G. Jansen. "Intermolecular Induction and Exchange-induction Energies from Coupled-perturbed Kohn-Sham Density Functional Theory." *Chemical Physics Letters* 362, no. 3–4 (2002): 319–325. https://doi.org/10.1016/S0009-2614(02)01097-7.

Hong, L., B. A. Begen, A. Kisliuk, S. Pawlus, M. Paluch, and A. P. Sokolov. "Influence of Pressure on Quasielastic Scattering in Glasses: Relationship to the Boson Peak." *Physical Review Letters* 102, no. 14 (2009): 145502. https://doi.org/10.1103/PhysRevLett.102.145502.

Ievtushenko, O. V., V. A. Eroshenko, Y. G. Grosu, J.-M. Nedelec, and J.-P. E. Grolier. "Evolution of the Energetic Characteristics of Repulsive Clathrates in a Wide Temperature Range." *Physical Chemistry Chemical Physics* 15, no. 12 (2013): 4451–4457. https://doi.org/10.1039/C3CP44587A.

Jallot, E., J. Lao, Ł. John, J. Soulié, P. Moretto, and J.-M. Nedelec. Imaging Physicochemical Reactions Occurring at the Pore Surface in Binary Bioactive Glass Foams by Micro Ion Beam Analysis. *ACS Applied Materials and Interfaces* 2, no. 6 (2010): 1737–1742. https://doi.org/10.1021/am1002316.

Janeta, M., Ł. John, J. Ejfler, and S. Szafert. "High-Yield Synthesis of Amido-Functionalized Polyoctahedral Oligomeric Silsesquioxanes by Using Acyl

Chlorides." *Chemistry A European Journal* 20, no. 48 (2014): 15966–15974. https://doi.org/10.1002/chem.201404153.

Jasiok, B., E. B. Postnikov, and M. Chorążewski. "The Prediction of High-pressure Densities of Different Fuels Using Fluctuation Theory-based Tait-like Equation of State." *Fuel* 219 (2018): 176–181.

Jeziorski, B., R. Moszynski, and K. Szalewicz. "Perturbation Theory Approach to Intermolecular Potential Energy Surfaces of van der Waals Complexes." *Chemical Review* 94, no. 7 (1994): 1887–1930. https://doi.org/10.1021/cr00031a008.

John, Ł., M. Janeta, M. Rajczakowska, J. Ejfler, D. Łydżba, and S. Szafert. "Synthesis and microstructural properties of the scaffold based on a 3-(trimethoxysilyl) propyl methacrylate-POSS hybrid towards potential tissue engineering applications." *RSC Advances* 6, no. 70 (2016): 66037–66047. https://doi.org/10.1039/C6RA10364B.

John, Ł., M. Podgórska, J.-M. Nedelec, Ł. Cwynar-Zając, and P. Dzięgiel. "Strontium-Doped Organic-Inorganic Hybrids Towards Three-Dimensional Scaffolds for Osteogenic Cells." *Materials Science and Engineering C—Materials for Biological Applications* 68 2016): 117–127. https://doi.org/10.1016/j.msec.2016.05.105.

Jurečka, P., J. Šponer, J. Černý, and P. Hobza. "Benchmark Database of Accurate (MP2 and CCSD(T) Complete Basis Set Limit) Interaction Energies of Small Model Complexes, DNA Base Pairs, and Amino Acid Pairs." *Physical Chemistry Chemical Physics* 8, no. 17 (2006): 1985–1993. https://pubs.rsc.org/en/content/articlelanding/2006/CP/B600027D.

Kaminska, E., K. Adrjanowicz, M. Tarnacka, K. Kolodziejczyk, M. Dulski, D. Zakowiecki, L. Hawelek, I. Kaczmarczyk-Sedlak, G. Garbacz, and K. Kamiński. "Impact of Low Molecular Excipient on the Liquid-crystalline Ordering as Well as Global and Local Dynamics in the Glassy State of Itraconazole, Molecular Dynamics Studies." *European Journal of Pharmaceutics and Biopharmaceutics* 88, no. 3 (2014): 1094–1104. https://doi.org/10.1016/j.ejpb.2014.10.002.

Kamińska, E., O. Madejczyk, M. Tarnacka, K. Jurkiewicz, K. Wolnica, W. E. Śmiszek-Lindert, K. Kamiński, and M. Paluch. "Anhydrosaccharides—A New Class of the Fragile Plastic Crystals." *Journal of Chemical Physics* 148, no. 7 (2018): 074501. https://doi.org/10.1063/1.5011672.

Kaminska, E., M. Tarnacka, P. Wlodarczyk, K. Jurkiewicz, K. Kolodziejczyk, M. Dulski, D. Haznar-Garbacz, L. Hawelek, K. Kaminski, A. Wlodarczyk, and M. Paluch. "Studying the Impact of Modified Saccharides on the Molecular Dynamics and Crystallisation Tendencies of Model API Nifedipine." *Molecular Pharmaceutics* 12, no. 8 (2015): 3007–3019. https://doi.org/10.1021/acs.molpharmaceut.5b00271.

Kozanecka-Szmigiel, A., K. Switkowski, E. Schab-Balcerzak, and E. Grabiec. "Two-photon Induced Birefringence in Azo-dye Bearing Polymide; The Birefringence Changes versus the Writing Power." *Applied Physics B: Lasers & Optics* 105 (2011): 851–855. https://doi.org/10.1007/s00340-011-4547-7.

Lee, K., D. Z. Qian, S. Rey, H. Wei, J. O. Liu, and G. L. Semenza.* "Anthracycline Chemotherapy Inhibits HIF-1 Transcriptional Activity and Tumor-induced Mobilization of Circulating Angiogenic Cells." *PNAS* 119, no. 38 (September 2, 2022): e2213285119. https://doi.org/10.1073/pnas.2213285119.

Legendre, B., and S. L. Randzio. "Transitiometric Analysis of Solid II/Solid I Transition in Anhydrous Theophylline." *International Journal of Pharmaceutics* 343, no. 1–2 (2007): 41–47. https://doi.org/10.1016/j.ijpharm.2007.04.015.

Lowe, A. R., W. S. Y. Wong, N. Tsyrin, M. A. Chorążewski, A. Zaki, M. Geppert-Rybczyńska, V. Stoudenets, A. Tricoli, A. Faik, and Y. Grosu. "The Effect of Surface Entropy on the Heat of Non-Wetting Liquid Intrusion into Nanopores." *Langmuir* 37, no. 16 (2021): 4827–4835. https://doi.org/10.1021/acs.langmuir.1c00005.

Maksym, P., M. Tarnacka, A. Dzienia, K. Matuszek, A. Chrobok, K. Kaminski, M. Paluch. "Enhanced Polymerization Rate and Conductivity of Ionic Liquid-Based Epoxy Resin." *Macromolecules* 50, no. 8 (2017): 3262–3272. https://doi.org/10.1021/acs.macromol.6b02749.

Mierzejewski, M., J. Bonča, and J. Dajka. "Reversal of Relaxation Due to a Dephasing Environment." *Physical Review A* 91, no. 5 (2015). https://doi.org/10.1103/PhysRevA.91.052112.

Misquitta, A. J., B. Jeziorski, and K. Szalewicz. "Dispersion Energy from Density-Functional Theory Description of Monomers." *Physical Review Letters* 91, no. 3 (2003): 033201. https://doi.org/10.1103/PhysRevLett.91.033201.

Misquitta, A. J., and K. Szalewicz. "Intermolecular Forces from Asymptotically Corrected Density Functional Cescription of Monomers." *Chemical Physics Letters* 57, no. 3–4 (2002): 301–306. https://doi.org/10.1016/S0009-2614(02)00533-X.

Misquitta, A. J., and K. Szalewicz. "Intermolecular Forces from Asymptotically Corrected Density Functional Description of Monomers." *Chemical Physics Letters* 357, no. 3–4 (2002): 301–306. https://doi.org/10.1016/S0009-2614(02)00533-X.

Nobel Prize winner Gregg Semenza retracts four papers. https://retractionwatch.com/2022/09/03/nobel-prize-winner-gregg-semenza-retracts-four-papers/?fbclid=IwAR3YdWPToxFWc5B-F2pc2V6PQuY-e4G5dVD8pz28s0CMCD3GLZoVcMUMPMs.

Nowottny, J. *High-Pressure Calorimetry: Evaluation of Methods and Measurement of Heat Capacities*. Düren: Shaker Verlag Gmbh, 2021.

Pacini, F., M. Schlumberger, H. Dralle, R. Elisei, J. W. A. Smit, and W. Wiersinga. "European Consensus for the Management of Patients with Differentiated Thyroid Carcinoma of the Follicular Epithelium." *European Journal of Endocrinology* 154, no. 6 (2006): 787–803. https://doi.org/10.1530/eje.1.02158.

Paluch, M., S. Pawlus, S. Hensel-Bielowka, K. Kaminski, T. Psurek, S. J. Rzoska, J. Ziolo, and C. M. Roland. "Effect of Glass Structure on the Dynamics of the Secondary Relaxation in Diisobutyl and Diisoctyl Phthalates." *Physical Review B* 72, no. 22 (2005): 224205. https://doi.org/10.1103/PhysRevB.72.224205.

Pawlus, S., M. Paluch, and M. Dzida. "Molecular Dynamics Changes Induced by Hydrostatic Pressure in a Supercooled Primary Alcohol." *The Journal of Physical Chemistry Letters* 1, no. 21 (2010): 3249–3253. https://doi.org/10.1021/jz101288v.

Pawlus, S., C. M. Roland, S. J. Rzoska, J. Zioło, and M. Paluch. "Effect of Temperature and Pressure on Segmental Relaxation in Polymethylphenylsiloxane." *Rubber Chemistry and Technology* 76, no. 5 (2003): 1106–1115. https://doi.org/10.5254/1.3547790.

Podeszwa, R., K. Patkowski, and K. Szalewicz. "Improved Interaction Energy Benchmarks for Dimers of Biological Relevance." *Physical Chemistry Chemical Physics* 12, no. 23 (2010): 5974–5979. https://pubs.rsc.org/en/content/articlelanding/2010/CP/b926808a.

Randzio, S. L. "From Calorimetry to Equations of State." *Chemical Society Reviews* 24, no. 5 (1995): 359–366. https://doi.org/10.1039/CS9952400359.

Randzio, S. L., J.-P. E. Grolier, and M. Chorążewski. "High-Pressure 'Maxwell Relations' Measurements," in *Volume Properties: Liquids, Solutions and Vapours*, edited by E. Wilhelm and T. Letcher, 414–438. Cambridge: The Royal Society of Chemistry, 2015.

Randzio, S. L., and A. Kutner. "Metastability and Instability of Organic Crystalline Substances." *The Journal of Physical Chemistry B* 112, no. 5 (2008): 1435–1444. https://doi.org/10.1021/jp077161a.

Randzio, S. L. "Scanning Transitiometry." *Chemical Society Reviews* 25, no. 6 (1996): 383–392. https://doi.org/10.1039/CS9962500383.

Reilly A. M.*, R. I. Cooper, C. S. Adjiman, S. Bhattacharya, A. D. Boese, J. G. Brandenburg, P. J. Bygrave, R. Bylsma, J. E. Campbell, R. Car, D. H. Case, R. Chadha, J. C. Cole, K. Cosburn, H. M. Cuppen, F. Curtis, G. M. Day, R. A. Jr. DiStasio, A. Dzyabchenko, B. P. van Eijck, D. M. Elking, J. A. van den Ende, J. C. Facelli, M. B. Ferraro, L. Fusti-Molnar, C.-A. Gatsiou, T. S. Gee, R. de Gelder, L. M. Ghiringhelli, H. Goto, S. Grimme, R. Guo, D. W. M. Hofmann, J. Hoja, R. K. Hylton, L. Iuzzolino, W. Jankiewicz, D. T. de Jong, J. Kendrick, N. J. J. de Klerk, H.-Y. Ko, L. N. Kuleshova, X. Li, S. Lohani, F. J. J. Leusen, A. M. Lund, J. Lv, Y. Ma, N. Marom, A. E. Masunov, P. McCabe, D. P. McMahon, H. Meekes , M. P. Metz, A. J. Misquitta, S. Mohamed, B. Monserrat, R. J. Needs, M. A. Neumann, J. Nyman, S. Obata, H. Oberhofer, A. R. Oganov, A. M. Orendt, G. I. Pagola, C. C. Pantelides, C. J. Pickard, R. Podeszwa, L. S. Price, S. L. Price, A. Pulido, M. G. Read, K. Reuter, E. Schneider, C. Schober, G. P. Shields, P. Singh, I. J. Sugden, K. Szalewicz, C. R. Taylor, A. Tkatchenko, M. E. Tuckerman, F. Vacarro, M. Vasileiadis, A. Vazquez-Mayagoitia, L. Vogt, Y. Wang, R. E. Watson, G. A. de Wijs, J. Yang, Q. Zhu, and C. R. Groom. "Report on the Sixth Blind Test of Organic Crystal Structure Prediction Methods." *Acta Crystallographica Section B: Structural Science: Crystal Engineering and Materials* no. B72 (2016): 439–459. https://doi.org/10.1107/S2052520616007447.

Samanta, D., D. M. Gilkes, P. Chaturvedi, L. Xiang, and G. L. Semenza.* *Hypoxia-inducible factors are required for chemotherapy resistance of breast cancer stem cells*. https://doi.org/10.1073/pnas.2213289119.

Schneider, L. "Gregg Semenza: Real Nobel Prize and Unreal Research Data." *For Better Science by Leonid Schneider, on research integrity, biomedical ethics and academic publishing* (October 7, 2020). https://forbetterscience.com/2020/10/07/gregg-semenza-real-nobel-prize-and-unreal-research-data/.

Sęk, D., E. Grabiec, A. Miniewicz, and A. Sobolewska. "Influence of Pol(amide-imide)s Structures on Holographic Recording." *Proceedings of SPIE* 5724 (2005): 311–322. https://doi.org/10.1117/12.585018.

Sieradzki, A., S. Pawlus, S. N. Tripathy, A. Gągor, M. Ptak, M. Paluch, and M. Mączka. "Dielectric Relaxation and Anhydrous Proton Conduction in $[C_2H_5NH_3][Na_{0.5}Fe_{0.5}(HCOO)_3]$ Metal-organic Frameworks." *Dalton Transactions* 46, no. 11 (2017): 3681–3687. https://doi.org/10.1039/C6DT04546D.

Sieradzki, A., S. Pawlus, S. N. Tripathy, A. Gągor, M. Ptak, M. Paluch, and M. Mączka. "Dielectric Relaxation and Anhydrous Proton Conduction in $[C_2H_5NH_3][Na_{0.5}Fe_{0.5}(HCOO)_3]$ Metal-organic Frameworks." *Dalton Transactions* 46, no. 11 (2017): 3681–3687. https://doi.org/10.1039/C6DT04546D.

Ślebarski, A., P. Zajdel, M. Fijałkowski, M. M. Maśka, P. Witas, J. Goraus, Y. Fang, D. C. Arnold, and M. B. Maple. The Effective Increase in Atomic Scale Disorder by Doping and Superconductivity in Ca_3 Rh_4 Sn_{13}. *New Journal of Physics* 20 (2018): 20. https://doi.org/10.1088/1367-2630/aae4a8.

Takatani, T., E. G. Hohenstein, M. Malagoli, M. S. Marshall, and C. D. Sherrill. "Basis Set Consistent Revision of the S22 Test Set of Non-covalent Interaction Energies." *The Journal of Chemical Physics* 132, no. 14 (2010): 144104. https://aip.scitation.org/doi/abs/10.1063/1.3378024.

Tomaszewski, R., and J. Dajka. "Statistical Image Analysis and Escort Histograms in Characterization of Articular Cartilage Repair in a Skeleton Animal Model." *PLoS ONE* 16, no. 6 (2021). https://doi.org/10.1371/journal.pone.0252505.

Tomaszewski, R., K. Pethe, J. Kler, E. Rutz, J. Mayr, and J. Dajka. "Supracondylar Fractures of the Humerus: Association of Neurovascular Lesions with Degree of Fracture Displacement in Children-A Retrospective Study." *Children* 9, no. 3 (2022): 308–319. https://doi.org/10.3390/children9030308.

Wang, J. H., M. Li, and D. Li. "An Exceptionally Stable and Water-Resistant Metal—Organic Framework with Hydrophobic Nanospaces for Extracting Aromatic Pollutants from Water." *Chemistry A European Journal* 20, no. 38 (Sep. 15, 2014): 12004–12008. https://doi.org/10.1002/chem.201403501.

Wilken, M., K. Fischer, and J. Gmehling. "Communication: Transitiometry: pVT Scanning Calorimetry for the Simultaneous Determination of Thermal and Mechanical Properties of Materials." *Chemical Engineering & Technology* 25, no. 8 (2002): 779–784. https://doi.org/10.1002/1521-4125(20020806)25:8<779::AID-CEAT779>3.0.CO;2-X.

Williams, H. L., and C. F. Chabalowski. "Using Kohn-Sham Orbitals in Symmetry-Adapted Perturbation Theory to Investigate Intermolecular Interactions." *The Journal of Physical Chemistry A* 105, no. 3 (2001): 646–659. https://doi.org/10.1021/jp003883p.

Williams, H. L., and C. F. Chabalowski. "Using Kohn-Sham Orbitals in Symmetry-Adapted Perturbation Theory to Investigate Intermolecular Interactions." *The Journal of Physical Chemistry A* 105, no. 3 (2001): 646–659. https://doi.org/10.1021/jp003883p.

Woźniakowski, B., and A. Grotowski. "Scale-up and Test Planning." *Physicochemical Problems of Mineral Processing* 9, no. 1 (1975): 17–24.

Yamada, T., S. A. E. Boyer, T. Iyoda, H. Yoshida, and J.-P. E. Grolier. "Effects of CO_2 Pressure on Isotropic Transition of Amphiphilic Side-chain Type Liquid Crystalline Di-block Copolymers." *Journal of Thermal Analysis and Calorimetry* 89, no. 3 (2007): 717–721. https://doi.org/10.1007/s10973-006-7960-0.

Yamada, T., S. A. E. Boyer, T. Iyoda, H. Yoshida, and J.-P. E. Grolier. "Isotropic Transition of Amphiphilic Side-chain Type Liquid Crystalline Di-block Copolymers Effects of Nitrogen Pressure." *Journal of Thermal Analysis and Calorimetry* 89, no. 1 (2007): 9–12. https://doi.org/10.1007/s10973-006-8451-z.

Yamada, T., S. A. E. Boyer, T. Iyoda, H. Yoshida, and J.-P. E. Grolier. "Effects of CO_2 Pressure on Isotropic Transition of Amphiphilic Di-block Copolymer

(Communication).” 37èmes Journées de Calorimétrie et d’Analyse Thermique & Symposium de Thermodynamique des Fluides Complexes, Pau (France), 30 Mai–2 Juin 2006. *Journal of Thermal Analysis and Calorimetry* 89, no. 3 (2007): 717–721. https://doi.org/10.1007/s10973-006-7960-0.

Yuan, G., Y.-J. Peng, V. D. Reddy, V. V. Makarenko, J. Nanduri, S. A. Khan, J. A. Garcia, G. K. Kumar, G. L. Semenza,* and N. R. Prabhakar.* “Mutual Antagonism between Hypoxia-Inducible Factors 1α and 2α Regulates Oxygen Sensing and Cardio-respiratory Homeostasis.” *PNAS* 119, no. 38 (2022): e2213287119. https://doi.org/10.1073/pnas.2213287119.

Index of Personal Names

Material Index—Terminology

Anna Chorążewska, Adam Proń

Intellectual Property Rights and Scientific Authorship: Legal and Ethical Considerations Case Study in Hard Sciences and Natural Sciences

Summary

The interplay between human rights and intellectual property law, particularly concerning protecting science creators' moral and property rights, has become increasingly pertinent in recent times. As early as the 1980s, technological advancements led to more complex research methodologies and collaborative dynamics among researchers, particularly with the rapid growth of interdisciplinary research. In the 21st century, these challenges have only intensified. Moreover, the emergence of "data-driven science," alongside financial considerations, national science policies, and the global influence of rapidly developing countries like China, significantly shape research agendas, especially in hard sciences, life sciences, and medicine. Consequently, there is a growing demand for transdisciplinary research projects involving multi-person teams comprising scientists and technical support staff. The outcomes of such projects often manifest in the form of multi-authored scientific publications or collaborative invention projects. The involvement of researchers in such projects can take various forms, from conceptualising scientific ideas and formulating hypotheses to conducting experiments, making a scientific discovery or establishing scientific truth, but also in merely designing an experiment or obtaining experimental data in a measurement process and analysing them with interpretation. However, not all research outcomes align neatly with the categories of intangible goods defined in intellectual property law, leaving researchers without legal protection for their contributions under copyright or patent law.

It should be explained that it is generally accepted in intellectual property law that a research contribution may obtain legal protection when it demonstrates the capacity to be established in the form of an intellectual good defined in the legal system. In the case of a work subject to copyright protection, the effect of the research activity should be established in any form, however impermanent, but stable enough to be perceived by persons other than the

creator. In addition, its nature should be individualised and thus constitute a materialised original product of the human intellect. In the research process, often important and essential research contributions, even those that condition the success of the entire project, do not demonstrate this capacity. The issue of the lack of adequate and effective guarantees for legal protection of the fruits of scientific labour has been recognised in the literature. The authors of this book have set themselves the goal of contributing to the ongoing discussion on this subject. They seek to answer questions regarding the definition of a science creator, the essence of scientific authorship, and the recognition of individual contributions to the advancement of knowledge in the contemporary world of team-based research conducted by large interdisciplinary teams.

The authors of the book examine the topic from various perspectives. Firstly, they explore the scientist's right to be recognized as a co-author of a scientific work, whether it is established in the form of a research article, a poster presentation, or an oral presentation at a conference. Secondly, they delve into the criteria used in academic promotion procedures to assess an individual's contribution to the state of knowledge, which is crucial for the award of scientific degrees. These analyses help identify the prerequisites necessary to establish authorship of scientific achievements presented in degree applications. It is worth noting that determining an individual's contribution to the advancement of knowledge is often complex. Scientific research typically involves building upon the work of predecessors and collaboration with other researchers. The complexity of research problems means that a researcher rarely works alone or as a member of a small research group. Consequently, in promotion proceedings, scientific achievements are often documented by multi-authored articles and inventions. Determining rightful authorship of scientific achievements resulting from collaborative research and building upon previous work requires exceptional clarity of thought, objectivity, and expertise in the relevant scientific fields.

Pursuing answers to these questions compelled the authors to undertake interdisciplinary analyses. Examining the legal framework surrounding scientific authorship, the right to authorship, and comparing them with associated ethical standards became necessary. Consequently, the considerations presented in this book are approached from the perspective of legal sciences, encompassing intellectual property law, jurisprudence, and science studies. The research problem was defined accordingly, and the authors' ambitious objectives shaped the structure of this work, dividing it into two parts. The first part, authored by Anna Chorążewska, analyses the freedom of scientific research as a constitutionally protected category and the legal foundations for safeguarding authorship of scientific works under Polish law, considering both domestic and comparative legal aspects. The analysis is grounded in the thesis that an individual making an independent, creative (original), and significant contribution to a collaborative research project has the right to be recognized as a co-author of the resulting scientific work, disseminating the jointly obtained research outcomes.

The second part of the book, co-authored by Anna Chorążewska and Adam Proń, a lawyer and a representative of hard sciences with considerable research and reviewing experience, examines the legal and ethical considerations surrounding team-based scientific research in the fields of hard sciences and natural sciences. This analysis is approached from a perspective shaped by the insights of science studies, with due consideration given to the historical evolution of the scientific system and the evaluation of scientists. The foundation of these considerations and their prism are the views of the precursor of science studies, Professor Józef Pieter (1904–1989), a Polish psychologist, philosopher and pedagogue, as well as an academic teacher at several Silesian universities. Pieter's seminal monographs, in which he analysed scientific work as a manifestation of human creative work, become a contribution for the authors in their research on such issues as types of scientific work, scientific method, the phenomenon of mentoring in science, the subject and nature of the contribution to research, legal and ethical grounds for attribution authorship of scientific works and authorship of scientific achievements.

The analyses conducted led the authors to two main findings. Firstly, the determination of binding ethical principles for the attribution of authorship of scientific works. Considering the legal and ethical context, the authors also address who is entitled to authorship of scientific work and who should only be mentioned in the article's Acknowledgments section. Secondly, within the legal and ethical framework and considering the comparative background, the principles for effectively demonstrating authorship of scientific achievement—namely, authorship of an independent and individualized contribution to the state of knowledge by degree or title applicants in promotion proceedings—are outlined. The text also discusses the proper documentation of authorship of such achievements in Polish promotion proceedings, which were not published as a single-author monograph but as a single series of thematically related multi-authored scientific articles. The book aims to stimulate discussion in the scientific community about the boundaries of science and the system of rewarding the contribution of individual scientists to the state of knowledge, both in terms of attributing authorship to scientific articles and promotion proceedings.

Keywords: freedom of science, intellectual property rights, scientific authorship, ethical rules of authorship attribution of research work, responsibility for the content of the publication, creator of science, procedure for the award of academic degrees and titles

Anna Chorążewska, Adam Proń

Prawo własności intelektualnej i autorstwo naukowe: Rozważania prawne i etyczne Studium przypadku nauk ścisłych i przyrodniczych

Streszczenie

W ostatnim czasie niezwykle aktualna stała się problematyka wzajemnych relacji między prawami człowieka a prawem własności intelektualnej oraz ochrony praw osobistych i majątkowych twórców nauki. Już w latach osiemdziesiątych minionego wieku, wraz z postępem technologicznym, metody prowadzenia badań i relacje pomiędzy współpracującymi badaczami stały się bardziej skomplikowane, szczególnie w świetle szybko rozwijających się badań interdyscyplinarnych. Obecnie, w XXI wieku, wszystkie te problemy stają się jeszcze bardziej złożone. Dodatkowo zjawisko *data-driven science*, uwarunkowania finansowe oraz polityka naukowa państw, a także presja wywierana na świat przez prężnie rozwijające się tak gospodarczo, jak i naukowo Chiny istotnie wpływają na kierunki badań, zwłaszcza w obszarze nauk ścisłych, przyrodniczych czy medycznych. Następstwem tych przemian jest wzrost zapotrzebowania na transdyscyplinarne projekty badawcze, realizowane przez wieloosobowe zespoły tworzone przez naukowców oraz personel wsparcia technicznego. Wyniki takich badań ogłaszane są w formie wieloautorskich utworów naukowych lub wieloautorskich projektów wynalazczych. Udział badacza w realizacji takich projektów może przybrać różną postać. Może polegać na postawieniu idei czy tezy badawczej, dokonaniu odkrycia naukowego lub ustaleniu prawdy naukowej, ale także jedynie na zaprojektowaniu eksperymentu czy otrzymaniu w procesie pomiarowym danych eksperymentalnych i ich analizy wraz z interpretacją. Rezultaty działań badawczych nie zawsze wykazują zdolności do wyrażenia w formie właściwej dla określonych w systemie prawa własności intelektualnej kategorii dóbr niematerialnych. W takich przypadkach naukowcy nie uzyskują ochrony prawnej dla owoców swej pracy—ani z prawa autorskiego, ani z prawa wynalazczego.

Wyjaśnić należy, że powszechnie w prawie własności intelektualnej przyjmuje się, że wkład w badania może uzyskać ochronę prawną, gdy wykazuje

zdolność do ustalenia w formie dobra intelektualnego określonego w systemie prawnym. W przypadku utworu podlegającego ochronie z prawa autorskiego efekt działalności badawczej powinien zostać ustalony w jakiejkolwiek postaci, chociażby nietrwałej, jednakże na tyle stabilnej, aby możliwa była jego percepcja przez inne osoby niż sam twórca. Ponadto jego natura powinna być zindywidualizowana, a zatem stanowić zmaterializowany oryginalny wytwór intelektu człowieka. W procesie badawczym często istotne wkłady w badania, nawet warunkujące powodzenie całego projektu, nie wykazują takiej zdolności. Problem braku odpowiednich i zarazem efektywnych gwarancji ochrony prawnej owoców pracy naukowej został już dostrzeżony w piśmiennictwie. Autorzy tej książki postawili sobie za cel włączenie się w prowadzoną w tym przedmiocie dyskusję. Poszukują odpowiedzi na pytanie, kim jest twórca nauki oraz na czym polega autorstwo naukowe i uznanie indywidualnego wkładu w stan wiedzy we współczesnym świecie badań prowadzonych zespołowo przez bardzo liczne interdyscyplinarne zespoły.

Autorzy niniejszej publikacji rozważają wskazany temat z wielu perspektyw. Po pierwsze przez pryzmat prawa naukowca do uzyskania statusu współautora pojedynczej pracy naukowej, ustalonej w formie naukowego artykułu czy posteru albo ustnie w formie wystąpienia konferencyjnego. Po drugie z punktu widzenia stosowanych w postępowaniach awansowych w sprawie nadania stopni naukowych lub tytułu kryteriów uznania istnienia indywidualnego wkładu w stan wiedzy osoby ubiegającej się o ich przyznanie. Te analizy prowadzą do ustalenia przesłanek, których spełnienie jest niezbędne do wykazywania autorstwa osiągnięcia naukowego określonego we wniosku o nadanie stopnia naukowego lub tytułu. Zwrócić należy uwagę, że zidentyfikowanie i wyznaczenie indywidualnego wkładu w stan wiedzy współcześnie nie zawsze jest zadaniem prostym do wykonania. Prowadzenie badań naukowych wymaga korzystania z osiągnięć i ustaleń naukowych innych badaczy. Stopień skomplikowania problemów badawczych powoduje, że naukowiec rzadko pracuje w pojedynkę czy jako członek małej grupy badawczej. W konsekwencji w postępowaniach awansowych osiągnięcia naukowe często są dokumentowane za pomocą wieloautorskich artykułów i wynalazków. Ustalenie, komu przysługiwać powinno autorstwo osiągnięcia naukowego, uzyskanego w wyniku zespołowo prowadzonych badań i na podstawie dorobku poprzedników, niewątpliwe wymaga niezwykłej jasności umysłu, obiektywizmu oraz wiedzy specjalistycznej z badanych zagadnień naukowych.

Poszukiwanie odpowiedzi na te pytania zobligowało autorów do podjęcia analiz o charakterze interdyscyplinarnym. Konieczne stało się zbadanie nie tylko ram prawnych autorstwa naukowego i prawa do bycia autorem, lecz także etycznych. W konsekwencji rozważania prowadzone są w książce z perspektywy nauk prawnych, w tym prawa własności intelektualnej i prawoznawstwa, oraz naukoznawstwa. Tak określony problem badawczy i ambitne cele autorów zdeterminowały również strukturę niniejszej pracy. Została ona podzielona na dwie części. Pierwsza część, autorstwa Anny Chorążewskiej,

jest poświęcona analizie wolności badań naukowych jako kategorii chronionej konstytucyjnie oraz problematyce podstaw prawnych do ochrony autorstwa twórczości naukowej na gruncie prawa polskiego z uwzględnieniem tła prawno-porównawczego. Rozważania są oparte na tezie naukowej głoszącej, że autor samodzielnego, twórczego (oryginalnego) i istotnego wkładu w zespołowo realizowany projekt badawczy posiada prawo do uzyskania statusu współautora utworu naukowego, ogłaszającego wyniki wspólnie otrzymanych wyników badań.

Druga część książki, współautorstwa Anny Chorążewskiej i Adama Pronia, prawniczki i przedstawiciela nauk ścisłych o znacznym doświadczeniu badawczym i recenzenckim, analizuje uwarunkowania prawne i etyczne prowadzenia zespołowych badań naukowych w obszarze nauk ścisłych i przyrodniczych z perspektywy refleksji właściwej dla naukoznawstwa z uwzględnieniem tła historycznego rozwoju systemu nauki i oceny naukowców. Punktem wyjścia dla tych rozważań oraz ich pryzmatem są poglądy prekursora naukoznawstwa profesora Józefa Pietera (1904–1989), polskiego psychologa, filozofa i pedagoga, a także nauczyciela akademickiego kilku śląskich uczelni. Wybitne monografie Pietera, w których analizuje on pracę naukową jako przejaw pracy twórczej człowieka, stają się dla autorów przyczynkiem do podjęcia badań nad takimi zagadnieniami jak: rodzaje pracy naukowej, metoda naukowa, zjawisko mentoringu w nauce, przedmiot i charakter wkładu do badań, prawne i etyczne przesłanki atrybucji autorstwa utworów naukowych oraz autorstwa osiągnięcia naukowego.

Przeprowadzone analizy prowadzą autorów do dwóch zasadniczych ustaleń. Po pierwsze wyznaczenia wiążących zasad etycznych atrybucji autorstwa utworów naukowych. Uwzględniając kontekst prawny i etyczny, autorzy udzielają również odpowiedzi na pytanie, kto ma prawo do autorstwa utworu naukowego, a kto powinien zostać jedynie wspomniany w artykule w sekcji Podziękowania. Po drugie, w granicach ram prawnych, etycznych i z uwzględnieniem tła porównawczego, określono zasady efektywnego wykazywania przez osoby ubiegające się o nadanie stopnia lub tytułu naukowego w postępowaniach awansowych autorstwa osiągnięcia naukowego, czyli autorstwa samodzielnego i zindywidualizowanego wkładu w stan wiedzy. Podejmowane jest również zagadnienie właściwego udokumentowania w polskich postępowaniach awansowych autorstwa takich osiągnięć, które nie zostały ogłoszone w formie monoautorskiej monografii, lecz opublikowanego jednego cyklu powiązanych tematycznie wieloautorskich artykułów naukowych. Lektura książki ma zachęcać do podjęcia w środowisku naukowym dyskusji o granicach nauki i systemie premiowania wkładu indywidualnych naukowców w stan wiedzy zarówno przy atrybucji autorstwa artykułów naukowych, jak i w postępowaniach awansowych.

Słowa klucze: wolność nauki, prawa własności intelektualnej, autorstwo naukowe, zasady etyczne przypisywania autorstwa prac badawczych, odpowiedzialność za treść publikacji, twórca nauki, tryb nadawania stopni i tytułów naukowych

Copy editor
Gabriela Marszołek-Kalaga

Linguistic proofreading
Grzegorz Panek

Proofreading
Joanna Zwierzyńska

Cover design based on Marta Więckowska's original design
Tomasz Tomczuk

Typesetting
Marek Zagniński

Initiating editor
Przemysław Pieniążek

https://orcid.org/0000-0003-2917-3119
https://orcid.org/0000-0002-8267-4353

https://doi.org/10.31261/PN.4205

Intellectual property rights and scientific authorship: legal and ethical considerations : case study in hard sciences and natural sciences / Anna Chorążewska, Adam Proń. – First impression. – Katowice : Wydawnictwo Uniwersytetu Śląskiego, 2024

ISBN 978-83-226-4388-4
(print edition)
ISBN 978-83-226-4389-1
(digital edition)

Publisher
Wydawnictwo Uniwersytetu Śląskiego
ul. Bankowa 12B, 40-007 Katowice
https://wydawnictwo.us.edu.pl
e-mail: wydawnictwo@us.edu.pl

Printing and binding
volumina.pl Sp. z o.o.
Księcia Witolda 7–9
71-063 Szczecin

First impression. Printed sheets: 23.25. Publishing sheets: 25.5.
Alto Cream 80g vol. 1.5. PN 4205. Price 74,90 PLN (VAT included).

The Creator of Science

A quotation from Percy W. Bridgman
(Nobel Prize in Physics, 1946):

From the point of view of society, the justification for the favored position of the scientist is that the scientist cannot make his contribution unless he is free, and that the value of his contribution is worth the price society pays for it.

A quotation from Linus Pauling
(Nobel Prize in Chemistry, 1954;
Nobel Peace Prize, 1967):

A scientist should try to understand the world, and should not be content to tabulate the results of experiments.

Authors

Anna Chorążewska (Ph.D., D.Sc.), was practising as an attorney at law for 13 years, at present, a judge at the Civil Division of the Sosnowiec District Court, the university professor at the Institute of Legal Studies of the Faculty of Law and Administration of the University of Silesia in Katowice. Author of works dedicated to the issues of the system of governance, particularly focusing on the systemic role of the President of Poland and the constitutional status of local self-government. Currently, the author is interested in matters concerning the constitutional status of an individual and the protection of their freedoms and rights serving that individual, with special emphasis on intellectual property rights.

Adam Proń (Professor, Ph.D., Eng.) specialises in physical chemistry and chemistry of materials. Graduate of the AGH University of Science and Technology. He earned his Ph.D. from the University of Pennsylvania in Philadelphia in 1980, his habilitation from the Warsaw University of Technology in 1988, and his professorship in 1994. He has worked continuously at the Warsaw University of Technology since 1974. He was also an employee of the AGH University of Science and Technology from 1989 to 1996, and of the Commission for Atomic Energy and Alternative Energies in Grenoble (France) from 1998 to 2012. In 2002, he received the Foundation for Polish Science award for his research on electroactive organic materials.

Reviewers

Janusz Limon (Professor, MD Ph.D.), full member of the Polish Academy of Sciences (PAS) and active member of the Polish Academy of Arts and Sciences (PAAS). In 1970, he graduated from the Faculty of Medicine at the Medical University of Gdańsk (now the Medical University of Gdańsk, MUG) and received his MD degree (1973), habilitation (1982) and the title of professor (1992) there. From 1982 to 2017, Head of the Department of Biology and Genetics at MUG. His scientific interests: Cytogenetics and genetics of human neoplasia. He received the Foundation for Polish Science in the field of Natural and Medical Sciences award in 2004. From 2011 to 2022, member of the Science Ethics Committee (Commission for Research Integrity) of the Polish Academy of Sciences.

Adam Sulikowski (Professor, Ph.D.), Professor of legal sciences (since 2015), critical legal theorist/philosopher, constitutionalist, graduate of the University of Wrocław (2000). Author of ten monographs and more than seventy scientific articles published in Polish, English, French and Portuguese. His interests include, above all, issues of modern and post-modern philosophy of law (including post-Marxist trends and post-structuralism), constitutional theory, in particular the theory and practice of the functioning of the constitutional judiciary, as well as the history of ideas and the evolution of constitutional discourse.

FNP
Patronat Prezesa Fundacji na rzecz Nauki Polskiej prof. Macieja Żylicza

Price 74.90 PLN (VAT included)
ISBN 978-83-226-4389-1
9 788322 643891

About this book