



# IP Literature Watch

**CRA** Charles River  
Associates

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This newsletter contains an overview of recent publications concerning intellectual property issues. The abstracts included below are as written by the author(s) and are unedited.

## IP & Antitrust

### **Antitrust analysis involving intellectual property and standards: implications from economics**

Jorge Padilla (Compass Lexecon)

Douglas H. Ginsburg (US Court of Appeals for the District of Columbia Circuit; George Mason University – Antonin Scalia Law School, Faculty)

Koren Wong-Ervin (Qualcomm Incorporated)

*George Mason Law Review, Forthcoming*

[https://papers.ssrn.com/sol3/papers.cfm?abstract\\_id=3119034](https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3119034)

There is a significant industrial organization (IO) economics literature on the economics of innovation and intellectual property (IP) protection. As some courts and antitrust agencies have recognized, the IO economics toolkit for business arrangements (e.g., vertical restraints, tying and bundling, etc.) involving IP rights is sufficiently flexible to be applied in high-technology areas involving antitrust and IP. In this Article, the authors explain the economics of innovation and IP protection, licensing, and compulsory licensing, with specific applications to standards development and to standard-essential patents. The authors then propose first-best approaches based on the implications of the economics that courts and agencies can apply at each stage of an antitrust inquiry, from market definition and market power to the assessment of particular business practices. The authors conclude by providing a summary of the approach applied in each major antitrust jurisdiction—China, the European Union, India, Japan, Korea, and the United States.

# IP & Licensing

## The global standards wars: patent and competition disputes in North America, Europe and Asia

Jorge L. Contreras (University of Utah – S.J. Quinney College of Law)

*Keio University Journal of Law, Politics and Sociology, Forthcoming*

[https://papers.ssrn.com/sol3/papers.cfm?abstract\\_id=3106090](https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3106090)

Over the past decade there has been an increasing number of disputes concerning the enforcement and licensing of patents covering technical standards. These disputes have taken on a global character and often involve litigation in North America, Europe and Asia. And while many of the parties are the same in actions around the world, courts and governmental agencies in different jurisdictions have begun to develop distinctive approaches to some of these issues. Thus, while areas of convergence exist, national laws differ on important issues including the availability of injunctive relief for FRAND-encumbered SEPs, the appropriate method for calculating FRAND royalties, the competition implications of violating a FRAND commitment, and the contours of the FRAND non-discrimination obligation. Thus, at least until greater international harmonization is achieved, firms doing business globally must remain particularly attuned to the evolving legal landscape in this area. This paper presents a brief overview of recent disputes that have arisen around the world with respect to the acquisition, enforcement and licensing of patents that are essential to technical interoperability standards.

## Intellectual property, surrogate licensing, and precision medicine

Jacob S. Sherkow (New York Law School; Columbia University – Department of Health Policy and Management; Center for Advanced Studies in Biomedical Innovation Law)

Jorge L. Contreras (University of Utah - S.J. Quinney College of Law)

*IP Theory (2018 Forthcoming)*

[https://papers.ssrn.com/sol3/papers.cfm?abstract\\_id=3106340](https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3106340)

The fruits of the biotechnology revolution are beginning to be harvested. Recent regulatory approvals of “precision medicine” therapies target patients’ specific genetic, physiological and environmental profiles rather than generalized diagnoses of disease. These may soon be supplemented by gene editing technologies such as CRISPR, which could enable the targeted eradication of deleterious genetic variants to improve human health. But the intellectual property surrounding precision therapies and their foundational technology remain controversial. Precision therapies ultimately rely—and are roughly congruent with—basic scientific information developed in the service of academic research. Much of precision medicine’s IP, however, is held by academic research institutions that employ for-profit surrogate companies, companies responsible both for commercially developing university research and sublicensing university IP to others. This creates an uneasy tension between the public missions of universities and the commercial motives of surrogates, particularly universities’ goals of producing and disclosing scientific information, and surrogates’ goals of exploiting that information for commercial gain. This essay examines the challenges that surrogate licensing poses for the future of precision medicine, and recommends licensing approaches and best practices that may better promote scientific discovery, the development of human therapies, and overall social welfare.

## **A sliver of hope: analyzing voluntary licenses to accelerate affordable access to medicines**

Brook K. Baker (Northeastern University – School of Law)

*Northeastern University Law Review, Vol. 10, Forthcoming*

[https://papers.ssrn.com/sol3/papers.cfm?abstract\\_id=3123108](https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3123108)

As a result of global AIDS activism, governments' latent and exercised powers to bypass pharmaceutical monopolies, and halting pharmaceutical industry accommodation, a new form of voluntary licensing has emerged focused on first permitting and then facilitating generic production of certain pharmaceutical products for sale and use in many but not all low- and middle-income countries (LMICs). These so-called "access" licenses are pluralistic in detail and not free of commercial motivations for either originators or generic producers, but they do differ from arms-length, purely commercial licenses that have been broadly used in the industry for decades. Although the first of these access licenses were negotiated bilaterally by innovators at the receiving end of AIDS activism and threats of government action, including the issuance of compulsory or government-use licenses, the leading model of more public-health oriented voluntary licenses can be traced to the formation of the Medicines Patent Pool [MPP] under the financial sponsorship of Unitaid in 2010. The primary goals of this Article are: (a) to increase understanding of the history and evolution of access licenses and their key terms and conditions, including their impacts on access to medicines in territories included in and excluded from the licenses; (b) to identify and assess best-practice licensing terms for delivering meaningful access to medicines, including the impact of voluntary licensing practices on registration and uptake, and (c) to make policy recommendations on measures that can be taken to improve terms and conditions of access licenses, including those of the MPP.

Despite the achievements of access licenses in increasing generic competition, accelerating access to newer HIV and HCV medicines in many LMICs, and reducing prices and saving money, the exclusion from coverage of significant populations in upper-middle income countries with significant disease burdens, restrained resources, and high levels of inequality, is deeply problematic. Offsetting the wholesale work that access licenses accomplish in creating aggregated markets for accelerated generic competition is concern about industry's power to bifurcate LMICs to maintain hegemony in the most commercially appealing markets and to weaken political will to oppose unworthy patents and to otherwise overcome monopoly control. As a consequence, the net plus value of voluntary licenses as an access strategy is contested. However, any fair assessment of voluntary licensing strategies must address the complementarity of this strategy with the strengths and weakness of other access strategies, including law reform, use of patent opposition procedures, and grant of compulsory and government use licenses. Although this complementary is briefly addressed in the conclusion, but more work and evidence is needed to identify optimal strategies.

# IP & Innovation

## How valuable is FinTech innovation?

Mark A. Chen (Georgia State University – Robinson College of Business)

Qinxi Wu (Baylor University – Hankamer School of Business)

Baozhong Yang (Georgia State University – Robinson College of Business)

*Working paper*

[https://papers.ssrn.com/sol3/papers.cfm?abstract\\_id=3106892](https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3106892)

We provide large-scale evidence on the occurrence and value of FinTech innovation. Using a unique dataset of patent filings covering 2003-2017, we apply textual analysis and machine-learning techniques to identify and classify innovations according to their key underlying technologies. To measure the value of FinTech innovations for firms and industries, we develop a new method that combines stock price responses with estimated patent-filing count intensities. Our cross-sectional analysis shows that most types of FinTech innovation yield positive value to innovators, with blockchain being particularly valuable. For the financial sector as a whole, blockchain, Internet of Things (IoT), and robo-advising are the most valuable innovation types. Innovations impact industries more negatively when they involve disruptive technologies that originate from non-financial startups. Also, market leaders that have invested heavily in their own innovation appear to avoid much of the negative value effect from disruptive innovation by startups.

## Crowdfunding and patents

Christopher Anthony Cotropia (University of Richmond – School of Law)

*Working paper*

[https://papers.ssrn.com/sol3/papers.cfm?abstract\\_id=3124391](https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3124391)

Patents and crowdfunding both attempt to foster early stage innovations. In theory, patents incentivize the creation of inventions and, in turn, attract investment and remove coordination barriers to facilitate commercialization. Crowdfunding allows multiple individuals to make small contributions to finance start-up ventures. This study explores the interaction between these two innovation tools by examining 6,487 Kickstarter campaigns in patent-eligible categories to determine whether patented, or patent-pending, projects are more likely to reach their funding goal and in turn achieve actual, on-time delivery when compared to non-patented projects. The study finds, perhaps surprisingly, that patented projects are not more likely to obtain funding compared to non-patented ones. However, patent-pending projects are more successful in getting funded. Delivery for those funded patented projects is less likely and delayed substantially longer than their non-patented counterparts. Patent-pending projects exhibited a higher delivery rate, with their delays falling in between patented and no patent projects. The results suggest timing is important. That is, patents are an important signal to crowdfunding contributors, but only when the patent, and thus project, is fresh and truly in its early stages of development, evidenced by the success of patent-pending, but not yet issued, projects. These results provide insights for both what makes a successful crowdfunding campaign and whether patents help attract funding and assist in commercialization in the crowdfunding context.

## IP & Litigation

### **Heterogeneity among patent plaintiffs: an empirical analysis of patent case progression, settlement, and adjudication**

Christopher Anthony Cotropia (University of Richmond – School of Law)

Jay P. Kesan (University of Illinois College of Law)

David L. Schwartz (Northwestern University – Pritzker School of Law)

*Journal of Empirical Legal Studies, Vol. 15, Issue 1, pp. 80-125, 2018*

[https://papers.ssrn.com/sol3/papers.cfm?abstract\\_id=3124647](https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3124647)

This article empirically studies current claims that patent trolls, also known as patent assertion entities (PAEs) or non-practicing entities (NPEs), behave badly in litigation by bringing frivolous patent infringement suits and seeking nuisance fee settlements. The study explores these claims by examining the relationship between the type of patentee-plaintiffs and litigation outcomes (e.g., settlement, grant of summary judgment, trial, and procedural dispositions), while taking into account, among other factors, the technology of the patents being asserted and the identity of the lawyers and judges. The study finds significant heterogeneity among different patent holder entity types. Individual inventors, failed operating companies, patent holding companies, and large patent aggregators each have distinct litigation strategies largely consistent with their economic posture and incentives. These PAEs appear to litigate differently from each other and from operating companies. Accordingly, to the extent any patent policy reform targets specific patent plaintiff types, such reforms should go beyond the practicing entity versus non-practicing entity distinction and understand how the proposed legislation would impact more granular and meaningful categories of patent owners.

### **Joining the dots in India's big-ticket mobile phone SEP litigation**

Rohini Lakshané (Center for Internet and Society)

*Working paper*

[https://papers.ssrn.com/sol3/papers.cfm?abstract\\_id=3120364](https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3120364)

Nearly three years after litigation over patents and designs associated with big-ticket mobile technology started in the US, the first salvo in the patent wars was fired in India. Sweden-based Ericsson, a provider of communications infrastructure and services, sued home-grown budget smartphone manufacturer Micromax in early 2013. Patent litigation in the arena of mobile phone technology has steadily risen since. Lei Jun, the chairman of China's largest smartphone manufacturer Xiaomi once said that facing a patent lawsuit "can be considered a rite of passage for a company that is coming of age". The first part of this paper, "Compilation of lawsuits" is an attempt to chronicle the significant developments in big-ticket lawsuits pertaining to mobile technology patents filed in India. The second part, "Commonalities and differences in the lawsuits" is an attempt to join the dots between the developments that were either remarkably common or notably different. All information presented in this paper has been gathered from publicly available sources and is up-to-date till the time of writing (October 31, 2017). This paper has been published as a part of the Pervasive Technologies project at the Centre for Internet and Society (CIS). Invaluable research assistance was provided by Nayana Dasgupta, Sampada Nayak and Suchisubhra Sarkar (in alphabetical order).

## **Standardizing the smallest-functional unit: a tier-stacking approach to FRAND royalty rates**

Zachary Coots (Independent)

*Working paper*

[https://papers.ssrn.com/sol3/papers.cfm?abstract\\_id=3105756](https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3105756)

Apple's recent fight with Qualcomm, alleging that Qualcomm is overcharging Apple to license Qualcomm's FRAND-encumbered standard essential patents (SEPs), raises an interesting issue regarding patent hold-up: whether a FRAND royalty rate should limit an SEP holder's ability to extract larger royalties from end-product manufacturers — resulting from that manufacturer's increased sales prices due to unrelated, end-product advancements. This Paper advocates that uniformly assessing all FRAND-encumbered licenses against the smallest-functional unit would ameliorate this concern, and it further provides two methods for achieving this end while also avoiding issues of excessive royalty stacking.

## IP Law & Policy

### **The DTSA at one: an empirical study of the first year of litigation under the Defend Trade Secrets Act**

David S. Levine (Elon University School of Law; Stanford University – Center for Internet and Society)

Christopher B. Seaman (Washington and Lee University School of Law)

*Wake Forest Law Review, Vol. 53, 2018*

[https://papers.ssrn.com/sol3/papers.cfm?abstract\\_id=3112679](https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3112679)

This article represents the first comprehensive empirical study of the Defend Trade Secrets Act ("DTSA"), the law enacted by Congress in 2016 that created a federal civil cause of action for trade secret misappropriation. The DTSA represents the most significant expansion of federal involvement in intellectual property law in at least 30 years. In this study, we examine publicly-available docket information and pleadings to assess how private litigants have been utilizing the DTSA. Based upon an original dataset of nearly 500 newly-filed DTSA cases in federal court, we analyze whether the law is beginning to meet its sponsors' stated goals of creating more robust and efficient litigation vehicles for trade secret misappropriation victims, thereby helping protect valuable American intellectual property assets.

We find that, similar to state trade secrets law, the paradigm misappropriation scenario under the DTSA involves a former employee who absconds with alleged trade secrets to a competitor. Other results, however, raise questions about the new law's ability to effectively address modern cyberespionage threats, particularly from foreign actors, as well as the purpose (or lack thereof) of trade secret law more broadly. We conclude by discussing our data's implications for trade secret law and litigation, as well as commenting on the DTSA's potential impact on the broader issues of cybersecurity and information flow within our innovation ecosystem.

## **Patents and free speech**

Tun-Jen Chiang (George Mason University School of Law)

*George Mason University Legal Studies Research Paper Series, LS 18-01*

[https://papers.ssrn.com/sol3/papers.cfm?abstract\\_id=3114931](https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3114931)

There is an enormous literature on the intersection between the First Amendment and various IP regimes such as copyright and trademark. This literature generally omits patent law from the argument, reflecting an implicit assumption that patent protection poses no threat to free speech.

This assumption is wrong. As the Article will explain, patents can restrict free speech just like copyrights and trademarks. Indeed, patents pose a greater threat to speech than copyrights and trademarks: Precisely because people assume that patents pose no threat to speech, patent law has developed none of the doctrinal safeguards for free speech that copyright law and trademark law has.

This Article makes two contributions. First, it makes the point that patents are not exceptional and raise the same free speech issues as the rest of IP law. Second, it proposes some doctrinal limits on patent protection in order to mitigate the speech-restrictive effects of patent law.

## **Patents and the First Amendment**

Dan L. Burk (University of California, Irvine School of Law)

*Washington University Law Review, Vol. 96*

[https://papers.ssrn.com/sol3/papers.cfm?abstract\\_id=3119362](https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3119362)

Patents are intended as a means of promoting innovation through private pecuniary incentives. But the patent system has for some time been on a collision course with guarantees of expressive freedom. Surprisingly, no one has ever subjected patent doctrine to a close First Amendment analysis. In this paper I show, first, that patents clearly affect expressive freedom, second that patents are subject to legal scrutiny for their effect on expressive rights, and third that patents are not excused from scrutiny by virtue of constituting property rights or by virtue of private discretion. After examining the patent system in terms of familiar First Amendment metrics such as strict scrutiny, narrow tailoring, governmental interest, and least restrictive means, I conclude that even though many patents may survive First Amendment analysis, many will not.

## **Copyright Law**

### **Whatever became of global mandatory fair use? A case study in dysfunctional pluralism**

Lionel A. F. Bently (University of Cambridge – Faculty of Law)

Tanya Aplin (King's College London)

*Forthcoming, S. Frankel (ed), Is Intellectual Property Pluralism Functional? (Edward Elgar, 2018)*

[https://papers.ssrn.com/sol3/papers.cfm?abstract\\_id=3119041](https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3119041)

The international copyright system requires all participants to recognise a freedom for fair quotation that covers much of the ground encompassed by the notion of 'fair use.' The obligation derives from Article

10(1) of the Berne Convention and thus applies to some 174 countries (and, because Article 10(1) must be complied with under TRIPS, is carried over into the WTO Agreement). In contrast to other limitations in Berne, Article 10(1) is not optional, it is mandatory. It creates an obligation, and thereby imposes a ceiling on the freedom of action of Members of the Union. The breadth of the obligatory exception is wide: as enacted in national law, it should not be limited by work, nor by type of act, nor by purpose. The exception should not be subjected to additional conditions beyond those recognised in Article 10: to do so is to breach the obligation. Subject to those conditions, the freedom the Article secures to users encompasses any and every act of quotation, the meaning of which reflects how the term is ordinarily used across all cultural forms. That includes free-standing uses, transformative uses and parodic uses. Its breadth reflects, but is not limited by, the desire to give effect to the fundamental freedom, freedom of expression. We have dubbed this 'global, mandatory, fair use', or GMFU, for short.

### **Against defibrillating the API Copyright Dead: a response to advocates of copyrightability of software functional specifications**

Peter S. Menell (University of California, Berkeley – School of Law)

*Harvard Journal of Law & Technology, Vol. 31, 2018*

[https://papers.ssrn.com/sol3/papers.cfm?abstract\\_id=3116287](https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3116287)

In *Rise of the API Copyright Dead? An Updated Epitaph for Copyright Protection of Network and Functional Features of Computer Software*, I analyzed and critiqued the Federal Circuit's 2014 ruling in *Oracle v. Google* that revives the flawed and long-dormant *Whelan* framework for analyzing the scope of copyright protection for computer software. In this response to critics of that article, I show that defenders of the Federal Circuit's ruling misapprehend the Supreme Court's seminal *Baker v. Selden* decision, misread the Ninth Circuit's *Sega v. Accolade* decision, and misunderstand how copyright protection fits into the larger intellectual property landscape.

By devising application program interface (API) packages for the Java platform, Sun Microsystems effectuated machines that respond to particular inputs and produce particular outputs. In so doing, Sun moved the creative names and essential structures for these packages outside of copyrightability, thereby enabling others (in the absence of utility patents covering these processes and machine) to emulate (and interoperate with) these machines so long as they write their own implementation. In this way, copyright stands in the way of pirating and afforded Sun valuable lead-time, while promoting competition and cumulative creativity. Furthermore, this reading of copyright protection appropriately channels technological advances in processes and machines into the utility patent system, which is better calibrated (with higher validity thresholds and shorter duration) to promote technological advance.

# Other IP Topics

## Patent clutter

Janet Freilich (Fordham University School of Law)

*Iowa Law Review, Forthcoming*

[https://papers.ssrn.com/sol3/papers.cfm?abstract\\_id=3113740](https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3113740)

Patent claims are supposed to clearly and succinctly describe the patented invention, and only the patented invention. This Article hypothesizes that a substantial amount of language in patent claims is in fact not about the core invention, which may contribute to well-documented problems with patent claims. I analyze the claims of 40,000 patents and applications, and document the proliferation of “clutter”—language in patent claims that is not about the invention. Although claims are supposed to be exclusively about the invention, clutter appears across industries and makes up approximately 25% of claim language. Patent clutter may contribute several major problems in patent law. Extensive clutter makes patent claims harder to search. Excessive language in patent claims may be the result of over-claiming — when patentees describe potential corollaries they do not possess — thereby making the patent so broad in scope as to be invalid. More generally, it strains the comprehensibility of patents and burdens the resources of patent examiners. After arguing that patent clutter may contribute to these various problems, this Article turns to reforms. Rejections based on prolix, lack of enablement, and lack of written description can be crafted to dispose of the worst offenders, and better algorithms and different litigation rules can allow the patent system to adapt (and even benefit from) the remaining uses of excess language. The Article additionally generates important theoretical insights. Claims are often thought of as entirely synonymous with the invention and all elements of the claim are thought to relate equally strongly to the invention. This Article suggests empirically that these assumptions do not hold in practice, and offers a framework for restructuring conceptions of the relationship between claims and the invention.

## Patenting the unexplained

Sean B. Seymore (Vanderbilt University – Law School)

*Washington University Law Review, Forthcoming*

[https://papers.ssrn.com/sol3/papers.cfm?abstract\\_id=3122761](https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3122761)

It is a bedrock principle of patent law that an inventor need not understand how or why an invention works. The patent statute simply requires that the inventor explain how to make and use the invention. But explaining how to make and use something without understanding how or why it works yields patents with uninformative disclosures. Their teaching function is limited; one who wants to understand or figure out the underlying scientific principles must turn elsewhere. This limited disclosure rule does not align with the norms of science and tends to make patent documents a less robust form of technical literature. To address this problem, this Article proposes a two-tiered disclosure paradigm. While compliance with the extant statutory disclosure requirements would still be sufficient to obtain a patent, the inventor could opt to provide a mechanistic disclosure—one that describes how and why the invention works. Providing mechanistic disclosure would have several upsides for the inventor, improve patent (examination) quality, enrich the public storehouse of technical knowledge, and promote broader goals of the patent system.

## **Innovation, tax aggressiveness, and stock price crash risk**

C.S. Agnes Cheng (Hong Kong Polytechnic University – School of Accounting and Finance)

Peng Guo (Michigan Technological University)

Chia-Hsiang Weng (Hong Kong Polytechnic University)

Qiang Wu (Rensselaer Polytechnic Institute (RPI) - Lally School of Management)

*Working paper*

[https://papers.ssrn.com/sol3/papers.cfm?abstract\\_id=3105186](https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3105186)

Presumably, more R&D should lead to lower taxes due to tax credits and tax deductions and more patents should lead to higher taxes due to increased revenue. Many previous studies find that higher R&D indeed leads to lower taxes. However, studies also show that more patents are associated with lower taxes. One reason can be that firms use patents to shift income across the borders. Accordingly, we predict and find that multinational companies (MNCs) with more patents avoid more taxes.

Specifically, we provide large-sample evidence that MNCs with more patents use income-shifting tactics aggressively to avoid taxes. As domestic firms cannot shift income across the borders, we find that domestic firms with more patents actually pay more taxes. Moreover, we find that tax avoidance resulting from income-shifting tactics predicts future stock price crash risk, but we do not find such an effect for tax avoidance due to R&D.

### **About the editor**

**Dr. Anne Layne-Farrar** is a vice president in the Antitrust & Competition Economics Practice of CRA. She specializes in antitrust and intellectual property matters, especially where the two issues are combined. She advises clients on competition, intellectual property, regulation, and policy issues across a broad range of industries with a particular focus on high-tech and has worked with some of the largest information technology, communications, and pharmaceuticals companies in the world.

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